



# Tamil Nadu Federation of Obstetricians & Gynaecologists (TNFOG)

<sup>nd</sup>  
**2** State  
Conference

9,10,11  
February 2024

Hosted by

THE TRICHY O & G  
SOCIETY

'Women's Health Nation's Wealth'



# TNFOG 2<sup>nd</sup> STATE CONFERENCE



## TNFOG TEAM



President  
**Dr. Revathy Janakiram**



Secretary  
**Dr. S.Sampath Kumari**



Treasurer  
**Dr. Vijayalakshmi Gnanasekaran**



Vice President  
**Dr. Ramani Devi. T**

## TRICHY O&G SOCIETY TEAM



President  
**Dr. Thamilselvi. M**



Secretary  
**Dr. Uma Velmurugan**



Treasurer  
**Dr. C.Lavanya**

# TNFOG 2<sup>nd</sup> STATE CONFERENCE



## Organising Team



**Dr. Ramani Devi. T**  
Chairperson



**Dr. Malathy G Prasad**  
Co-Chairperson



**Dr. Thamilselvi.M**  
Co-Chairperson



**Dr. Lakshmi Prabha**  
Secretary



**Dr. Uma Velmurugan**  
Secretary



**Dr. Vijaya Prabha Chezian**  
Treasurer



**Dr. C.Lavanya**  
Treasurer



**Dr. Arulmozhi Ramarajan**  
Scientific Chair



**Dr. Chitra.S**  
Scientific Chair

# Tamil Nadu Federation of Obstetricians & Gynaecologists



## Patrons



**Dr. Sumitra Raghuvaran**



**Dr. Ramani Devi. T**



**Dr. Usha. ES**



**Dr. Radhamadhavi. S**



**Dr. Chitra. S**



**Dr. Thamiselvi.M**



**Dr. B.Kalpna**



**Dr. T. K. Shaanthy  
Gunasingh**

# Tamil Nadu Federation of Obstetricians & Gynaecologists



## EC Members

### Coimbatore



President  
**Dr. Manonmani R**



Secretary  
**Dr. Murugalakshmi. K**

### Dharmapuri



President  
**Dr. A.Anitha Thamarai Selvi**



Secretary  
**Dr Susithra Saravanan**

### Dindigul



President  
**Dr. Amala Devi.J**



Secretary  
**Dr. Selvarani J**

### Erode



President  
**Dr. Sri Revathy Sadasivam**



Secretary  
**Dr. Darani Nallasivam**

### Kanchipuram



President  
**Dr. Chakravarthy A.R**



Secretary  
**Dr. Umaiyal Murugesan**

### Karur



President  
**Dr. K Kousalyadevi**



Secretary  
**Dr. A Devilakshmi**

### Krishnagiri



President  
**Dr. Rekha Rajesh**



Secretary  
**Dr Sujatha Anbalagan**

### Madurai



President  
**Dr. Mahalakshmi NK**



Secretary  
**Dr. S Padma**

# Tamil Nadu Federation of Obstetricians & Gynaecologists



## EC Members

### Nagercoil



President  
**Dr. Sundar Narayanan**



Secretary  
**Dr. Rashmi Ajit**

### Namakkal



President  
**Dr. Chandra Ponnusamy**



Secretary  
**Dr. Hemalatha K**

### OGSSI



President  
**Dr. K.S Jeyarani Kamaraj**



Secretary  
**Dr. K.M Kundavi Shankar**

### Salem



President  
**Dr. Jayamala G**



Secretary  
**Dr. Shanmugavadivu L**

### Thanjavur



President  
**Dr. Tamilmani D**



Secretary  
**Dr. Uma Brindha J**

### Theni



President  
**Dr. Shanthi Rani.B**



Secretary  
**Dr. Vanitha Rukmani VH**

### Tirunelveli



President  
**Dr. Sujatha Alageshan**



Secretary  
**Dr. Gayathri S**

### Tiruvannamalai



President  
**Dr. Radha Madhavi S**



Secretary  
**Dr. Alamelu A**

# Tamil Nadu Federation of Obstetricians & Gynaecologists



## EC Members

### Trichy



President  
**Dr. Malathy G Prasad**



Secretary  
**Dr. Lakshmi Prabha S**



President  
**Dr. Poongothai A**



Secretary  
**Dr. Jasmine R**

### Vellore



President  
**Dr. Manisha Beck**



Secretary  
**Dr. Swati Rathore**

### Virudhunagar



President  
**Dr. Uma Maheswari**



Secretary  
**Dr. Radha Lakshmi GR**

## Committee Members

### Registration

Dr. Malathy G Prasad  
Dr. Thamilselvi M  
Dr. Sripriya Pragasam  
Dr. Nagamani  
Dr. Vijaya Prabha Chezian  
Dr. Mahalakshmi Ganesh  
Dr. Punitha Rajesh

### Hospitality

Dr. Uma Vaidyanathan  
Dr. Arulmozhi Rajasekaran  
Dr. Shilpa Vivek  
Dr. Abhirami Karpagam

### Souvenir

Dr. Victoria Johnston  
Dr. Revathy Chandrasekaran  
Dr. Akila Vaidyanathan  
Dr. Thamizhselvi Naveen

Dr. Sithara.D  
Dr. Archana Balaji

### Scientific Committee

Dr. Ramani Devi T  
Dr. Arulmozhi Ramarajan  
Dr. Chitra S

### Sponsorship

Dr. Chitra S  
Dr. Thamilselvi M  
Dr. Lavanya C  
Dr. Victoria Johnston  
Dr. Uma Velmurugan  
Dr. Lakshmi Prabha

### Papers & Posters

Dr. Malathy G Prasad  
Dr. Shanthi Rani B  
Dr. Padmapriya

Dr. Nirmala Sarath  
Dr. Prasanna Lakshmi  
Dr. Uma Brinda J  
Dr. Dhivya Sethuraman

### Workshop Committee

Dr. Charmila Ayyavoo  
Dr. Vijaya Prabha  
Chezian  
Dr. Priyanka Velchamy  
Dr. Deepa Mukhundhan  
Dr. Shilpa Vivek  
Dr. Shre Lakshme.S  
Dr. Abhirami Karpagam  
Dr. Mahalakshmi  
Dr. Uma Velmurugan  
Dr. Sithara.D  
Dr. Rifana Parveen  
Dr. Gayathri.N  
Dr. Thamizhselvi Naveen

### Quiz Committee

Dr. Deepa Mukhundhan  
Dr. Shre Lakshme.S  
Dr. Priya Kannappan  
Dr. Annithkumar VM  
Dr. Deepa Thangamani

### Food Committee

Dr. Chitra S  
Dr. Kavitha Senthil  
Dr. Uma Velmurugan  
Dr. Punitha Rajesh

### Entertainment

Dr. Menmozhi  
Dr. Vanathi.N  
Dr. Sithara.D  
Dr. Priyanka Velchamy  
Dr. Deepa Mukhundhan  
Dr. Priya Praveen



## President's Message

My dear friends,

I am extremely delighted to welcome you all to this 2nd Annual conference of TNFOG, hosted by the Trichy O G society. I have no words to express my gratitude to each one of our members for extending fullest cooperation in every venture I took in this one year.

The theme I took was

'மகிழ்ச்சியான மகப்பேறு மரணம் இல்லா மகப்பேறு'

புற்றுநோய் இல்லா மகளிர் நலம் புன்னகை என்றும் மகளிருடன்'

"Reduction of MMR and prevention of Cancer cervix, thereby bringing happiness and health to every woman."

Focusing on this we initiated the TNFOG FOGSI MANYATA training program to train the paramedicals and completed training 90 facilities so far. Cancer cervix screening camps are regularly conducted by our members. One mega Cancer cervix screening camp at Dindigul on Feb 4th 2023 was conducted in which Dindigul, Madurai, Theni & Erode societies took part. TNFOG Colpo Rail is started to get all our members well trained in Colposcopic diagnosis and treatment. Myself as south zone coordinator for FOGSI ACS HPV vaccine awareness drive, many Master trainers are trained who in turn trained the other members

Efforts taken by our Vibrant secretary Dr.Sampathkumari in organising various CMEs, Webinars, PG training program Bodhana and Paramedical training is commendable.

Health education for women starts from Adolescents.

My dream vision was realized the day we launched the Adolescents school health programme, by Honourable Minister for school education Thiru Anbil Mahesh Poyyamozi. on 18th November 2023. The first phase has covered the adolescent girls of private schools of 38 districts of Tamil Nadu. In the next phase we will expand the programme to cover Government schools as well.

The unity & commitment of our members is the major driving force behind the success of all these programme. Our good rapport with other Federations is expressed in the joint webinars conducted with Karnataka, Kerala, Andhra and Maharashtra.

I extend my heartfelt thanks to Dr. Ramani devi and the entire Trichy team for taking great effort to organise this conference. I am sure all of you will enjoy your stay here & this conference is going to be the best in recent times and a memorable one.

**Once again I thank each one of you for your great support during my tenure.**

**Long live TNFOG.**

**Dr Revathy Janakiram**

**President TNFOG**



## Secretary's Message

*Dear friends, colleagues and well-wishers,*

*Warm wishes and many congratulations to all of us!*

*Yes, the big day has finally arrived and with a big bang!*

*Just as we are sitting back to relax after arduous efforts of getting our TNFOG to life here comes the moment of celebrating our second Annual Conference!*

*During this year TNFOG has conducted many CMEs -Marathon, Bodhana – teaching classes for budding gynaecologists, Yuva sessions – platform for the younger lot to be on the dais and face the audience – all to the maximum satisfaction and participation of members from all of its 20 units from Chennai to Kanyakumari, Hosur, Dharmapuri to Karur!*

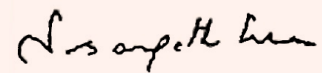
*Our TNFOG also has the unique distinction of conducting the 2 days zoom conference with KSOGA- Karnataka societies as Mid year conference & conducted 9 days Paramedical workshop with IMA Womens wing*

*Should I thank you all, our dear members?! For it is our Federation which has now started it's **'March Towards Excellence'** in the field of **Educating, Empowering and Encouraging** the Gynaecologists of Tamilnadu!*

*It is your undying support and encouragement that has enabled us to see this day and our TNFOG will see many more such prestigious events in the days to come with the stalwarts waiting to pass on the baton to GeNXt members!*

*I also thank Dr. Anjalakshi, Dr. Revathy janakiraman , Dr.Ramanidevi all the EC Members and Committee Chairpersons for their support. Dr. Nidhi Sharma & Dr. Vijayalakshmi Kandasamy, our panel of Judges for the Yuva programs throughout the year – a special word of appreciation!*

*Before putting my pen down, I must thank Trichy society under leadership of Dr. Ramani & Dr. Malathy for organizing the wonderful Conference.*



**Dr. S. Sampathkumari**  
**Founder Secretary: TNFOG**

Theme – 2023 - of TNFOG



மகிழ்ச்சியான மகப்பேறு  
மரணம் இல்லா மகப்பேறு  
புற்றுநோய் இல்லா மகளிர் நலம்  
புன்னகை என்றும் மகளிருடன்.

**Reduction of MMR & Cancer cx free Tamilnadu**

Professor Dr. Ravindra Jayaraman

# TNFOG 2023- 24 ACTIVITIES



Mega Screening camp Ca Cx –Dindigul 4.2.23

Inauguration of Ca Cx screening Mega Camp by Thiru I. Periyasamy Hon.Minister for Rural development TN



HPV vaccine awareness move



TNFOG Colpo Rail - Chennai



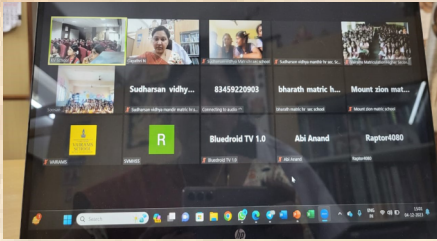
HPV vaccine awareness - ESI Hospital Chennai



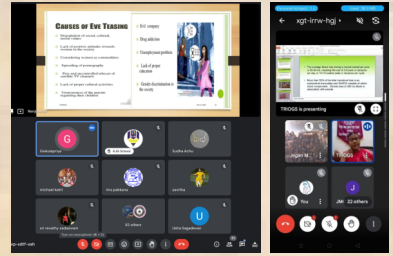
TNFOG Colporail - Theni



TNFOG Colporail Dindigul



# TNFOG 2023- 24 ACTIVITIES



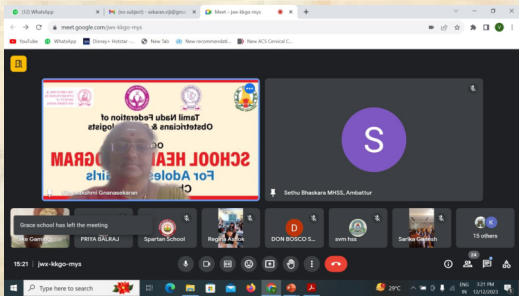
TNFOG School Health Program – Pudukkottai Dr Chithra

Trichy – Dr Tamilselvi

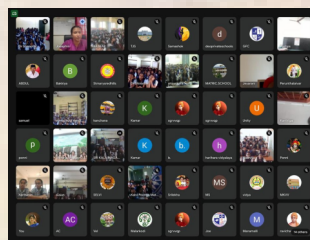
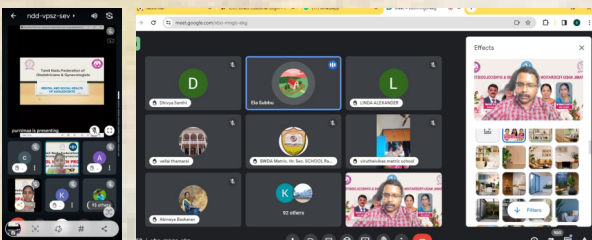


DR.Anjalakshi

Ramnad – Dr Kamal Raghul

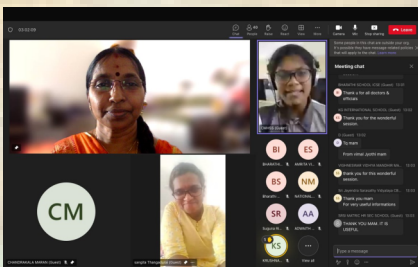


Thiruvallur – DR.Vijayalakshmi Gnanasekara



Salem – Dr Sarvanakumar

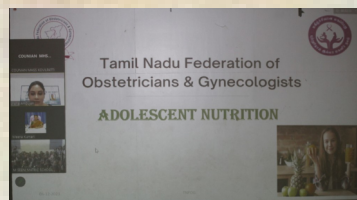
Chennai – Dr Sampathkumar Cuddalore - Dr Shanmuga vadivu  
Dr Jeyamala



Madurai – Dr Mahalakshmi DR Padma

Krishnagiri – DR Anitha

Theni – Dr Shanthirani



Tuticorin – Dr Poongothai Dr Archana

Madurai – Dr Mahalakshmi DR Padma



# TNFOG 2023- 24 ACTIVITIES



**TNFOG MARATHON CME**  
"Pregnancy Induced Hypertension (PIH)"  
Date: 13<sup>th</sup> April 2023 (Thursday) Time: 04:30 PM - 06:30 PM

For All Registrants, Certificate will be Provided  
**TNFOG 0.5 Credit Hour & 1000 2 Credit Points**  
[CLICK HERE TO REGISTER](#)

**TNFOG MARATHON CME**  
Topic: **Pregnancy Induced Hypertension (PIH)**

**Internal:**  
Dr. N. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**External:**  
Dr. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**Coordinator:**  
Dr. S. Srinivasan  
Dr. S. Srinivasan

Clinical Lead, ESIC Hospital, Tirunelveli

Time	Topic	Speaker
04.30 PM - 05.00 PM	Introduction Tamil Thai Vazhthu & Lamp Lighting	Dr. S Sampath Kumari
	Welcome Address Address by the Chief Guest Address by the Guest of Honor	Dr. Revathy Janakiram Dr. Cynthia Alexander Dr Bhaskar Pal
Session-1 - YUVA Session		
05.00 PM - 05.15 PM	Judges: Dr. Nishi Sharma, Dr. Vijayalakshmi Kandazamy	
05.15 PM - 05.30 PM	Topic 1: Adolescent Endometriosis	Dr Ananth Kumar
05.30 PM - 05.40 PM	Topic 2: Adolescent PCOS	Dr S. Danya
	Audience Interaction	
Session-2 - Scientific Session		
05.40 PM - 06.00PM	Topic 3: Menstrual Hygiene	Dr. Supriya Jaiswal
Session-3 - Panel Discussion		
06.00 PM - 06.30 PM	Moderator: Dr. Shanmugasundari	
	Adnexal Mass in Adolescence	Panelists: Dr. Umabrinda Dr. Saravankumar Dr. T Radhika Gowri Dr. Leena Thiruv Dr. Swathi R



**TNFOG MARATHON CME**  
"Anemia in Pregnancy"  
Date: 9<sup>th</sup> March 2023 (Thursday) Time: 04:30 PM - 06:30 PM

For All Registrants, Certificate will be Provided  
**TNFOG 0.5 Credit Hour & 1000 2 Credit Points**  
[CLICK HERE TO REGISTER](#)

**TNFOG - BODHANA PG Case Discussion**  
Topic: **Anemia in Pregnancy**

**Internal:**  
Dr. N. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**External:**  
Dr. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**Coordinator:**  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**TNFOG - BODHANA PG Case Discussion**  
Topic: **Anemia in Pregnancy**

**Internal:**  
Dr. N. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**External:**  
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Dr. S. Srinivasan  
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**TNFOG - BODHANA PG Case Discussion**  
Topic: **Anemia in Pregnancy**

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**External:**  
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**Coordinator:**  
Dr. S. Srinivasan  
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**TNFOG - BODHANA PG Case Discussion**  
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**Internal:**  
Dr. N. S. Srinivasan  
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**External:**  
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**TNFOG - BODHANA PG Case Discussion**  
Topic: **Anemia in Pregnancy**

**Internal:**  
Dr. N. S. Srinivasan  
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**External:**  
Dr. S. Srinivasan  
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Dr. S. Srinivasan

**Coordinator:**  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**TNFOG - BODHANA PG Case Discussion**  
Topic: **Anemia in Pregnancy**

**Internal:**  
Dr. N. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**External:**  
Dr. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

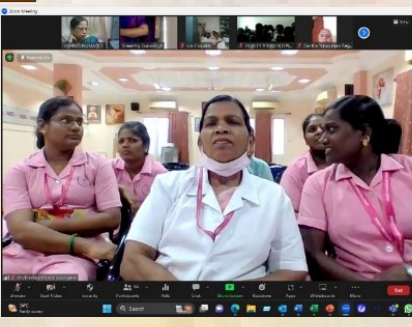
**Coordinator:**  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**Paramedics Workshop**  
Date: 10<sup>th</sup> March 2023 to 16<sup>th</sup> May 2023  
9 Days 9 Hours

**Organizers:**  
Dr. N. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**Chief Guest:**  
Dr. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**Guests of Honor:**  
Dr. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

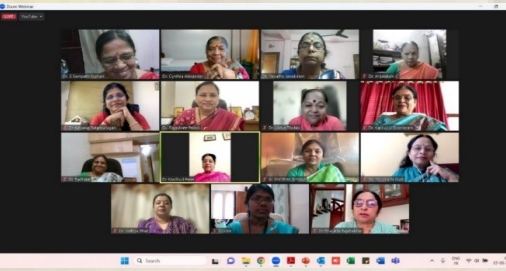
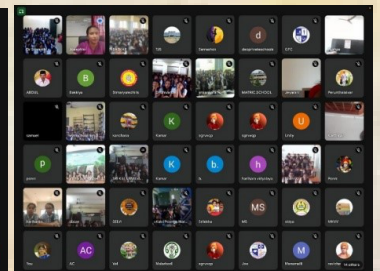
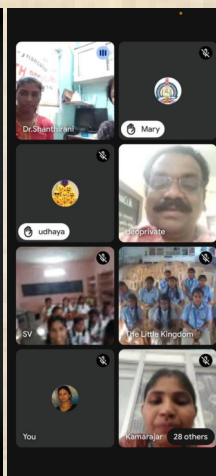
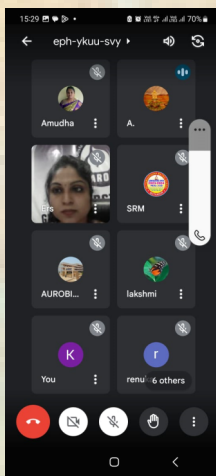


**Inviting you for the academic feast**

**TNFOG**  
Dr. N. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**KSOGA**  
Dr. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan

**Chief Guests**  
Dr. S. Srinivasan  
Dr. S. Srinivasan  
Dr. S. Srinivasan



**1000 2 CREDIT POINTS**

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**1000 2 CREDIT POINTS**

- Marathon CMES – Every month second Friday with one session for Juniors – 8CMES
- Released E Newsletters
- Bhodhana PG class – PGs through Tamilnadu Participate in presenting & discussion -9 PG classes
- TNFOG & KSOGA -2 Days conference with all societies in Tamilnadu & Karnataka
- Paramedical cme - 9days 9 topic Paramedical training conducted & Prizes given to Paramedics



## Message from Treasurer FIGO

Dear Friends,

**Happy New Year and greetings from FIGO-FOGSI!**

I congratulate the organizing team of TNFOG 2nd State Conference and Dr. T Ramani Devi - incoming President TNFOG, Dr. S. Chitra, Dr. Revathy Janakiram, Dr. M. Thamil Selvi, Dr. Uma Velmurugan for their hard work and excellent planning of the program. Waiting to meet you all in Trichy.

**No To VIOLENCE AGAINST WOMEN - DHEERA: FOGSI FIGO INITIATIVE** - Nowhere in the world is a woman safe from violence and to stop VAW is a responsibility of each one of us. It was always close to my heart to pursue the advocacy to work towards No To Violence Against Women. With this I initiated DHEERA, a campaign to stop violence against women in 2016.

My theme as President FOGSI 2021-2022 was **"FOGSI FOR ALL ALWAYS"; and "DHEERA – STOP VIOLENCE AGAINST WOMEN "**

ACTIVITIES UNDER DHEERA - Organized Public Forum Cyclathon in 2016, DHEERA Marches, Public Forum, Bikethon and Flash MOB in FOGSI-FIGO 2017 Conf, Hyderabad. This was continued at various forums in the country including the North Zone YUVA FOGSI Conference in 2017. In Indore, September 2017, at the FOGSI conference a radio show and a walk were organised to focus on VAW. DHEERA WALKATHON in 2018, at FOGSI ICOG National,

Dheera – empowering women at 64th AICOG 2022, Indore, DHEERA Public Forum at 66th AICOG 2024, Hyderabad etc.

At FIGO International Conference at Rio Brazil In October 2018 we launched DHEERA to the world. The Dheera campaign and march at FIGO Congress on Stop VAW got wide publicity in Brazil media and FIGO tweeted, at #FIGO2018 -health professionals from all over the world marched together to demonstrate our shared commitment to #End VAW and the march video was uploaded on YouTube [Youtu.be/Jh2Ec4-Cgzm](https://youtu.be/Jh2Ec4-Cgzm).

DHEERA – No To VAW MARCH at FLASOG Congress at San Pedro Sula -Honduras in August 2023.

As President FOGSI 2021-2022 I had launched the Dheera Project – ONLINE SCHOOL CERTIFICATION PROGRAMME with UNICEF India.

Achievements: Dheera Sessions Completed -3800, Students Trained -237000, Teachers Trained -6900, OBGYN Trained -5000, Master Trainers Trained – 1865.

DHEERA means "courage"

Power of being DHEERA Together #dheeratogether – creating awareness in adolescents

My wish is to see a gender Neutral Society and all of us need to partner with each other to Say No To VAW.

*S. Shantha Kumari*

**DR. S. SHANTHA KUMARI**

**Treasurer FIGO 2023-2025, President FOGSI 2021-2022,  
President OGSB, PROFESSOR OBGYN**



## Message from Organizing Chairperson

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Dear friends,

As the year 2024 unfolds, I take pleasure in wishing you a brilliant new year, and in bringing you greetings from TNFOG.

It's my proud privilege to organize the 2nd TNFOG State conference at Trichy, with the blessings of Sri Ranganathar, Jumbukeshwar and Uchi Pillaiyar. Trichy is a city known for its rich culture and heritage. It carries the privilege of having contributed to the educational arohanam of several eminent, including our dear Past President Dr. APJ Abdul Kalam.

We, as a team from Trichy O&G Society are proud to conduct this 2nd state conference. We have a galaxy of speakers from International, National and State levels. We have 6 workshops and a wide coverage of key topics in our specialty. Over 260 experts are eager to share their knowledge and experience. TNFOG is only a baby society which is 3 years old, but well-known across the country, due to its academic and social involvement.

At this juncture I acknowledge and appreciate Dr. Anjalakshi Chandrasekar, Dr. S. Sampath Kumari and Dr. Revathi Janakiram for their untiring efforts to form the TNFOG forum. I am very sure TNFOG will grow into great heights in future spreading its branches, towards the academic and social activities. As the Organizing Chairperson, I welcome our esteemed faculty and delegates to this stimulating academic event and enjoy the hospitality of Trichy.

With regards,

*Ramanidevi*

**Dr. T. Ramanidevi, MD, DGO., FICOG., FICS., FIAOG.,  
Organizing Chairperson – TNFOG 2nd State Conference  
Vice President FOGSI 2020**





*Dr Akila Vaidyanathan*

*Dr Sithara*



*Dr Victoria Johnston*

*Dr Revathy  
Chandrasekaran*

*Dr Thamizhselvi Naveen*

*Dr Archana*

## *From the Editors Desk*

*As the Editorial team of the TNFOG 2 nd State conference we deem it our privilege and delight to present this Souvenir on the occasion !*

*We welcome you all to the academic extravaganza at the Rockcity Tiruchirappalli! Learning is not a destination; it is a journey!*

*Learning , unlearning and relearning help us to acquire new skills, sharpen our knowledge and gain information on an ongoing basis !*

*In keeping with the theme of the conference **Women's health, Nation's wealth** we have published a number of scientific articles and interesting case presentations!*

*We extend our profound gratitude to all our colleagues who have contributed to this effort!*

*We thank our sponsors from the bottom of our hearts!*

*We thank the TNFOG team and the Organizing team for their unstinted support!*

*Hope you enjoy reading it as much as we enjoyed putting it together!*



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## OBSTETRIC ANAL SPHINCTER INJURIES

**DR. T. RAMANIDEVI, MD., DGO., FICS., FICOG.,**  
Vice President FOGSI 2020  
Director Ramakrishna Medical Centre LLP &  
Director Janani Fertility Centre, Trichy

### INTRODUCTION

Obstetric anal sphincter injury (OASI) includes both third- and fourth-degree perineal tears. The overall risk of obstetric anal sphincter injury is 1% of all vaginal deliveries.<sup>1</sup> This condition may also be seen in women without obvious anal sphincter tears during labour and delivery (Occult injury).

### INCIDENCE

In singleton term cephalic vaginal first births in England-tripled from 1.8% to 5.9% from 2000 to 2012. Overall incidence in the UK is 2.9% (range 0-8%). 6.1% in primipara and 1.7% in multi-para.<sup>3</sup> With increased training, increase in the detection of anal sphincter injuries is feasible. An increasing incidence of 3rd or 4th degree perineal tears does not necessarily indicate poor quality care. It may indicate, at least in the short term, an improved quality of care through better detection and reporting.

### APPLIED ANATOMY

The anal canal measures about 3.5 cm in length. The external anal sphincter (EAS) is striated muscle and is subdivided into subcutaneous, superficial and deep regions and is responsible for voluntary squeeze and reflex contraction pressure.<sup>4</sup> It is innervated by the pudendal nerve. The internal anal sphincter (IAS) is a thickened continuation of the circular smooth muscle of the bowel. It contributes to about 70% of the resting pressure and is under autonomic control.

'Anorectal mucosa' – the lining of anal canal varies along its length due to its embryological derivation. Proximal

anal canal is lined with columnar epithelium. Distal 1-1.5 cm is lined with modified squamous epithelium. Anal incontinence is defined as involuntary loss of flatus and/or faeces affecting QOL. Incontinence is related to IAS injury or EAS injury. Up to 40% of women with third- or fourth-degree perineal tears during childbirth suffer from anal incontinence.

### CLASSIFICATION BY SULTAN-1999

International consultation on incontinence and the RCOG classifies anal injuries<sup>6</sup> as follows:

- First degree injury to perineal skin only.
- Second degree injury to perineum involving perineal muscle but not involving the anal sphincter
- Third degree injury to perineum involving the anal sphincter complex (EAS and IAS)
  - 3a less than 50% of EAS thickness torn
  - 3b more than 50% of EAS thickness torn
  - 3c both EAS and IAS torn

Fourth degree injury to perineum involving the anal sphincter complex and anal epithelium.

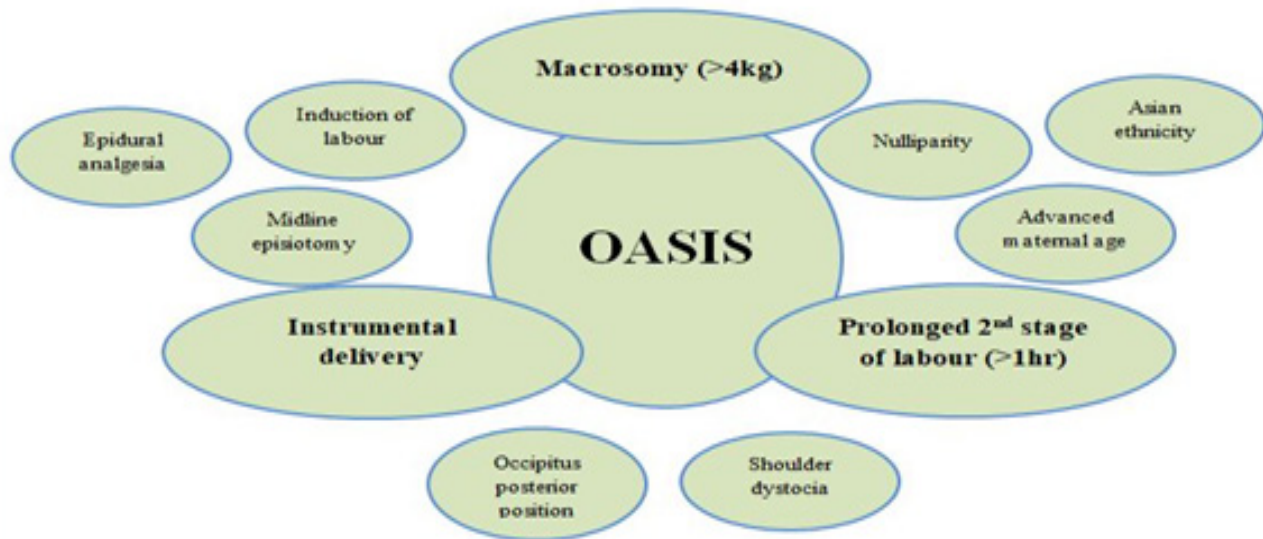
### RECTAL BUTTONHOLE TEAR



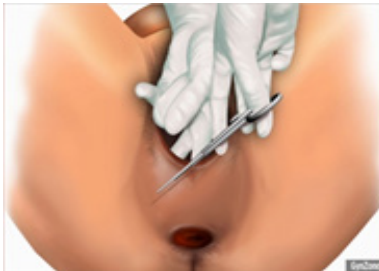
If the tear involves the rectal mucosa with an intact anal sphincter complex, it is by definition not a fourth-degree tear.<sup>7</sup> This has to be documented as a rectal buttonhole tear. If not

recognized and repaired, this type of tear may lead to a recto-vaginal fistula.

## RISK FACTORS



### CAN OASI BE PREVENTED BY EPISIOTOMY?



Protective effect of episiotomy is conflicting. Medio-lateral episiotomy should be considered in instrumental deliveries. Angle of

the episiotomy must be 60 degrees from the midline when perineum is distended. Perineal support during crowning is protective. Warm compression during second stage reduces OASI.<sup>8</sup>

### WHAT SHOULD BE THE ANGLE OF EPISIOTOMY?

NICE recommends an angle of 45-60 degrees from the midline (to reduce the incidence of OASI.<sup>9</sup> The resultant suture angle of 40-60 degrees is more important than the incision angle of 45 – 60 degrees. This can be difficult to achieve at 'crowning' when the perineum is fully stretched. An episiotomy performed at 40 degrees results in a post-delivery angle of 22 degrees which is too close to the midline to be maximally protective. A 60-degree episiotomy from the centre of the introitus results in a post-delivery angle of 45 degrees. Special scissors

designed to ensure an incision angle of 60 degrees will be effective.

### HOW TO PREVENT OASI?

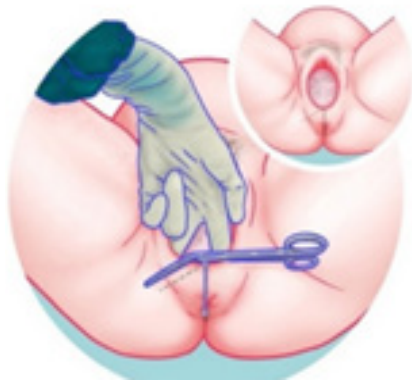
Left hand slowing down the delivery of the head.  
 Right hand protecting the perineum  
 Mother during crowning should not push strongly  
 Episiotomy-For the right patient at the right time at the right direction.

### RITGEN MANOEUVRE



Delivering the fetal head, using one hand to pull the fetal chin from between the maternal anus and the coccyx and the other on the fetal occiput to control speed of delivery is no better than 'standard care'.

## CAN WE PREDICT AND PREVENT OASI?



With introduction of endo-anal USG, abnormalities of the anal sphincter anatomy has been identified in up to 36% of women after vaginal delivery, in prospective

studies. A lower risk of third- degree tear is associated with a wider angle of episiotomy.<sup>12</sup>

## HOW TO ASSESS THE OASI?

All women having a vaginal delivery are at risk of sustaining OASI or isolated rectal buttonhole tears. Identification of obstetric anal sphincter injuries. Before assessing for genital trauma (NICE perineal care guidance) healthcare professionals should explain to the woman what they plan to do and why? Offer inhalational analgesia; ensure good lighting; position woman in lithotomy so that she is comfortable to allow adequate assessment of the trauma and for the repair also. Systematic examination, including a digital rectal examination, to assess the severity of damage should be done.<sup>6</sup>

## DIAGNOSTIC TOOLS FOR ASSESSMENT OF OASIS<sup>13</sup>

Comparison between the available diagnostic tools for the assessment of OASIS.

Diagnostic Test	Target	Sensitivity	Accuracy	Reproducibility	Non-Op. Dependence	Int Us
TRADITIONAL						
EAUS	Morphology	++	++	-	-	
Anorectal Manometry	Function	+	+	+	+	
MRI	Morphology	++	++	++	++	
EXPERIMENTAL						
TPUS	Morphology	+	+	-	-	
Impedance Spectroscopy	Morphology Function	+	+	++	++	

## ENDOANAL USG

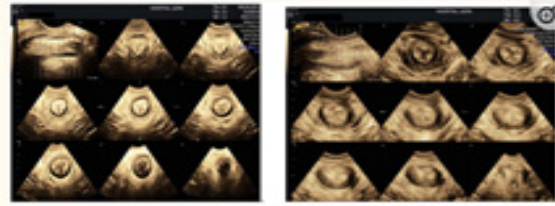
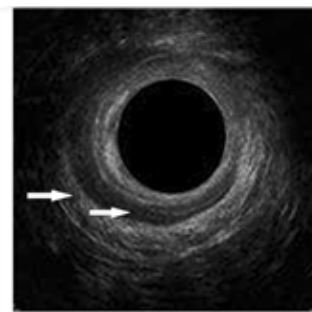


Figure 2

Tomographic ultrasound imaging of internal (IAS) and external anal sphincter (EAS). Longitudinal plane encompassing entire length of EAS is used as reference frame (upper left image of both pictures). The EAS appears as a ring of hyperechogenicity surrounding the thin hypoechoic ring of the IAS. The mucosal folds of the anal canal appear in the center of the image as the innermost layer. Sphincters are normal in all the transverse slices of the left picture (complete rings). The picture on the right show a full-thickness defect of both sphincters (both concentric rings are interrupted).



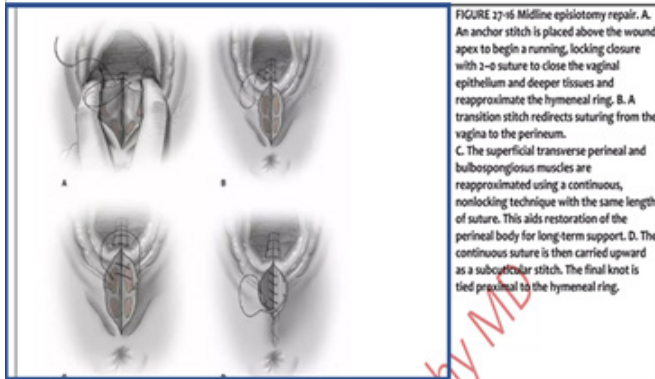
Photograph of endoanal ultrasonography image from the anal canal. The hyperechoic outer circle is the external anal sphincter, and a defect is visible from the 6 o'clock position to the 3 o'clock position. The hypoechoic inner circle is the internal anal sphincter, and a defect is visible from the 12 o'clock position to the 6 o'clock position. Arrows point to each of the sphincters.

## REPAIR OF FIRST- AND SECOND-DEGREE INJURY

Repair should be done after the placenta is removed. It might slightly increase bleeding. Firm application of pressure is needed. First degree tear does not require suturing unless there is bleeding. Second degree needs suturing of vaginal and perineal muscles.

## SUTURING OF MIDLINE EPISIOTOMY

A loose, continuous non-locking suturing for (vaginal tissue, perineal muscle and skin) the use of a continuous subcuticular technique for perineal skin closure is associated with less short-term pain than techniques employing interrupted sutures. (Grade A recommendation)



## REPAIR OF 3RD & 4TH DEGREE LACERATION

Pack the vagina if there is bleeding. Do the procedure in the OT with good lighting, appropriate instruments, under aseptic conditions under regional / spinal anesthesia. Good relaxation will help to identify the retracted torn ends of the sphincter without tension. (Grade C recommendation)

### WHO SHOULD DO THE PROCEDURE?

Obstetric anal sphincter repair should be performed by appropriately trained practitioners. Formal training in anal sphincter repair techniques, is recommended as an essential component of obstetric training. (Good practice point).

### REPAIR OF 4TH DEGREE LACERATION

If there is excessive bleeding vaginal pack, urgent repair. A rectal examination after the repair should be done to ensure that sutures have not been inadvertently inserted through anorectal mucosa. If so, a suture should be removed.

### REPAIR OF 4TH-DEGREE LACERATION

Repair of anorectal mucosa

Suturing of the anorectal mucosa begins above the laceration apex by 1 cm. Sutures are placed through the anorectal submucosa approximately 0.5 cm apart down to the anal verge (do not enter the anorectal lumen), using a continuous, non-locking method of suturing.

## REPAIR OF IAS AND EAS

IAS should be repaired before the EAS. IAS may retract laterally – the torn ends of IAS must be sought and retrieved for repair. IAS can be identified as the glistening white fibrous structure longitudinally and sutured using a continuous, non-locking method of suturing.

EAS should be repaired by identifying the external sphincter and sutured by over lapping technique or approximating end to end cut edges.

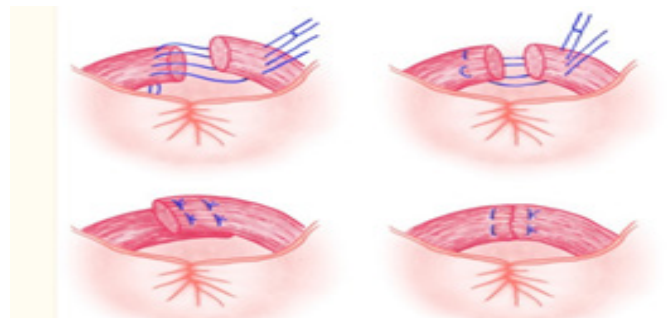
- **Technique**
  - If there is excessive bleeding → vaginal pack, urgent repair
  - A rectal examination after the repair
    - to ensure that sutures have not been inadvertently inserted through anorectal mucosa. If so, a suture should be removed.

Repair of 4th-degree laceration	
<b>Repair of anorectal mucosa</b> <ol style="list-style-type: none"> <li>1. Suturing of the anorectal mucosa begins above the laceration apex by 1 cm.</li> <li>2. Sutures are placed through the anorectal submucosa approximately 0.5 cm apart down to the anal verge <b>do not enter the anorectal lumen</b></li> <li>3. using a continuous, nonlocking method <b>IAS is repaired before the EAS</b></li> <li>4. IAS may retract laterally - the torn ends of IAS must be sought &amp; retrieved for repair IAS can be identified as the glistening white fibrous structure</li> </ol>	

## CHOICE OF SUTURE MATERIALS

The use of a more rapidly absorbed form of polyglactin 910 (vicryl) is associated with a significant reduction in pain and a reduction in suture removal when compared with standard absorbable synthetic material. When repair of the IAS muscle is being performed fine suture size such as 3-0 PDS and 2-0 vicryl may cause less irritation and discomfort. (Grade A recommendation). Burying of surgical knots beneath the superficial perineal muscles is recommended to prevent knot migration to the skin. (Grade C recommendation)

## TECHNIQUES OF SUTURING EAS



A study by Fernando et al., showed overlap techniques were better than end-to-end anastomosis, as far as faecal incontinence, faecal urgency and perineal pain are considered. Dyspareunia and QOL are the same in both techniques.

## PROGNOSIS

Laxatives and stool softeners	Recommended	Such as <b>lactulose</b> for about 10 days – dose should be titrated to keep the stool soft but not loose to reduce risk of wound dehiscence (passage of a hard stool may disrupt the repair) earlier and less painful bowel motion and earlier postnatal discharge
Bulking agents such as ispaghula husk	Not be given routinely with laxatives	Lactulose alone Vs lactulose + ispaghula husk – incontinence immediate post-partum period was more frequent with the latter regime
Physiotherapy	Could be beneficial	
Early home biofeedback therapy enemas and suppositories are avoided	Not recommended	
ANALGESICS		<ul style="list-style-type: none"> <li>• Topical of 5% <b>LIDOCAINE OINTMENT</b></li> <li>• Not effective in one randomized trial (Minassian, 2002)</li> <li>• <b>ORAL</b> codeine provide</li> <li>• NSAID tablets</li> </ul>
Intercourse		For those with second-degree lacerations or OASIS, intercourse is usually proscribed until after the first

A systematic review on the method of repair showed that no significant difference in perineal pain, dyspareunia, flatus and faecal incontinence and quality of life between the two repair techniques at 12 months. But it showed a significantly lower incidence in faecal urgency in the overlap group. (Group A recommendation).

## POST OPERATIVE CARE

### ANTIBIOTIC PROPHYLAXIS

Cochrane review addressing antibiotic prophylaxis for third- and fourth-degree perineal tears, comparing prophylactic antibiotics against placebo or no antibiotics, included only one randomized controlled trial of 147 participants.<sup>14</sup> Although the data suggested that prophylactic antibiotics help to prevent perineal wound complications, though loss to follow-up was very high. If facilities are available and resources allow, follow-up of women with OASI should be in a dedicated perineal clinic with endoanal USG and anal manometry as this can aid decision making regarding future delivery.

## FUTURE DELIVERIES

There is a lack of evidence to inform decision making regarding the optimal mode of delivery following OASI. This needs to be addressed by encouraging participation in multi-centre randomized controlled trials. All women who sustained OASI in a previous pregnancy should

be counselled about the mode of delivery and this should be clearly documented in the notes. The role of prophylactic episiotomy in subsequent pregnancies is not known and therefore an episiotomy should only be performed if clinically indicated.

## ELECTIVE LSCS

All women with an obstetric anal sphincter injury in a previous pregnancy and who are symptomatic or have abnormal endoanal USG

should have the option of elective caesarean birth. (Good practice point recommendation).

## RECOMMENDATIONS FOR FUTURE RESEARCH

Further research is required into patient acceptability of endoanal ultrasound and detecting residual anal sphincter defects immediately after primary surgical repair. The need for secondary surgery in women who have had OASI should be investigated.

## PROGNOSIS

Women should be advised that the prognosis following EAS repair is good, with 60-80% are asymptomatic at 12 months. Most women who remain symptomatic describe incontinence of flatus or faecal urgency. (Grade A recommendation)

## MEDICO-LEGAL ISSUES

There is a steady increase in litigation related to obstetric anal sphincter injury. Litigation is related to failure to

identify the injury after delivery, leading to subsequent anal incontinence and recto-vaginal fistulae. Poor technique, poor materials or poor healing may cause a repair to fail.<sup>15</sup>

## GOOD PRACTICE RECOMMENDATIONS

- Avoiding OASI is the single biggest factor in preventing anal incontinence.
- Any form of instrumental delivery has been noted to increase the risk of OASI
- Routine episiotomy is not recommended.
- Episiotomy use should be restricted to situations where it directly facilitates an urgent delivery.
- A medio-lateral incision is preferred to midline incision for patients at high risk of OASI, with careful attention to the angle cut away from the midline.
- The internal anal sphincter needs to be separately repaired, if torn.
- Women with injuries to the internal anal sphincter or rectal mucosa have a worse prognosis for future continence problems.
- All women, especially those with risk factors for injury, should be surveyed for symptoms of anal incontinence at post-partum follow up.

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LALITHA NURS-  
ING HOME ( MY  
DESIGNS )

JANANI FERTILY  
CENTRE ( MY DE-  
SIGNS )



## RUPTURED ENDOMETRIAL STROMAL SARCOMA (ESS) A CASE REPORT

**DR.R.POONGOTHAI MBBS., DGO, Nalam Hospital, Trichy**

### INTRODUCTION

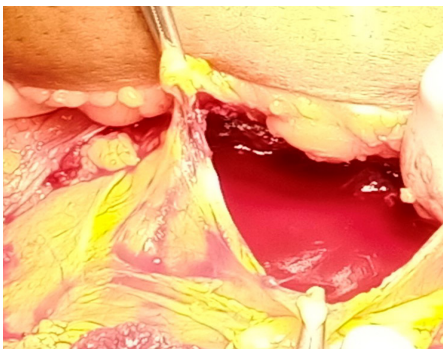
Endometrial Stromal Sarcomas are very rare malignant tumours. The incidence is 0.2% of all uterine malignancies with an annual incidence of 1-2 per million women. Compared to other uterine malignancies, ESS affects younger women and the mean age group is 42-58 years. The usual clinical presentation is abnormal uterine bleeding (90%) uterine enlargement (70%) and can also present with dysmenorrhea and pelvic pain. Asymptomatic ESS can occur in 25%. Due to the great similarity of ESS with normal endometrium, it may be impossible to diagnose with certainty on curettage fragments. Ultrasound imaging can lead to incorrect diagnosis of adenomyosis or leiomyoma. Hence, a proper preoperative diagnosis is difficult and ESS is mostly identified after a hysterectomy from a Histopathological examination. MRI can be useful and an important feature is the presence of bands of low signal intensity within the area of myometrial invasion.

### CASE REPORT:

A 41-year-old woman P2L2 came to OPD with complaints of lower abdominal pain of 3 days duration with a history of Menorrhagia and Dysmenorrhea for 7 months and was treated elsewhere. Her general condition was stable and on transvaginal scan, there was a large fibroid in the fundal region. She was advised to take an MRI for further evaluation of the cause of the severe pain. She did not bring an MRI report immediately, instead, she presented during midnight hours with severe shoulder pain, abdominal pain and abdominal distension. She was pale and there was free fluid in the abdomen (which was not there in the previous USG scan).

MRI report showed a large intramural fibroid of 10.7 x 9.9cm with a focal area of necrosis, cystic degeneration and focal breach in a capsule. Hence, an immediate laparotomy was done with the expert help of a Surgical Oncologist. There was a frank hemoperitoneum of 1 litre. Rupture seen in the uterine fundus with tumour tissues spilled in the peritoneal cavity. Both tubes and ovaries were normal. The omentum was adherent to the uterus. Since the uterus was soft and there was a breach of the

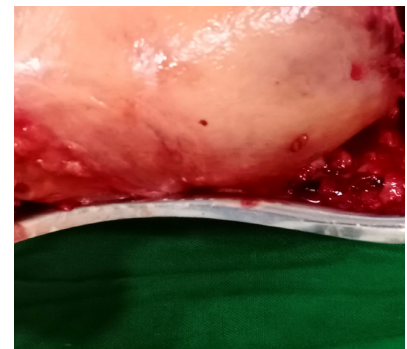
HEMOPERITONEUM



CAPSULE BREACH



ENLARGED UTERUS



capsule, we suspected sarcoma and proceeded with total abdominal hysterectomy, bilateral salpingo-oophorectomy and infrasonic omentectomy. Lymph nodes were not enlarged and hence lymphadenectomy was not done. She was transfused with 4 units of blood. HPE reported as low-grade Endometrial Stromal Sarcoma with uterine rupture, cervix and tubes were free from invasion, and environmental tumor deposits present. Immuno Histo Chemistry report CD10 – Positive, ER.- Focal positive in all and Ki67 – in 5% of neoplastic cells. SMA & cyclin D1- negative.

## DISCUSSION

The traditional classification of ESS into low-grade and high-grade categories has fallen out of favour. High-grade tumours without evidence of a definitive endometrial phenotype are termed undifferentiated endometrial sarcoma (UES) instead of high-grade ESS. Therefore the term ESS is restricted only to Low-grade ESS.

Low-grade ESS is the proliferation of uniformly small cells that resemble those of endometrial stroma in the proliferative stage, forming an irregular nodular growth involving endometrium with varying degrees of permeation to the myometrium, myometrial veins extending onto parametrial veins. Significant atypia and pleomorphism are absent.

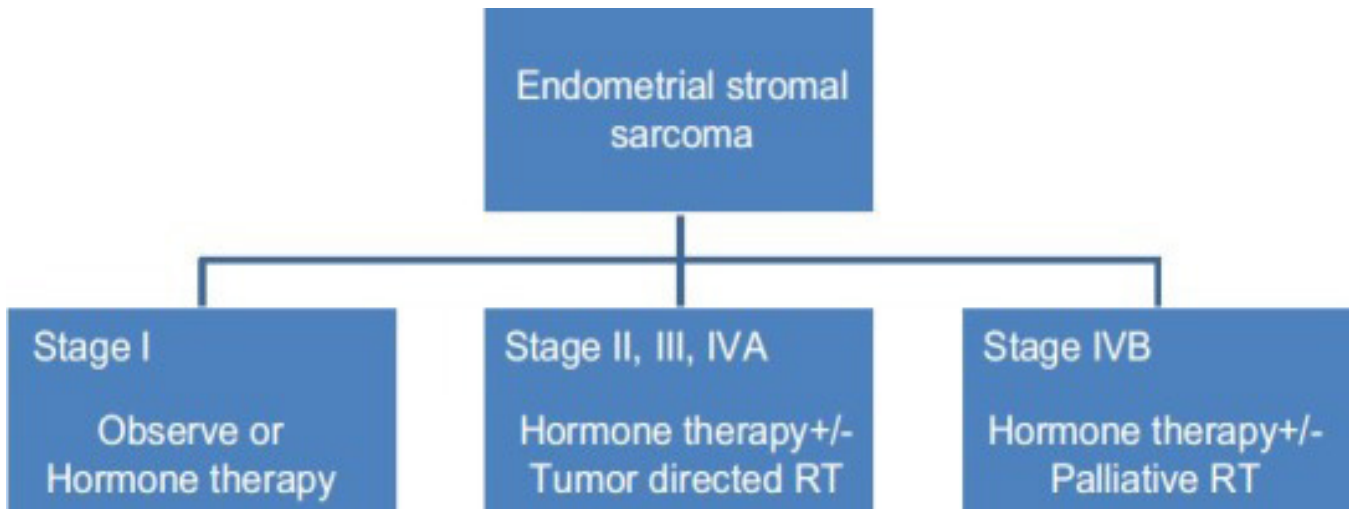
Strong positivity of CD10 is found in ESS, which helps to differentiate from histological mimics like cellular leiomyoma. Inhibin expression is a feature of ESS and is always positive for both estrogen and progesterone receptors.

The prognosis depends upon the stage of disease at the time of surgical management.

FIGO staging system for uterine sarcoma is used to for staging ESS also

FIGO STAGING OF LEIOMYOSARCOMAS AND ENDOMETRIAL STROMAL SARCOMA		
I		TUMOR LIMITED TO UTERUS
	IA	LESS THAN OR EQUAL TO 5 CM
	IB	MORE THAN 5 CM
II		TUMOR EXTENDS BEYOND THE UTERUS, WITHIN THE PELVIS
	IIA	ADNEXAL INVOLVEMENT
	IIB	INVOLVEMENT OF OTHER PELVIC TISSUES
III		<b>TUMOR INVADES ABDOMINAL TISSUES (NOT JUST PROTRUDING INTO THE ABDOMEN)</b>
	IIIA	ONE SITE
	IIIB1	MORE THAN ONE SITE
	IIIC	METASTASIS TO PELVIC AND /OR PARA – AORTIC LYMPH NODES
IV		<b>METASTASIS</b>
	IVA	TUMOR INVADES BLADDER AND /OR RECTUM
	IVB	DISTANT METASTASIS

## MANAGEMENT



Surgery: Total Abdominal hysterectomy with bilateral salpingo-oophorectomy is the primary management.

### ADJUVANT THERAPY

#### HORMONE THERAPY INCLUDES

Medroxy progesterone binds with progesterone receptors and downregulates gene transcription leading to decreased endometrial gland and stromal proliferation.

GnRH agonists downregulate GnRH receptors in the anterior pituitary leading to a hypoestrogenic state.

Aromatase inhibitors Letrozole/anastrozole inhibits peripheral aromatase and causes a marked reduction in circulating estrogens. ESS shows expression of aromatase enzyme and hence these drugs can be used as adjuvant therapy

The effective duration of therapy is still undetermined. Response to therapy depends on the hormone receptor concentration. Tamoxifen and HRT are contra-indicated in ESS

RADIOTHERAPY in the form of brachytherapy with or without pelvic radiation can be considered for advanced or recurrent cases.

The RECURRENT disease develops in 30-50% of patients

with ESS and is usually limited to the pelvis and lower genital tract. Distant metastasis to the lungs may occur after several years. Recurrent ESS can be treated with hormone therapy, radiation, surgical re-excision or a combination of these. Data supporting the role of Chemotherapy in recurrence is limited.

Follow-up is once in 3 months for the first year and a half-yearly for the next 4 years and annual follow-up thereafter.

5- year Survival rates for Stage I is 54-100%, Stage II is 30%, and for Stage III & and IV is only 11%

### CONCLUSION

ESS is a rare tumor and a high index of suspicion is necessary to diagnose. There is insufficient information about optimal management because of the large variation in pathologic characteristics combined with the scarcity of patients. Total hysterectomy with bilateral salpingo-oophorectomy is the main line of management. Ovaries can be preserved in young women in the early stage. The role of lymphadenectomy is controversial. Hormone therapy is a new promising adjuvant therapy modality.

## DECLARATIONS :

Conflict of interest: The author declares no conflict of interest..

Informed consent: Written informed consent for publication of their clinical details and/or clinical images was obtained from the patient.

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6. <https://doi.org/10.1111/jog.14436>



**DR. R. GUNASEKARAN** MD., FRCP (G), FICP,  
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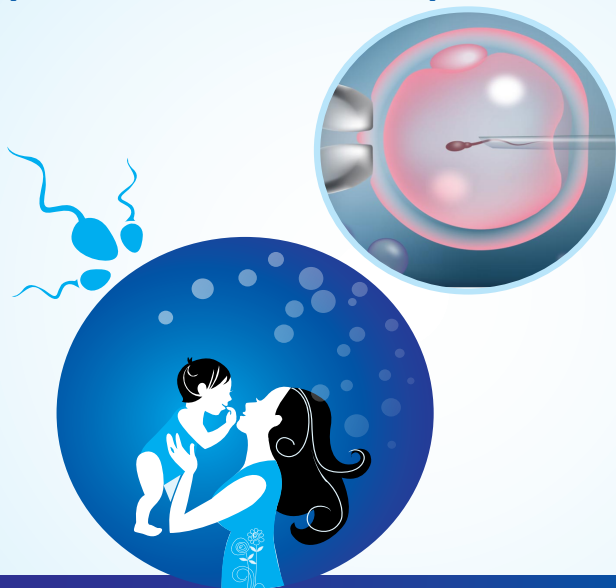
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**E-MAIL:**janet\_trichy@yahoo.co.in **PH:** 0431-2792543, 2792824



## FIRST TRIMESTER DIAGNOSIS OF RIGHT CARDIAC VENTRICULAR DIVERTICULUM, MASSIVE PERICARDIAL EFFUSION.

**DR MALATHI G PRASAD,**  
MD, FRCOG(UK) DIPLOMA IN FETAL MEDICINE FMF BARCELONA)  
**DR SUKRATI RANJAN, MBBS., MD,**  
Trichy fetal medicine and fertility centre, Trichy.

### INTRODUCTION :

Cardiac diverticulum is a very rare anomaly with only a few cases diagnosed and reported in foetal life. Even so, first-trimester detections are even rarer with only reported cases. Cardiac diverticulum is a very rare anomaly, which usually presents with pericardial effusion with secondary changes such as pulmonary hypoplasia or hydrops fetalis.

Only a few cases diagnosed during fetal life have been published and 10 cases during the first trimester of pregnancy. We describe a case of cardiac diverticulum complicated with pericardial effusion, which was diagnosed at 14 weeks of pregnancy who opted for termination of pregnancy. We report the second-ever case from Asia and review imaging findings.

It usually presents with concomitant pericardial effusion which makes the visualization easier. Intrauterine pericardiocentesis is a promising treatment strategy in cases with isolated findings leading to spontaneous regression of diverticulum.

We report a case of cardiac ventricular diverticulum, its antenatal presentation with USG findings, treatment options and management.

### CASE REPORT :

A 24-year-old otherwise healthy woman (G5P2L1A2) in her 11th week of gestation was referred to us with the diagnosis of fetal pericardial effusion in her present spontaneous pregnancy. She had a history of two spontaneous first-trimester abortions.

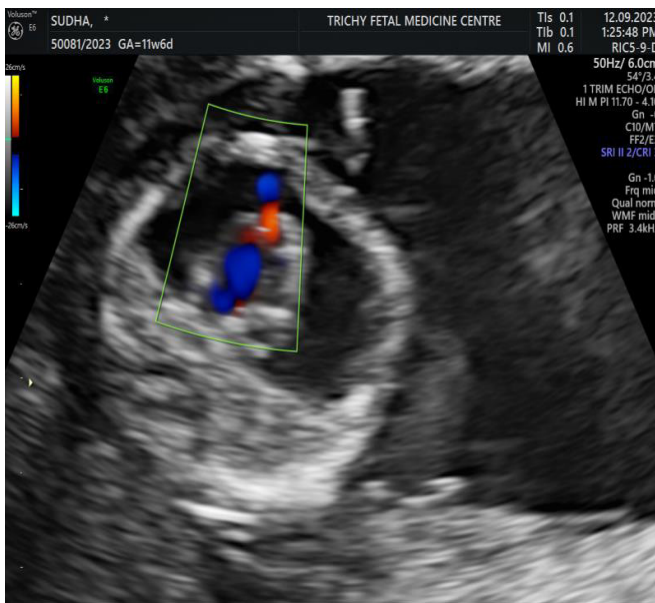
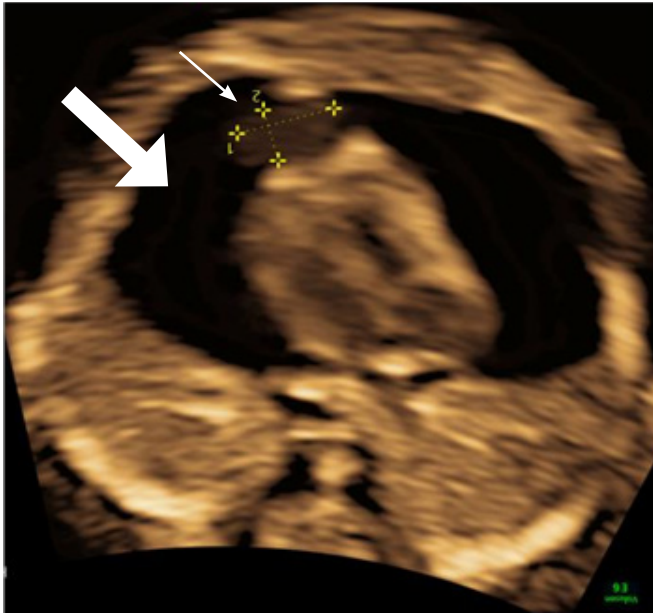
Her next pregnancy resulted in a prematurely delivered male baby diagnosed postnatally with Waardenburg syndrome and subglottic stenosis. He succumbed to respiratory complications. This was followed by a full-term delivery of a normal female child. Her present pregnancy was spontaneous. She had not undergone any genetic testing so far.

The foetal scan revealed a large pericardial effusion, a two-millimetre anechoic image was found on the heart apex (fig. 1), with a narrow base and expanding from the ventricular wall into the pericardium. Blood flow could be observed through this structure with saccular out-pouching at the apex of the right ventricle (fig. 1), prominent bilateral atrial appendages and flat facies. Foetal Echocardiography and colour flow mapping demonstrated turbulent bidirectional flow across the diverticulum that started paradoxically during ventricular systole. The nasal bone was absent at the time of scan and nuchal translucency was 1.2mm. There was no evidence of tricuspid regurgitation. The rest of the fetal anatomy as well as findings on early fetal echocardiography, including Doppler studies in the ductus venosus and atrioventricular valves, were normal.

The diagnosis of a cardiac diverticulum was made. The rest of the echocardiography was normal.

The couple was counselled about the risks and benefits of pericardiocentesis, the possibility of spontaneous regression of pericardial effusion and postnatal correction of the diverticulum.

However, they chose to terminate the pregnancy given



## DISCUSSION :

A cardiac diverticulum is a protrusion located on the ventricular wall, in close communication with it. This rare entity has been scarcely reported in the literature. Prenatal diagnosis may be difficult when it appears isolated [1].

Since such formations are closely communicated with the heart ventricle, bidirectional blood flow may be observed through them with colour or pulsed Doppler sonography [1]. Two types of diverticulum are - apical

and nonapical [2, 3].

The apical diverticulum of the left ventricle may be of three different types: apical isolated diverticulum, which is not associated with other malformations; multiple diverticulum, which is located on the diaphragmatic or anterior surface of the ventricle; and large apical diverticulum, which are associated with midline thoracoabdominal malformations or with the Pentalogy of Cantrell [4].

Although their aetiology is not known, they seem to be caused by the local weakening of the ventricular wall, which may, in turn, be due to possible embryogenesis defects [5], secondary to infections, or caused by local ischemia resulting from coronary anomalies, such as stenosis, hypoplasia, intimal proliferation, and thrombosis [6–8]. Differential diagnoses should include aneurysms (Table 1) [6, 9–12], cardiomyopathy, Ebstein's anomaly, and auriculo-ventricular regurgitation [9].

The main differential diagnosis of ventricular diverticulum includes ventricular aneurysm. Diverticulum, unlike aneurysms, typically have a narrow neck, size remains constant throughout pregnancy and they maintain normal kinesis and contractility. More often diverticula are smaller structures than aneurysms and do not cause cardiovascular compromise, thus, being more difficult to identify prenatally with a good prognosis unlike aneurysms which have a bad prognosis

They can be seen as small protrusions from the left or right ventricular apex or free wall.

Both entities represent areas of dysplastic myocardium, especially the aneurysms that are often hypokinetic or akinetic. On the other hand, ventricular aneurysms are not usually associated with other congenital malformations, whilst diverticula have been associated with other congenital intracardiac anomalies such as ventricular septal defect and midline thoracoabdominal defects.

For each included case we focused on the following criteria: time of diagnosis, pericardial effusion association,

management, intrauterine evolution, associated complications, right ventricular diverticulum and time of delivery, fetal outcome (intrauterine death/ stillbirth, death after delivery, and survival). We excluded the cases of cardiac aneurysm. It was most frequently diagnosed during the second trimester of pregnancy (51%). During the first trimester, 29% of cases were diagnosed; three of them presented increased nuchal translucency. This entity affects male fetuses more than female ones (3: 1); its most frequent location is on the right ventricle

(70%) and the most frequently involved area is the heart apex (57%). Ultrasonographic findings associated with diverticulum include pericardial effusion, cardiomegaly, septal defects arrhythmia with fetal death before delivery, and hydrops [6, 13, 14].

Pericardial effusion is the most frequently associated finding (63%) and should be considered an indirect sign of the presence of cardiac diverticulum. Although the aetiology of effusion is not known, it has been proposed to result from the diverticulum rubbing the pericardial walls or from heart failure. Thus, the observation of pericardial effusion makes it necessary to examine the cardiac function [1, 6, 15].

A problem associated with pericardial effusion is that the resulting compression may produce heart failure and pulmonary hypoplasia. The management of such cases usually varies from performing pericardiocentesis to adopting an expectant approach. In our case, we made an early diagnosis and treatment with pericardiocentesis was offered but the couple refused intrauterine management and chose to terminate the pregnancy.

Cases of rupture, both pre- and postnatal, arrhythmia, fetal death, heart failure, and coronary insufficiency have been described [9]. In these patients, serial control examinations are necessary to detect possible complications. In general, postnatal progression is good and surgery is not necessary in asymptomatic cases [19].

Prenatal diagnosis of a ventricular diverticulum can be performed in early pregnancy and the finding of an

isolated pericardial effusion without obvious aetiology should prompt a search for other defects such as a ventricular diverticulum. Although the prenatal history of this condition remains unclear, the overall prognosis appears to be favourable and, even if associated with pericardial effusion, conservative management may be a reasonable option.

However, further case reports, especially those with an early diagnosis, are needed to predict the prenatal and postnatal outcomes and to allow improved parental counselling.

#### **Ethical approval about publication:**

Ethical approval is not required. The patient's permission was obtained.

**Disclosure of funding:** None

#### **Conflict of Interest:**

No potential conflict of interest relevant to this article was reported.

#### **Authors contribution:**

**Data gathering:** Sukrati Ranjan, Trichy Fetal Medicine Centre, Trichy.

**Writing manuscript:** Revathy M C, Trichy Fetal Medicine Centre, Trichy.

**Editing and approval of final draft:** Sukrati Ranjan, Revathy M C

**Approval of the final draft:** Malathi G. Prasad

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## DO'S AND DON'T'S OF OOCYTE RETRIEVAL



**DR. T. RAMANI DEVI MD., DGO., FICS., FICOG.,**

**DR. S. CHITRA M.D.,D.G.O.,**

**DR. S. R. DHANVARSHASUMALDHA**  
**DR. THENDRAL, ICOG FELLOWS, Janani Fertility Centre, Trichy**

DO'S	DON'TS
Time oocyte retrieval at 34-36 hours after trigger	Avoid pickup before 32 hours or after 38 hours
Good ultrasound machine with a transvaginal probe of 5-8 MHz and a colour Doppler option	
Disinfect the transducer probe. Use latex free probe cover	Avoid lubricant on the outside of probe cover as it maybe gametotoxic
Check suction apparatus and tubing connections for kinks or damage	Avoid air bubbles in the suction tubing connections to prevent turbulent flow
Empty bladder, Dorsal lithotomy position	
Conscious sedation, preferably propofol	
Cleansing of vagina with Normal saline	Betadine or chlorhexidine cleansing of vagina
Good elbow support for the operator while holding transvaginal probe	Avoid unnecessary movement to prevent damage to surrounding iliac vessels and bowel

DO'S	DON'TS
Adequate pressure preferably 100 -120 mm Hg	Suction pressure not less than 100 mm Hg and not more than 200 mm Hg
Use test tube warming rack to maintain temperature at 37°C and flush warm media in tubing before starting the procedure	Avoid temperature drop of the test tube less than 33°C
Focus maximum follicle diameter and insert needle to the centre of the follicle	
Use standard needle size 17G, 18G, 20G	Avoid smaller needles as they cause damage to cumulus oophorus complex
Suction pedal switched on before entering follicle, maintain suction till aspiration of all follicles is complete	Releasing suction before exiting the ovary as it may cause retrograde spill of follicular fluid and oocyte back into the cavity
Aspirate till follicle collapses completely	Avoid multiple penetrations of ovarian cortex to reduce chance of abdominal bleeding
Follicular curetting at the end	
Anteroposterior movement of probe	Avoid lateral movement as it may cause laceration of ovarian cortex
Aspirate all follicles more than 10 mm size	
Double lumen needle should be used for follicular flushing	
OHSS prophylaxis if required	
Adequate postoperative pain relief	

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## NIPPLE DISCHARGE AETIOLOGY CLINICAL FEATURES & INVESTIGATIONS

**DR.K.VIJAYAPRABHA CHEZHIAN MBBS, DGO., FICOG**  
Executive Member Breast Committee FOGSI Joint secretary TRIOGS

- Nipple discharge is the release of fluid from the nipple.
- There are normally 15-20 milk ducts opening onto each nipple. Discharge can come from a number of these ducts.
- Constitutes 7-10% of all breast symptoms.
- Most nipple discharge is due to a benign etiology, 7-15% is due to breast carcinoma.

### FEATURES

- Unilateral or bilateral discharge,
- Spontaneous or on expression.
- Discharge may be
  - Clear,
  - serous,
  - Milky, yellow,
  - Green, pink or slightly bloody,
  - Brown or black,

Discharge may originate from one or multiple ductules

### CLASSIFICATION

- Nipple discharge classified as normal or abnormal depending on features such as
  - Laterality
  - Cycle variation
  - Quantity
  - Color or presentation

### NORMAL DISCHARGE

- Normal discharge is non spontaneous
- Usually bilateral
- It is serous and originates in many ducts

### GALACTORRHEA

- Galactorrhea is typically bilateral
- Discharge is milky
- This is typical in pharmacological galactorrhea
- Discontinuation of the medication will eliminate the discharge.

### CAUSES OF GALACTORRHEA

Medications

- Antidepressants and anxiolytics
- Antipsychotics
- Histamine H2 receptor blockers
- Hormonal medications
- Phenoazines, including chlorpromazine
- Others include amphetamine, anaesthetics, arginine, cannabis, danazol,

### ABNORMAL DISCHARGE:

- It's defined as nonlocal, noncyclical,
- persistent,
- spontaneous
- unilateral
- Usually located in one duct

### BENIGN CONDITIONS:

- Intraductal papilloma
  - 1. solitary
  - 2. multiple papillomas (papillomatosis)
- Duct ectasia
- Plasma cell mastitis

### MALIGNANT CONDITIONS

- Ductal
- Lobular or papillary carcinoma

Papillary carcinoma is usually inside a duct and may present initially as a unilateral. It originates in one duct.

## TECHNIQUES

- Mammography
- Ultrasound
- Cytology
- Duct endoscopy
- Ductography
- MRI
- Biopsy
- Ductoscopy

## CAUSES OF NIPPLE DISCHARGE

- Benign breast disorders
- Intraductal papilloma
- Mammary duct ectasia
- Fibrocystic changes
- Abscess or infection
- Breast cancer
- Most often, intraductal carcinoma or invasive ductal carcinoma
- Hyperprolactinemia
- (eg: pituitary tumor, hypothyroidism)

## PAST MEDICAL HISTORY

- Possible causes of
- Hyperprolactinemia,
- Including chronic renal failure ,
- Pregnancy,
- Liver disorders, and thyroid disorders,
- History of infertility,
- Hypertension, depression,
- Breast feeding, menstrual patterns,
- Cancer
- Specifically about drugs that can cause prolactin release such as
- oral contraceptives,
- a n t i h y p e r t e n s i v e drugs (eg: methyl dopa, reserpine, verapamil),
- H2-antagonists (eg: cimetidine, ranitidine)

## PHYSICAL EXAMINATION

The breasts are inspected for symmetry,

- dimpling of the skin,
- erythema,
- swelling,
- color changes in the nipple
- crusting,
- Ulceration or retraction of the nipple.

## RED FLAGS

- Spontaneous discharge
- Age more than 40
- Unilateral discharge
- Bloody or guaiac-positive discharge
- Palpable mass
- Male sex

## TESTING

- If endocrine causes are suspected
  - ☛ prolactin level
  - ☛ Thyroid-stimulating hormone (TSH) level
- If the discharge is guaiac-positive Cytology
- If there is a palpable mass, evaluation for breast mass is done
  - ☛ Ultrasonography
- If there is no mass but cancer is otherwise suspected or if another test is indeterminate
  - ☛ Mammography tubercles
  - ☛ The Montgomery's glands become larger during pregnancy Montgomery's tubercles
  - ☛ Montgomery's gland may be enlarged forming a retention cyst this may become infected

## SIMPLE CYST

- Aspirate is not blood-stained
- No residual lump after aspiration
- The cyst does not refill
- cytological examination no malignant cells

## TREATMENT

- Treatment is individualized for Nipple discharge.
- There cannot be a generalized approach



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- 1T QUAD MARKER
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- THALASSEMIA SCREENING
- PRE-ECLAMPSIA SCREENING
- NIPT

**2<sup>nd</sup>** TRIMESTER SCREENING

- 2T QUADRUPLE MARKER
- PRE-ECLAMPSIA PREDICTION SFLT-1/PLGF RATIO
- NIPT

**DIAGNOSTIC GENETIC TESTING**

- EXOMEFIRST
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## AN UNUSUAL LATE PRESENTATION OF POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME - A CASE REPORT

**DR. S. LAKSHMI PRABHA MBBS., DGO., (OG)., FICOG**  
RANA HOSPITAL, TRICHY

### INTRODUCTION

Posterior reversible encephalopathy syndrome (PRES) is an acute neuroradiological entity presenting with nonspecific signs and symptoms such as headache, altered mental status, seizures, visual disturbances in the form of cortical blindness, and focal neurological deficits. Typical radiological findings show oedema of the posterior cerebral regions that is the parietooccipital lobes. Preeclampsia and eclampsia are the common causes of PRES. However, late postpartum Preeclampsia concurrent to PRES is rare.

Preeclampsia, Eclampsia, infection, sepsis, shock, autoimmune disease, cancer chemotherapy, hypertension, and solid organ or bone marrow transplantation are the predominant causes described in association with PRES. Preeclampsia and eclampsia are the most common causes of PRES.

Hereby, reporting a rare case of late postpartum preeclampsia with PRES.

### CASE REPORT.

26yr old P2L2 post LSCS with sterilization presented on 15<sup>th</sup> POD with severe headache and blurring of vision. Her antenatal period was uneventful. There was no history of diabetes or hypertension during pregnancy, no previous episodes of seizures, and no history of pedal oedema during pregnancy. She was normotensive in antenatal and post natal period. She was discharged on 4th POD with normal B.P. No H/O of migraine or visual disturbance was in the past.

Her present pregnancy was full term, and she had undergone LSCS in view of cephalopelvic disproportion. On general examination, patient was conscious, oriented, afebrile, well built, and nourished. LSCS scar was healthy. Vitals on admission showed a blood pressure of 160/100 mm Hg, Heart rate of 82 per minute, and capillary blood glucose of 102 mg/dl. Systemic examination including the central nervous system examination was unremarkable. Baseline investigations with MRI with MRV after neurologist consultation was done.

Fundus was normal. Preliminary biochemical and hematological tests were within normal. MRV was normal. MRI showed edema of posterior cerebral region (parietal occipital lobes.)

Patient was diagnosed to have late postpartum preeclampsia with suspected PRES and was started on injection Magnesium sulphate,, injection Labetolol, and tablet Nifedipine Following Magnesium sulphate injections and antihypertensives, patient's blood pressure was under control, patient became asymptomatic, patient was discharged after 4 days of admission, with advice of continuing antihypertensives.

Patient returned to us after 1 week; she was asymptomatic, and blood pressure was 100/60 mm Hg. Repeat MRI was done which showed resolution of previous signs hence diagnosis of PRES was confirmed.

### CONCLUSION

Though preeclampsia and Preeclampsia are usually screened entities, we should also follow women in puerperium for late postpartum Preeclampsia which is

defined as sudden increase in B.P beyond 48 h of delivery up to 4 weeks postpartum. So it is important to follow up postpartum women for complications like PRES because early detection and treatment can lessen the morbidity and mortality as they are completely reversible. Thus, health care professionals should be educated about the same. Apart from antenatal and intrapartum care, postpartum care should also be given equal importance.

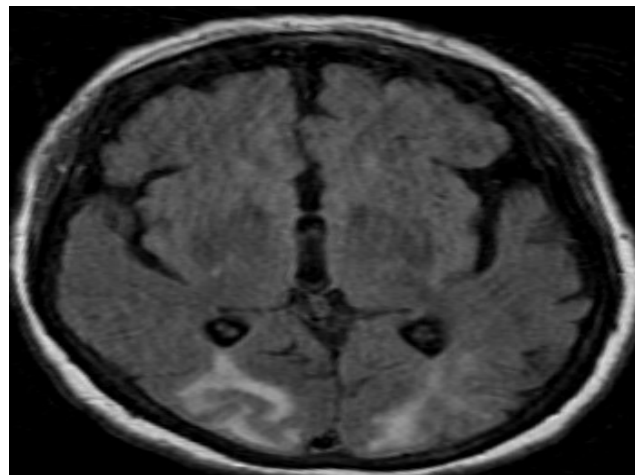
## **DISCUSSION**

Preeclampsia and eclampsia are hypertensive disorders of pregnancy complicating around 10% of all pregnancies with significant maternal and fetal morbidity and mortality. Preeclampsia is characterised by hypertension after 20 weeks of gestation in a previously normotensive individual with signs and symptoms of target organ injury. Eclampsia is abrupt development of seizures or coma during the gestational period or postpartum not attributable to any other cause. Usually, it occurs between 20 weeks of pregnancy and 48 h postpartum. A few cases occur from 48 h to 4 weeks postpartum called as late postpartum eclampsia or preeclampsia. PRES with late onset preeclampsia is a rarely encountered entity; as a result, most of the clinicians are unaware about the same.

In more than 90% of delayed presentation of postpartum eclampsia, there will at least be one early missed symptom suggesting preeclampsia which usually goes unreported by the patient to the treating physician; this prevents the diagnosis and treatment of the same, leading to increased risk of onset of PRES.

## **CONCLUSION**

As stated above, PRES can manifest as late postpartum eclampsia without prior evidence of preeclampsia and eclampsia during antenatal period. It is of utmost importance that the treating physician is aware of such condition, so that prompt diagnosis and early treatment is administered to reduce maternal morbidity and mortality as PRES is reversible.



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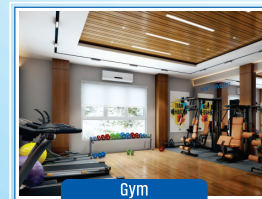
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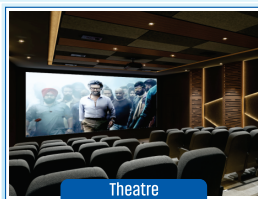
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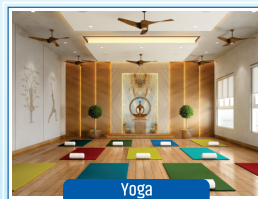
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## REVERSAL OF TWIN TO TWIN TRANSFUSION SYNDROME IN MONOCHORIONIC TWINS AFTER FETOSCOPIC LASER PHOTOCOAGULATION OF ANASTOMOTIC VESSELS - A CASE REPORT.



**DR MALATHI G PRASAD,**  
MD, FRCOG(UK) DIPLOMA IN FETAL MEDICINE FMF BARCELONA)  
**DR REVATHY M C ,** MEBS, MSIOG), ICOG FE-  
TAL MEDICINE SPECIALIST (GOLD MEDALIST)  
Trichy fetal medicine centre, trichy.

### ABSTRACT:

A case report of reversal of twin-to-twin transfusion syndrome (Stage I TTTS) at 21 weeks of gestation by fetoscopic laser photocoagulation (FLP) of anastomotic vessels. The monochorionic twins presented with polyhydramnios of twin I and oligohydramnios and fetal growth restriction of twin II. With fetoscopic laser photocoagulation, anastomotic vessels were coagulated and reversal of TTTS ensured till 29 weeks of gestation. The patient had preterm premature rupture of membranes at 29 weeks and developed preterm labour at around 30 weeks to deliver two live preterm babies by vaginal delivery.

### KEYWORDS:

TTTS, FLP, Fetoscopic laser coagulation, Quintero staging, recipient twin, donor twin.

### BACKGROUND:

Approximately 10–15% of Monozygotic, monochorionic, diamniotic twin pregnancies are complicated by Twin-to-twin transfusion syndrome (TTTS)<sup>1-4</sup>. The pathophysiology of TTTS is caused by vascular anastomosis (imbalance in unidirectional arteriovenous anastomoses with absent bidirectional anastomoses) causing an imbalance of placental blood flow on the surface of the placenta<sup>7</sup>.

Diagnosis of TTTS is always done using ultrasound showing the presence of polyhydramnios in the sac of one twin (Recipient twin) and oligohydramnios in the sac

of the other twin (Donor twin). The donor twin develops circulatory failure, anaemia, hypotension, oliguria, oligohydramnios, fetal growth restriction and renal



**FIGURE 1-TTTS WITH OLIGO-POLY SEQUENCE**

failure because of a chronic supply of blood flow to the recipient twin 1-3. Simultaneously, the recipient twin develops polyaemia, hypertension, polyhydramnios, cardiac dysfunction and hydrops fetalis because of a circulatory overload.

In severe cases of TTTS, both fetuses may become intra-uterine deaths. In cases of onset before 26 weeks of gestation with no intervention, the prognosis is very poor. FLP is considered in these cases to increase the perinatal survival rates and avoid long-term neuro-

developmental morbidities<sup>5-7</sup>. FLP aims at identifying anastomosis on the placental surface and coagulates it (artery to artery, venous to venous and artery to venous) to result in complete independent circulation in both fetuses which, when successful, improves TTTS within 1–2 weeks. The outcome of FLP shows an 80% survival rate, a 5% neurological sequelae rate and a 4% miscarriage rate<sup>6-8</sup>.

We present a case of Stage I TTTS diagnosed at 21 weeks of gestation, followed by the reversal of TTTS after FLP<sup>2-4</sup>. The reversed condition gradually improved to a normal balance of both amniotic fluid volumes till 29 weeks after which the patient had preterm premature rupture of membranes and spontaneous preterm labour at 30 weeks delivering vaginally two alive female babies<sup>6-8</sup>.

### CASE PRESENTATION :

A 26-year-old primigravida conceived by in-vitro fertilisation due to male factor infertility was referred to our hospital because of monochorionic diamniotic twin pregnancy with suspected TTTS at 21 weeks and 2 days of gestation. USG evaluation

at our centre showed discordancy in amniotic fluid (SVP- Twin -1 (10 cms) & Twin 2- (1 cm), fetal weight (EFW - Twin 1 - 520 gm and Twin 2 - 302 gm - Discordancy ratio - 40%) and fetal dopplers (Umbilical artery doppler of Twin 1-

		Quintero Stage				
		1	2	3	4	5
Ultrasound assessment	Measure maximum vertical pocket (MVP) of amniotic fluid (AF) in both sacs	Assess fetal bladder at start of examination	Doppler assessment for growth-restricted fetuses	Assess fetal hydrops	Demise of one or both twins	
Quintero criteria	MVP of AF >8 cm at ≤20 weeks OR AF >10 cm at >20 weeks	Nonvisualization of fetal bladder over 60 minutes	Critically abnormal Doppler waveforms	Hydrops fetalis recipient twin	Fetal demise	
Sonographic parameter	Oligo/polyhydramnios sequence Folding of intertwin membrane Discrepancy in echogenicity of amniotic fluid	Empty fetal bladder in donor twin	Absent or reversed end-diastolic flow in umbilical artery Absent or reversal of flow during atrial contraction in the ductus venosus or pulsatile flow pattern in umbilical vein	Scalp edema, ascites Pericardial or pleural effusion	Absent cardiac and fetal motion	

Normal, Twin 2-

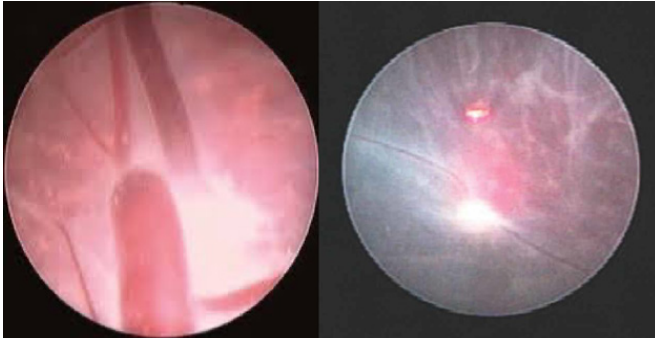
Reduced diastolic flow with increased resistance) shown in Figure 1. Fetal anatomy was normal for both fetuses. So, a diagnosis of Quintero Stage I TTTS (figure 2) with early-onset fetal growth restriction in Twin 2 was made and the option of FLP was discussed with the parents. The parents opted for FLP and our team proceeded with laser photocoagulation of anastomotic vessels. Intra-operatively 9 A-V (donor to recipient) anastomosis and 2 V-V (recipient to donor) anastomosis were identified and laser photocoagulation was done (figure 3). Post-procedure FHR of both the foetuses were normal.

Figure -2 - Quintero staging of TTTS

The patient was admitted and repeat USG was done on POD- Day 1 which showed good FHR of both the foetuses with reversal of TTTS and re-establishment of amniotic fluid in Twin 2 (SVP - 3.6 cms).

The patient was reviewed back after 1 week at 23 weeks to notice there is a complete reversal of TTTS with no discordancy in amniotic fluid (SVP- Twin -1 (5 cms) & Twin 2- (4.8 cms). Twin 2 continued to have fetal growth

restriction with reduced diastolic flow in the umbilical artery. The patient was followed up every 2 weeks with



**FIGURE 3- FLP OF ANASTOMOTIC VESSELS**

no evidence of further TTTS. The patient presented with preterm premature rupture of membranes and spontaneous preterm labour at 30 weeks delivering vaginally two alive female babies after steroid coverage. The birth weight of Twin I was 1100 gm and Twin II was 750 gm. Both the foetuses were admitted to the NICU because of prematurity. Twin II expired after neonatal day 5 due to low birth weight and extreme prematurity. Twin I survived, gained adequate weight was discharged on postnatal day 29 to home and is doing well now with no neurological sequelae and good neurodevelopment outcome.

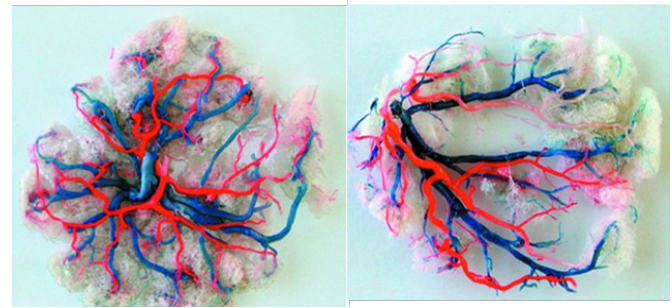
## DISCUSSION

The pathophysiology of TTTS is attributed to acute hemodynamic changes that occur because of the presence of anastomosis on the placenta between the two fetal circulations<sup>1-3</sup>. Fetal laser photocoagulation proves to be the most effective treatment choice to treat TTTS<sup>5</sup>.

FLP aims at the reversal of TTTS and it relies on reversing the donor–recipient phenotype, that is, a donor fetus acquiring features of a recipient and vice versa<sup>1-4</sup>.

Multiple studies on the reversal of TTTS have been reported in recent times. The pathologies, the incidence rates and the intervention protocols for the reversal of TTTS remain to be determined. In our case, we started noticing the reversal of amniotic fluid of donor–recipient

the very next day after FLP<sup>4</sup>. The reversed hemodynamics were subsequently ameliorated without additional FLP or other



**FIGURE 4- PLACENTAL ANGIOARCHITECTURE: MONOCHORIONIC TWINS**

treatment. A placental study with an injection of coloured dye will confirm no residual anastomosis on the surface of the placenta (figure 4).

The reversal of TTTS after FLP is considered to occur during the course of normalisation of the blood flow between the fetuses<sup>7,9</sup>. The reversal of TTTS might spontaneously improve depending on the cardiac function of the initial donor/new recipient. Since the curative effect of FLP may be continuously exerted in the course of the twin pregnancy, a careful follow-up for the changes in hemodynamics between the twins is necessary<sup>5-9</sup>.

### Ethical approval about publication:

Ethical approval is not required. The patient's permission was obtained.

### Disclosure of funding: None

### Conflict of Interest:

No potential conflict of interest relevant to this article was reported.

### AUTHORS CONTRIBUTION:

#### Data gathering:

Malathi G Prasad, Trichy Fetal Medicine Centre, Trichy.

#### Writing manuscript:

Revathy M C, Trichy Fetal Medicine Centre, Trichy.

#### Editing and approval of final draft:

Malathi G. Prasad, Revathy M C

#### Approval of the final draft:

Malathi G. Prasad, Revathy M C

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- PCOS was first described by Stein and Leventhal in 1935; The syndrome includes disturbed menstrual cycle, hirsutism, obesity, facial acne and fertility issues. Various medical treatments available for PCOS are only temporary. A permanent solution for this metabolic syndrome is lifestyle modification. Lifestyle modification includes dietary changes, healthy eating and improved physical activity through exercises and yoga.
- Recently a lot of focus has been on yoga, as it not only helps to tone the muscles and weight loss but also boosts metabolism, regulates blood circulation and has a significant effect on mental health in relieving stress, anxiety and depression.
- YOGA means union - Union of body, mind and soul. It is much deeper than a physical level. Yoga is a psychosomatic spiritual discipline for achieving union and harmony between our mind, body and soul by practising specific techniques such as yoga postures, breathing techniques and meditations.
- Yoga works on the sympathetic and parasympathetic nervous system and helps in calming the mind and also improves the quality of life. The eight limbs of yoga are Yama (Abstinence), Asana (Easy Posture), Pranayama (Control breath), Pratyahara (Withdrawal of sense), Dharana (Concentration), Dhyana (Meditation), Samadhi (contemplation). These yogic techniques manage the causes of PCOS such as stress, hormonal imbalance, and lack of physical activity by stimulation of various glands.
- Holding different postures (asanas) in yoga builds muscles; Increased muscle mass decreases insulin resistance. It also burns calories at rest and helps in decreasing the weight. Active yoga increases the heart rate providing a cardiovascular workout thereby leads to weight loss.
- Certain postures (Asanas) stimulate the energy systems within the body that may be stagnant in women with PCOs and bring the body into balance. It helps in the coordination of the muscular system within the nervous system. Yoga also helps in correcting excessive or insufficient secretions of the endocrine gland, so optimal integration is achieved. Holding different yoga postures improves not only blood circulation but also the muscle tone of the blood vessels, which helps in the removal of accumulated toxins and metabolic waste from the body. Yoga activates the pituitary, thyroid, hypothalamus and adrenal glands and maintains the H-P-O axis.

### **DIFFERENT YOGA POSES FOR PCOS (ASANA):**

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### CONCLUSION:

Yoga is a holistic science and an art of living. A daily yoga routine can be adapted to suit women’s changing needs in each phase of life, to achieve peace of mind and bodily poise. It can be easily practised in the comfort zone of your home or at your workplace.

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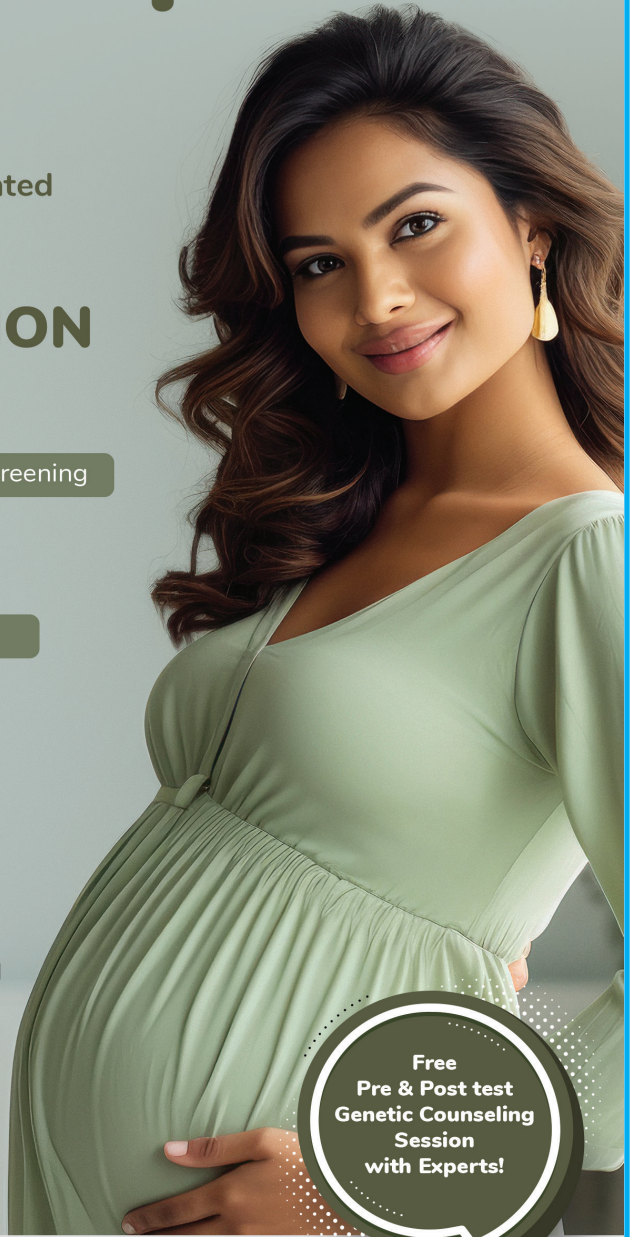
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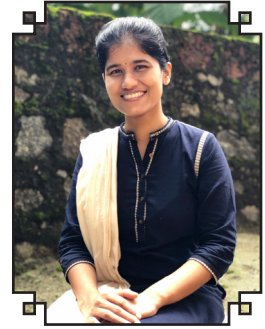




## EMERGENCY LAPAROSCOPIC MYOMECTOMY IN A RARE CASE OF HEMOPERITONEUM FROM UTERINE LEIOMYOMA

**DR KAVITHA YOGINI**, MS OG, FMAS, Fellowship in endogynaec,  
HOD, Dept of endogynaecology, GEM hospital, Coimbatore.

**DR VISHNU PRIYA G**, MS OG, Fellowship in endogynaec,  
GEM hospital, Coimbatore.



### ABSTRACT :

The most common benign tumour in the reproductive age group –uterine leiomyoma can rarely present with bleeding into the peritoneal cavity leading to hemodynamic instability. A 36-year-old parous woman presented with acute abdomen and hypovolemic shock. The pregnancy test was reported to be negative. Emergency laparoscopy was done and detected to have a surface bleeder and an emergency laparoscopic myomectomy was done.

### KEYWORDS :

gynaecological emergencies, hemoperitoneum, laparoscopy, emergency myomectomy

### BACKGROUND :

Uterine leiomyomas are the most common benign smooth muscle tumours in reproductive age group women. Most commonly present with symptoms of abnormal uterine bleeding but rarely present in emergency with hemoperitoneum(1). The most common diagnosis of hemoperitoneum in reproductive age group women is ruptured ectopic pregnancy and a negative report of pregnancy leads to a diagnostic dilemma. The next differential diagnosis considered in cases of hemodynamic instability are ruptured corpus

luteal cyst(2) or haemorrhagic cyst, rupture of ovarian tumours(3). Here we present a case of acute abdomen due to a surface bleeder from the sub-serosal fibroid and how the case could be managed laparoscopically.

### CASE PRESENTATION :

A 36 years Indian woman, BMI-28, Para-1 Live -1, a case of previous Caesarean section who was not sterilised, had regular normal menstrual cycles, with no prior menstrual disturbances, presented on her day 2 of menstrual cycle with complaints of sudden onset abdominal pain, giddiness, one episode of fainting and 2 episodes of vomiting in 12 hours. She consulted her physician and an ultrasound was taken which revealed hemoperitoneum with adnexal mass – the possibility of ruptured ectopic. Blood investigations were sent and the patient was referred to our centre for further management.

In our OPD, the patient was received, she was conscious, oriented, pale, tachycardia (110 bpm), stage 2 hypovolemic shock, blood pressure maintained with noradrenaline. Pregnancy tests – beta hcG results came out to be negative, Hb – 7.9 g/dl, PCV 23.7%, other parameters – coagulation profile, liver and renal function tests were found to be normal. Ultrasound abdomen and pelvis done at our centre – revealed, moderate hemoperitoneum - free fluid in the hepatorenal pouch.

**FIGURE 1: USG SHOWING HEMOPERITONEUM IN THE HEPATO-RENAL POUCH.**



The uterus was enlarged and a posterior wall fibroid of 8 x 6.8 cm size noted. Endometrial thickness 7 mm, both the ovaries – normal, heteroechoic lesion 5.8 x 4.2 cm noted in left adnexa – possibility of hematoma, ruptured cyst.

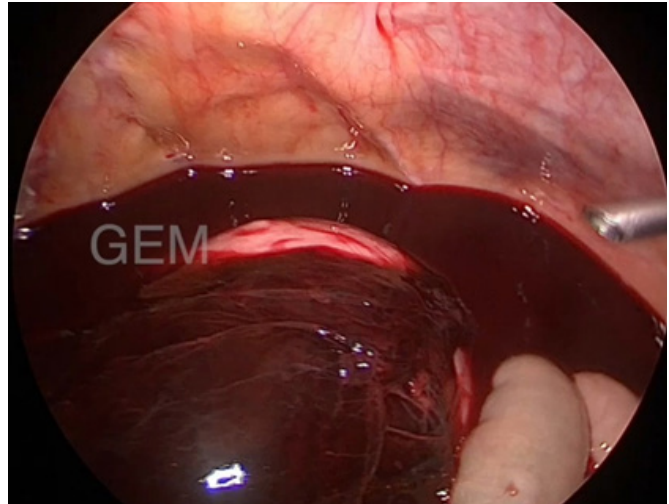
**FIGURE 2: USG SHOWING 8 X 6.8 CM POSTERIOR WALL FIBROID. HETEROECHOIC LESION OF 5.8 X 4.2 CM IN LEFT ADNEXA.**



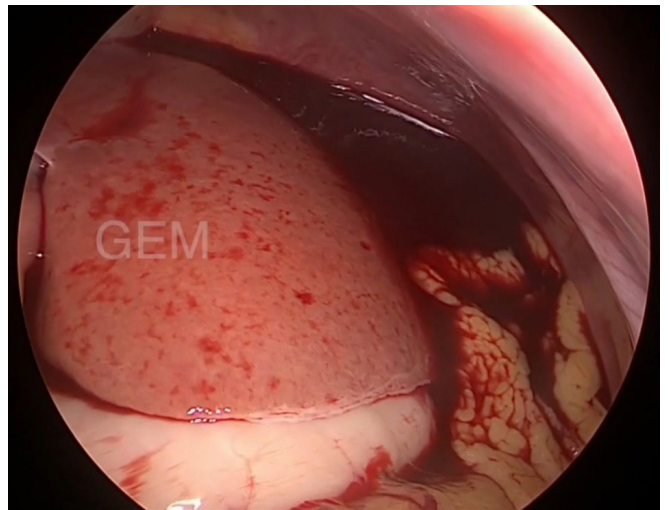
Patient and attenders counselled and taken up for emergency laparoscopy and blood transfusion started.

Under general anaesthesia, pneumo-peritoneum was created with veress needle in the supraumbilical region, with 5 mm camera port findings noted, and 750 grams of blood clots splayed over the omentum. Around 2 litres of hemoperitoneum was noted extending up to the hepatorenal pouch. The entire pelvis was obscured with blood.

**FIGURE 3: HEMOPERITONEUM IN THE PELVIS.**



**FIGURE 4: UNDER THE DIAPHRAGM. ANCILLARY PORTS WERE CREATED.**

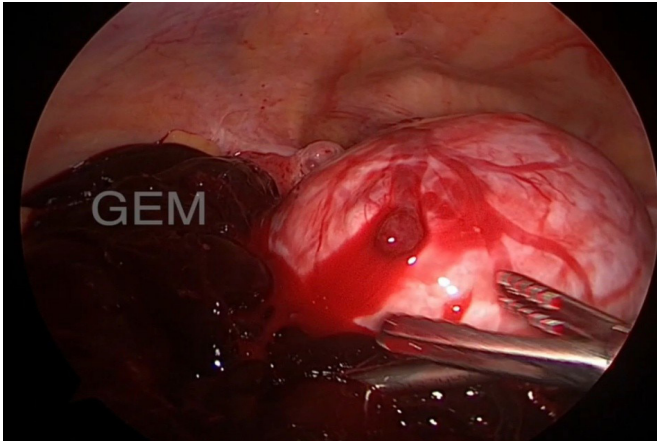


After adequate suctioning, a large type 6 subserous fibroid was noted in the left posterolateral wall of the uterus in the fundus, the surface was vascular with engorged vessels and a bleeder from the surface was noted.

**FIGURE 5: SURFACE VENOUS BLEEDER FROM THE POSTERIOR WALL TYPE 6 SUB-SEROUS LEIOMYOMA.**

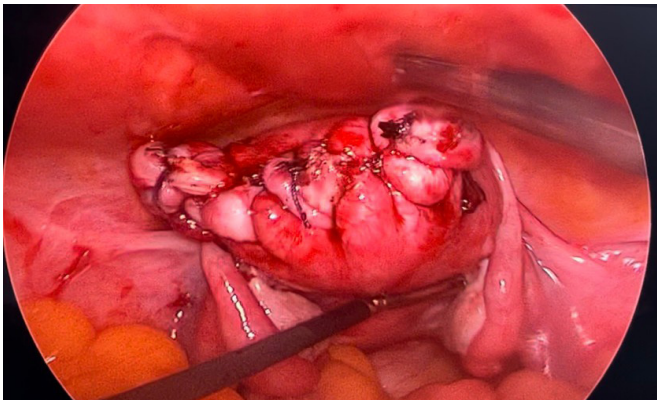
The bleeder was coagulated with bipolar initially but the vessel was thin and continued to bleed hence proceeded with laparoscopic myomectomy. An oblique incision of

7 cm was made over the fibroid and an intracapsular myomectomy was done. (Vasopressin was not used). Endometrial cavity not breached. Myoma bed closed in 2 layers with 1-0 V-lock sutures. Haemostasis achieved.



Endo-bag morcellation was done. Bilateral fallopian tubes, ovaries, and other abdominal organs appeared normal.

**FIGURE 6: MYOMECTOMY COMPLETED. DRAIN PLACED AND PORTS CLOSED.**



The patient was stable at the end of the procedure. She had required two pints of packed RBC. Shock corrected. The patient recovered well, the drain removed on Postoperative day 2 and the patient was discharged on Postoperative day 3.

Post-operative review in OPD after 2 weeks – port sites healed well. The histopathological reports confirmed benign – leiomyoma.

## **DISCUSSION :**

Uterine leiomyomas are slow-growing tumours and may be asymptomatic and detected incidentally or present with abnormal uterine bleeding, abdominal pain, urinary symptoms, and infertility(4). Acute abdomen with hemodynamic instability is a rare presentation. This rare complication can lead to mortality if not surgically intervened(5,6). The causes of hemoperitoneum or acute abdomen related to leiomyoma include rupture of leiomyoma, rupture of the subserosal vein(7) or bleeding from a subserosal artery or a lacerated leiomyoma(8) or avulsed pedunculated leiomyoma(9) or torsion(10) of pedunculated leiomyoma.

Spontaneous surface bleeding from the subserosal asymptomatic myoma is extremely rare but should be considered a differential diagnosis in a reproductive-age woman with a negative pregnancy test(11,12). This spontaneous bleeding from subserosal fibroids has been reported and most commonly originates from a vein as in our case.

Several theories have been presented for the spontaneous rupture of subserosal vein – overstretching of the superficial vessels, as leiomyoma grows, the feeding vessel may split between the uterine mass and cause rupture thus bleeding or pregnancy(12) or immediate postpartum period or increased intra-abdominal pressure or trauma(13). Some related predisposing factors according to studies(14) - are venous congestion during menstruation, posterior wall fibroids(15,16) as they are in contact with the sacrum, and degenerative especially hydropic or sarcomatous changes.

Most of the cases reported in the literature were managed by laparotomy(7,14,17) and here we present the laparoscopic management of emergency myomectomy. In our case, a pre-operative differential diagnosis was sorted and adequate facility for fluid replacement was ensured once in detail counselling for laparoscopy was done, emergency laparoscopy with emergency laparoscopic myomectomy and evacuation of organised blood clots was done. As she was laparoscopically managed without delay, patient recovery was rapid and

satisfactory. In possible cases, emergency laparoscopic myomectomy is a better option.

## CONCLUSION :

Hemodynamic instability in a reproductive-age woman with hemoperitoneum, the chance of rupture of superficial bleeder from uterine leiomyoma to be considered. Laparoscopy can be considered and it can be the primary surgical technique in such cases.

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## MY MUSINGS

**DR.K.PARIMALARANI MD., OG , KRISHNA HOSPITAL**

- **Does mere fame and glory distract you?**
- **What is there to flaunt that you have wealth and an ostentatious house?**
- **Why do you have to live in somebody's eyes that you are great?**
- **Why do you worry about how people look at you and think about you?**
- **Why do you believe that your value is reduced based on someone's inability to see your worth?**

Humans often get enchanted by two things. One is fame and the other is money, their status symbol. There is an avalanche of requirements for who you are today.

All accolades and applause, that often make you ecstatic are only realms of fantasy. Your ceaseless striving for your lives and identities, thinking that it's in your hands to reach perfection is just an asymptote.

Most of the lifetime of a typical Indian parent is spent, toiling and being frugal for their descendants.

Kalil Gibran says, your children are not your children. They are the sons and daughters of life's longing for itself. They come through you, but not from you. Give them your love, but not your thoughts, because they have their own thoughts. You may house their bodies, but not their soul, for their souls dwell in the house of tomorrow, which you cannot visit not even in your dreams. You may strive to be like them, but seek not to make them like you, for life goes not backwards, nor tarries with yesterday.

It's not what you leave to them that makes them great. It's what you leave in them that makes them great says TD Jakes.

Educate your children to be happy, rather than to be rich. In the constant pursuit of earning money and fame, you have indeed forgotten to stop and drench in a momentary state of peace, joy and happiness.

What you call your assets, are just documents on paper with your name, which will belong to someone else tomorrow. To be future-ready and to have an edge over the others, most of you forget the present and live neither for the present nor the future.

Paradoxically, the idea of living a long life appeals to everyone, but the idea of getting old doesn't appeal to anyone.

While Wars, Famines, Plagues, Pandemics, Kings, Queens and Nations have come and gone, humans are Sui generis and are oblivious to the passage of time.

**IT'S JUST A HAIR BREADTH AWAY BETWEEN,**

**A HOME AND A HOUSE**

**LIVING AND EXISTING**

**COMFORT AND LUXURY**

**NEED AND WANT....**

The King of Macedon "Alexander the Great's" last three wishes were that

His coffin has to be carried by his Physicians – He realises that Doctors are helpless in front of death.

The Path leading to his graveyard shall display the wealth he collected – To let people know that wealth is nothing but dust.

Both his hands hang out of his coffin – He spent all his life earning riches but cannot take anything with him.

Believe that the privilege of a lifetime is being who you are. Do not let your ego bloom, but rather have a humble soul and remember that there is no indispensable man!

Live in harmony and be indifferent to the vicissitudes of fortune, pleasure and pain.

Do not cry about your lives, when you are living someone's grand dream. Your memories are your only treasure since they retain a remarkable fidelity even as you age.

Always embody the values of resilience, empathy and courage, because at last on the sick bed, you will realise that all recognition and wealth that you took too much pride in would have paled and become meaningless in the face of impending death.

Remember William Shakespeare's tale "All the world's a stage and all the men and women are merely players, they have their exits and their entrances....."

SANS EVERYTHING"

Whichever stage in life you are right now, with time, you will face the day, when the curtain comes down! After all, you are just a speck in the massive universe.





**Dr. K.Thirumagal, MD(OG)**  
Obstetrics & Gynecologist  
Specialist in infertility and Reproductive Techniques

- ✦ அடி நவீன நோய்களை குழாய் குத்தகை மையம் (IVF, ICSI)
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# NAVIGATION TIPS AND TACKLING COMPLICATIONS IN HYSTEROSCOPY

**DR. G. JAYAMALA, DOWH (IRE), MRCOG (UK), MRCPI (OG), DRM.,**  
**PRESIDENT, OGSOS**  
**CONSULTANT, RAINBOW HOSPITAL**

- Hysteroscopy has become the “Third eye of gynaecologist” as Transvaginal ultrasound the “3rd finger”.
- Hysteroscopic procedures have replaced older, invasive techniques.
- Innovative techniques and new hysteroscopic interventions like smaller diameter, morcellators (myosure / truclear) enable us to perform these procedures in an office setting.
- As with any other procedure, the Success of Hysteroscopic procedure starts with choosing the “Right Surgery for the Right Patient by the Right (experienced) Surgeon”.

### EQUIPMENTS :

- Commonly used hysteroscope- 2.9mm Bettocchi scope with operating sheath size 4.3mm with channel for semirigid 5 Fr. Operating instruments. Continuous flow operating sheath size 5 mm.
- 30 degree Rigid hysteroscope.
- Monitor.
- Fluid management pump ( Endomat).



### SURGICAL INSTRUMENTS :

- Scissors
- Biopsy forceps
- Grasper
- Loop electrode
- Roller ball
- Scalpel
- Vaporizing electrode
- Morcellator

### ENERGY SOURCES :

- Monopolar Resectoscope
- Bipolar versapoint system

### DISTENSION MEDIA :

- Diagnostic procedure – Normal saline / Electrolytes
- Operative procedure – 1.5% glycine (Electrolyte poor media) for monopolar system.

**Table 1.** Hysteroscopic Distending Media

Type	Maximum Fluid Deficit	Advantages	Disadvantages and Safety Precautions*	Complications
Low-Viscosity Fluid Media: Electrolyte-Poor Fluid (eg. glycine, 1.5%; sorbitol, 3%; and mannitol, 5%)	1,000 mL	Compatible with radiofrequency energy  Monopolar devices require electrolyte-poor fluids	Excessive absorption of these fluids can cause hyponatremia, hyperammonemia, and decreased serum osmolality with the potential for seizures, cerebral edema, and death.	Excessive absorption of these fluids can lead to hyponatremia, hyperammonemia, and decreased serum osmolality, with the potential for seizures, cerebral edema, and death.
Low-Viscosity Fluid Media: Electrolyte-Containing Fluid (eg. normal saline, sodium lactated solution)	Maximum fluid deficits with isotonic solutions are based only on expert opinion but consensus would be approximately 2,500 mL.	Readily available  Isotonic  Media of choice during diagnostic hysteroscopy and in operative cases where mechanical, laser, or bipolar energy is used	Although the risk of hyponatremia and decreased serum osmolality can be reduced by using these media, pulmonary edema and congestive heart failure can still occur. Careful attention should be paid to fluid input and output, with particular attention to the fluid deficit.	Fluid overload causing pulmonary edema and congestive heart failure

\*Careful attention should be paid to fluid input and output, with particular attention to the fluid deficit, particularly in elderly patients and patients with cardiopulmonary renal compromise, in whom lower fluid thresholds should be considered.

Data from Munro MG, Storz K, Abbott JA, Falcone T, Jacobs VR, Muzil L, et al. AAGL practice report: practice guidelines for the management of hysteroscopic distending media: (replaces hysteroscopic fluid monitoring guidelines. J Am Assoc Gynecol Laparosc. 2000;7:167-8). AAGL Advancing Minimally Invasive Gynecology Worldwide. J Minim Invasive Gynecol 2013;20:137-48.

## INDICATIONS :

DIAGNOSTIC	OPERATIVE
Abnormal uterine bleeding	Removal of IUCD Removal of Polyps
Recurrent pregnancy loss	Submucous myoma resection
Unexplained Infertility	Lysis of IU Adhesions/ Ashermann's syndrome
Amenorrhea	Resection of uterine septum
Abnormal HSG	Tubal Cannulation
Chronic pelvic pain	Tubal Sterilization
Postoperative evaluation	Assisted reproductive techniques Endometrial ablation Removal of retained products of conception Isthmocele repair Subendometrial injection of PRP / Stem cells

## CONTRAINDICATIONS :

- Active cervical or uterine infection.
- Pregnancy
- Advanced uterine or cervical cancer
- Medical conditions precluding surgery.

## PRE-OP ASSESSMENT :

- Transvaginal ultrasound, preferably 3D USG
- Saline sonography
- Hysterosalpingogram
- Get Informed consent

These will complement our diagnosis , to plan for the right surgical procedure.

## PRE-OP PREPARATION :

- There is insufficient evidence to recommend routine cervical ripening before diagnostic or operative hysteroscopy, but it may be considered for those patients at higher risk of cervical stenosis or increased pain with the surgical procedure.
- Misoprostol 400mcg per vaginal 4 hours before procedure or the night before for nulliparous, postmenopausal or patients with suspected cervical

stenosis patients.

- Endometrial preparation with progestins, OCPs or GnRH Analogous helps to thin endometrium and gives good visualisation during operative procedures.

## TIMING OF PREDECURE :

- In premenopausal women with regular menstrual cycles, the optimal timing for diagnostic hysteroscopy is during the follicular phase of the menstrual cycle after menstruation.
- Some women with unpredictable menses can be scheduled at any time for operative hysteroscopy, but ideally patients who are actively bleeding may not undergo the procedure because adequate visualization could be impaired.

## PATIENT POSITION :

- Dorsal Lithotomy with legs in adjustable stirrups
- Avoid Trendelenburg position as it increases the risk of air embolism

**BLADDER CATHETERIZATION** – Ask patient to void before procedure to avoid unnecessary intervention.

**ROUTINE ANTIBIOTICS** – Not necessary .But selected cases done for Infertility, better to screen pre operative for infection or to give a course of antibiotics post operatively.

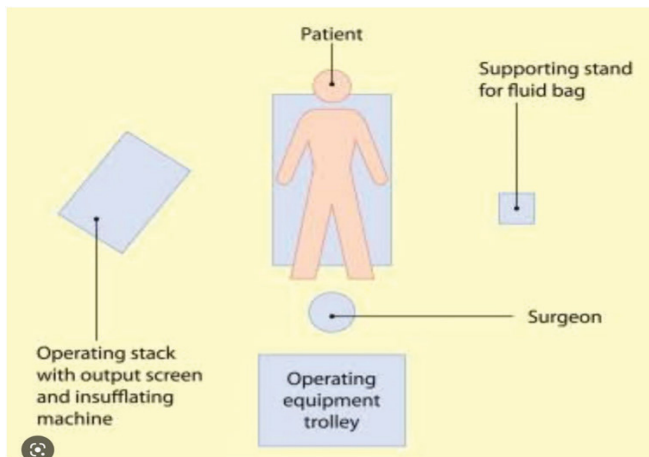
## OFFICE HYSTEROSCOPY :

In randomized trials, patients reported a preference for office-based hysteroscopy, and office-based procedures are associated with higher patient satisfaction and faster recovery when compared with hospital-based operative hysteroscopy. Other potential benefits of office hysteroscopy include patient and physician convenience, avoidance of general anaesthesia, less patient anxiety related to familiarity with the office setting, cost effectiveness, and more efficient use of the operating room for more complex hysteroscopic cases. Appropriate patient selection for office-based hysteroscopic procedures for women with known uterine pathology relies on thorough knowledge and understanding of the target pathology, size of the lesion, depth of penetration of the lesion, patient willingness to undergo an office-based procedure, physicians skills

and expertise, assessment of patient comorbidities, and availability of properequipment and patient support.

The office hysteroscopy analgesia regimens commonly described in the literature include a single agent or a combination of multiple agents, including a topical anesthetic, a nonsteroidal antiinflammatory drug, acetaminophen, a benzodiazepine, an opiate, and an intracervical or paracervical block, or both.

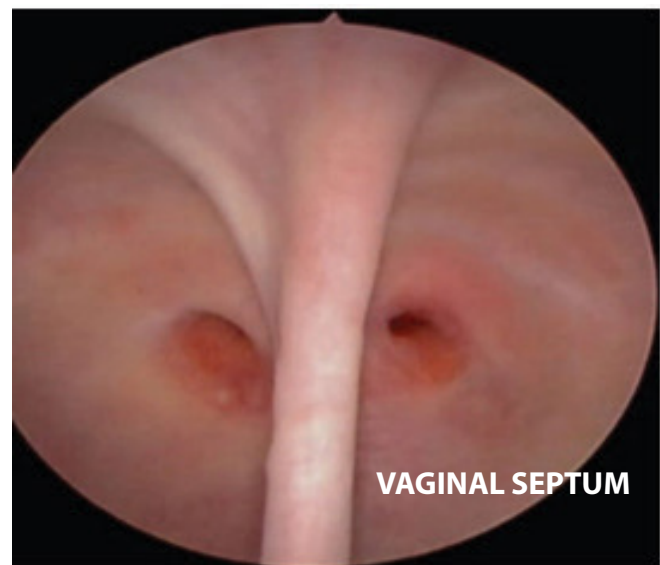
Vaginoscopy is the preferred mode especially for office hysteroscopy.



## VAGINOSCOPY :

- Reduce pain and discomfort to patient.
- Ask your assistant to occlude introitus, for beautiful visualization of vaginal walls, fornices and external os to diagnose any pathology in the vagina.
- 1st entry always the best.
- To navigate cervical canal, follow cervical mucus. Be patient ,wait for fluid to open up the canal and then to distend the cavity.
- Direct view helps to navigate the canal.
- Avoid friction for a clear view.
- Extreme retroversion or anteversion may be due to adhesions.
- Traction with tenaculum on anterior lip of cervix will straighten uterine axis if any difficulty to navigate.
- If distension is lost due to back flow / leakage, partially occlude the OS with allis forceps.
- Know your landmarks . Both ostia are our GPS.
- Open and close outflow valve to remove clots and debris when poor visualization

occurs.



## COMPLICATIONS - 0.22%

Diagnostic vs operative hysteroscopy – 0.13% vs 0.95%.

1. Mechanical
2. Distension media related
3. Energy source related
4. Late complications

### 1. MECHANICAL :

Excessive traction on cervix by tenaculum  
 Forcible dilation of cervix, Especially in nulliparity, menopausal women, cervical hypoplasia or atresia

## **PREVENTION OF MECHANICAL COMPLICATIONS :**

- Preparation with misoprostol
- Deep intracervical injection of vasopressin 0.05units/ml-0.1u/ml. 4ml each at 4 and 8'O clock position.
- In case of adhesions/synechiae, hysteroscopic scissors can be used to cut through to facilitate entry.
- Use smaller diameter hysteroscope or only inflow channel scope alone in stenotic cervix.
- Vaginoscopy will help.

## **FALSE PASSAGE :**

- Visualisation of concentric myometrium with absence of endometrium and cornua – Diagnostic of false passage.
- No need to abandon procedure.
- Withdraw scope and again follow the cervical canal.
- Usually no consequence.

## **UTERINE PERFORATION :**

- Abandon procedure.
- Small perforation by mechanical instrument can be observed expectantly. Usually no intervention required.
- Large perforations / ones caused by active electrode requires Laparoscopy



## **PERFORATION WITH RESECTOSCOPE**

## **ON LAPAROSCOPY :**

- Bleeding from perforation can be controlled by

Bipolar coagulation or suturing.

- Thorough examination of bowel, bladder and other vitals structures should be done and corrected accordingly.
- Repeat hysteroscopy after 6 weeks.

## **BLEEDING INSIDE THE UTERUS :**

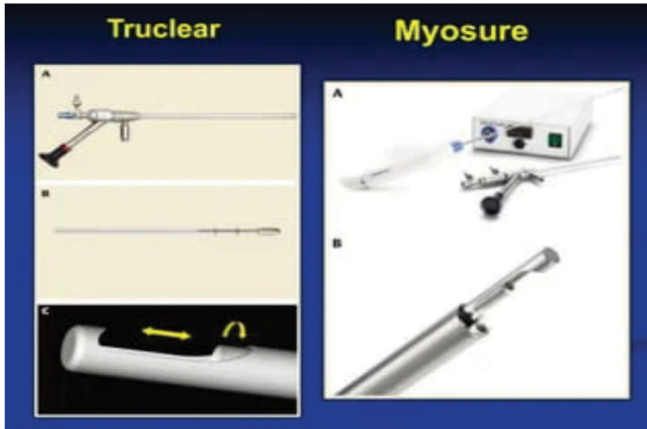
- Can be reduced by intraoperative injection of dilute vasopressin.
- Temporarily increase intrauterine pressure.
- Roller ball coagulation of bleeding site.
- Uterine packing.
- Foleys tamponade with 20-30ml of saline and observe. Catheter can be removed after 6-8 hours.

## **2. DISTENSION MEDIA RELATED COMPLICATIONS**

### **PREVENTION OF FLUID OVERLOAD AND HOW TO AVOID COMPLICATIONS :**

- Careful history and physical examination
- Pre operative assessment of intracavitary abnormalities
- Advance hysteroscope in a clear view
- Strict adherence to fluid deficits
- Stop and reschedule surgery if fluid deficit is reached or if full resection cannot be completed.
- To prevent absorption and hyponatremia use automated fluid pumps and monitoring system.
- If not available , fluid bag in large BP cuff and inflating the cuff. Input and output recorded manually.
- Maintain intrauterine pressure – 70 to 80mmHg.
- Monitor fluid deficit closely. Halt procedure if Electrolyte poor fluid deficit of > 1500ml Electrolyte fluid deficit of > 2500ml
- Minimize operating time .
- Avoid entering vascular channels
- Early detection of systemic absorption and recognition of warning symptoms of fluid overload and hyponatremia.
- Termination of procedure when indicated.

**WITH THE USE OF NEW HYSTEROSCOPIC MORCELLATORS (TRUCLEAR/ MYOSURE) OPERATING TIME IS LESS, THUS AVOIDING COMPLICATIONS IN AN OFFICE SETTING.**



Serum Na <sup>+</sup> level	Symptoms	Treatment
135-145	Normal	Nil
120-135	Restlessness	Oxygen, Inj. Furosemide 40-60mg IV 0.9% normal saline
110-120	Nausea, headache, confusion, cardiac irregularities	Ventilator support if pulmonary edema, Inj. Furosemide 1mg/kg 4-0 hourly, 3% hypertonic saline

### 3. ELECTROSURGERY COMPLICATIONS

- Injury due to active electrode needs Immediate Laparoscopy and thorough inspection of bowel and bladder.
- Energy sources can lead to adhesion formation and Secondary Amenorrhea.

### 4. LATE COMPLICATIONS

- Intrauterine adhesions
- Infection and pelvic inflammatory disease
- Complications in subsequent pregnancies( uterine rupture, placenta accreta, percreta, increta)
- Haematometra

### CONCLUSION :

- HYSTEROSCOPIC INJURIES CAN BE MINIMIZED BY
- Careful history and physical examination.
- Appropriate case selection.
- Pre operative assessment of intracavitary abnormalities.
- Advance hysteroscope in a clear view.
- Recognition of learning curve and surgeon's skill.
- Knowledge of equipment.
- Thorough knowledge of energy sources and Distension media.



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## SIMPLIFIED STEPWISE DESCRIPTION OF LAPAROSCOPIC NEOVAGINA FOR MRKH SYNDROME –FLAP IT - FLIP IT - FIX IT.

**DR GNANA SANKER NATESAN, MD, DNB, MRCOG UK**  
SKS & PGMI, Salem & Manipal hospitals, Salem, TN

**“THERE’S A WAY TO DO IT BETTER – FIND IT!”  
–THOMAS A. EDISON**

### INTRODUCTION

Müllerian agenesis also referred to as Mayer–Rokitansky–Küster–Hauser (MRKH) syndrome refers to congenital vaginal agenesis with uterine aplasia in females with a normal karyotype. The prevalence of this syndrome is 1 in 5000 live female births.

This condition is called Type 1 when isolated and Type 2 when accompanied by abnormalities of kidneys in up to 30%, skeletal system in 20%, auditory and cardiac in up to 5% of those with MRKH. In 7%–10% of patients a functional uterine remnant is present, which can cause cyclic pain.

Patients with MRKH syndrome typically present during adolescence with primary amenorrhea or later with apanurenia. Clinical examination reveals normal secondary sex development but an absent vagina. Imaging confirms the diagnosis (MRI is considered as the golden standard method here).

Laparoscopy is rarely indicated for diagnostic purposes alone but may be relevant in patients with functioning painful uterine remnants where surgical removal is needed or for the creation of neovagina as we will be describing.

The closest differential diagnosis is that of Complete Androgen Insensitivity Syndrome (Morris syndrome), which has clinically absent secondary sexual hair and can be easily confirmed by gonadal hormonal assays and chromosomal analysis both of which will reveal a male

pattern.

Upon receiving the diagnosis, many young women experience overwhelming issues regarding identity, sexuality and fertility, and hence specialist caring and counselling are of paramount importance and peer support groups are encouraged.

As there is an absolute uterine factor infertility and gestational surrogacy is indicated for biological motherhood. Recently we have had the options of uterine transplantation which we at Tamil Nadu will also soon wake to.

Regarding sexuality, all the women can be provided with an option of a neovagina with satisfactory FSFI scores. Now let us discuss the options available for the same before proceeding onto the peritoneal flap method.

### MANAGEMENT OPTIONS FOR VAGINAL AGENESIS

In the past hundred years, many different non-surgical and surgical methods have been suggested for the creation of a functional neovagina.

Anatomic success is generally considered as a neovaginal width allowing the insertion of 2 fingers and a neovaginal length of at least 6 cm to start with. Functional success is considered as the presence of regular sexual intercourse with couple satisfaction.

The most used non-invasive method is self-dilation (Frank’s method) which is successful solely or also as an adjunct to surgical methods. Dilators are used at our unit both for preop preparation and postoperative

patency maintenance and stricture prevention till satisfactory intercourse is established. Disadvantages of the Franks method include the discomfort patients experience, hence the low compliance (especially in younger patients) and the much longer time needed for a satisfactory result.

## **THE POPULAR SURGICAL OPTIONS OFTEN USE AUTOGRAFTS**

1. The most traditional being the McIndoe's, where split skin graft is used to line the created neovaginal space,
2. The currently popular Davydov where the peritoneum is used to line it,
3. The unwieldy Baldwin method where bowel graft is brought in usually after failure of other methods.
4. The other methods described use tissue-engineered biomaterial or amnion graft to line the space and the Vecchietti vaginoplasty where a gradual traction device is used.

The rarity of the syndrome means that most treating surgeons acquire expertise for a single procedure and thus prefer the same subsequently.

## **TECHNICAL DESCRIPTION OF OUR LAPAROSCOPIC PERITONEAL FLAP VAGINOPLASTY.**

Described below are our (7+7) standardised steps for laparoscopic neovaginal creations and the modifications adapted from the lessons past. We have done 12 procedures standardised with the steps described below and have had satisfactory results.

The key modification is the way we plan, raise the peritoneal flap and then invert/ vertically flip and fix it onto the vestibular entrance. (pictures of key steps are inserted along and a free video link is provided at the end of this writeup)

## **LAPAROSCOPIC ASSESSMENT AND PERITONEAL FLAP RAISING**

1. At laparoscopy, a systematic assessment is done to observe the pelvic viscera, a. absence of main uterine corpus documented,

- Uterine buds if present are assessed for their functional status, size, location and mobility (the uterine buds are sometimes found entering the deep internal inguinal ring along with the round ligament)
- Ureteric courses delineated, pelvic kidneys if present lower extent noted
- The pelvic peritoneum is inspected for endometriotic deposits as the affected areas cannot be used for the flap purpose
- The ovaries are usually present lateral to the iliac vessels and their status documented

2. A rectangular flap of peritoneum over the bladder surface is first demarcated using an ultrasonic shear extending medial to the uterine buds. the ridge running in between the buds is its long base.

3. A thick flap is raised, using an ultrasonic scalpel, preserving the small vessels running along. It is usually supplied from small branches of the vesical and uterine bud vessels. (here we need to highlight the difference between a graft and a flap - A flap is transferred with its blood supply intact, and a graft is a transfer of tissue without its blood supply).

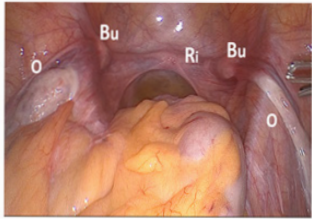
4. It is easy to raise a peritoneal flap of 9\*6 cm (a little larger than our debit cards) while still maintaining vascularity

5. Ureteric courses are carefully delineated and are left undisturbed throughout the entire process

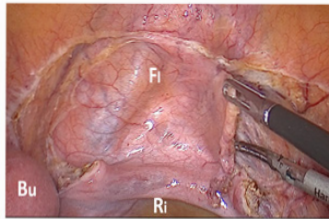
6. A transverse incision is made on the cul de sac peritoneum over the junction between the bladder and rectum. This line is almost always clearly colour differentiated as it is pale pink over the bladder and pale yellow over the rectal reflection

7. Here the space between the bladder and anterior rectal wall can be easily developed till perineal

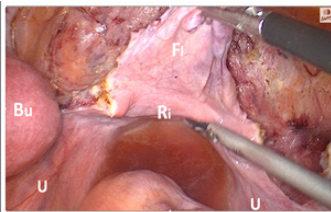
vestibular skin is seen from behind. we prefer this space development and enlargement more from below as described next. It is in this space that the raised flaps will be flipped, inverted and brought down to comfortably line the inside of the neovaginal cavity



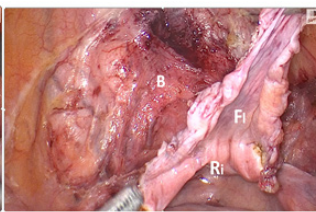
**Fig 1**  
Initial pano view showing the absent corpus uteri, the ridge RI, rudimentary buds BU, laterally placed ovaries O



**Fig 2**  
Thick Flap FI of size 9\*6 demarcated and raised with wide base along the ridge



**Fig 3 & 4**  
Thick Flap FI of dimensions 9\*6 raised with wide base along the ridge RI, the ureters U are safe, the denuded bladder B dome are visible



**Fig 5**  
transverse incision made on the cul de sac peritoneum over the junction between bladder and rectum. Blue Arrows showing clear colour demarcation - pale pink over the bladder B side and pale yellow over the rectal R reflection

**Fig 6**  
space be develop

## CREATION OF THE NEOVAGINAL SPACE FROM THE VESTIBULE BELOW UPWARDS

1. A 2-3 cm curvilinear incision is placed on the vestibulum along the posterior commissure. The vestibular lining above this incision will now help line the anterior vaginal wall lower down and is expected to have preserved sensitive nerve endings.

2. A neo-vaginal cavity is then created by sharp and blunt dissection between the bladder and rectum and as the surgeon works forward with blunt dissection reaching up to the pelvic peritoneal lining. A gloved middle finger in the rectum and a k90 catheter in the urethra-bladder are used for guiding the dissection and safeguarding the respective viscera.

3. This step can also be performed or aided by a laparoscopic approach. We prefer vaginal creation, especially for the step described next.

4. Laterally on either side of the new cavity, lower down on the levator ani muscle, the pubovaginalis - puborectalis components are divided medially at the midway using monopolar to aid the free passage of a long large 90mm /40 mm sims speculum. This muscle division and large free neovaginal space greatly reduce the chance of postoperative stricture stenosis.

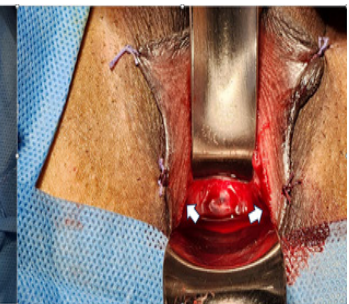
5. Haemostasis is easily achieved with bipolar and pressure packing.

6. The cavity is now ready for lining with the peritoneal flap or any graft for that matter.

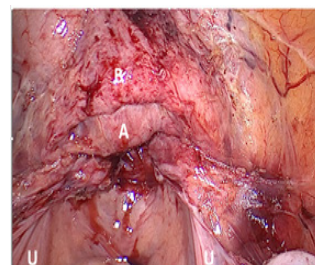
7. The peritoneal flap raised earlier is flipped inverted and margins are now brought down to the edge of the incised vaginal vestibulum, these two edges are sutured without tension at six points with 2-0 Vicryl. Tension at the suture implies poor mobilisation from the top and can lead to detachment and failure of the procedure.



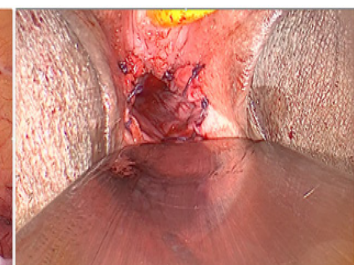
**Fig 7**  
3 cm curvilinear incision is placed on the vestibulum V along the posterior commissure, this vestibular lining will help line the lower anterior vaginal wall at the end of procedure



**Fig 8**  
Pubo vaginalis & Pubo rectalis divided medially at the midway (white arrow) to aid free passage of a long large 90mm /40 mm Sims speculum.



**Fig 9 End op**  
intraabdominal view -Denuded bladder B, inverted flap also forming the neovaginal apex A, ureters U are seen



**Fig 10 End op**  
Neovaginal view -Deep neovaginal cavity, Good viable peritoneal flap lining, Vicryl 2-0 Sutures are evident

## END-OPERATIVE AND POSTOPERATIVE CARE

1. These being flaps, the need for aggressive hard postoperative mould is less,
2. We use a condom inflated over a foley with 20-30 ml saline and secure it to the labia. this provides a gentle longitudinal as well as circumferential pressure from within on the flaps onto the neovagina cavity.
3. The condom with Foley is removed on day two and patients are discharged home.
4. We start the first inspection from day 5, where the local pain has greatly reduced, and she is also cooperative for a gentle dilator passage to ensure patency and to break down flimsy adhesions that tend to form between the peritoneal surfaces.
5. Upon subsequent daily visits for a week self or guided dilator use is encouraged and gradually dilator frequency and size increase. Using dilators overnight is an uncomfortable activity and can be avoided with the current methods.
6. We start on once-a-day topical oestrogen cream from the end of the first week for three months. Intercourse is advisable after 3 months once the neovagina is matured and initial liberal lubrication use is encouraged.

7. Infrequently vault granulation can be observed and is easily treated with copper sulphate application.

8. All our present patients are provided social connection options with our past patients with an irrepressible spirit.

Among our patients, at three months postoperatively and before intercourse, the least vaginal length achieved was a full 8 cm, and width admitting two fingers easily.

We are very glad to say that all our twelve patients are settled as happy couples and are themselves satisfied with the procedure and its functional results.

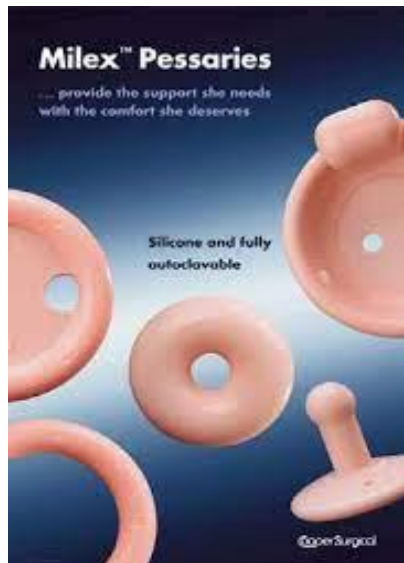
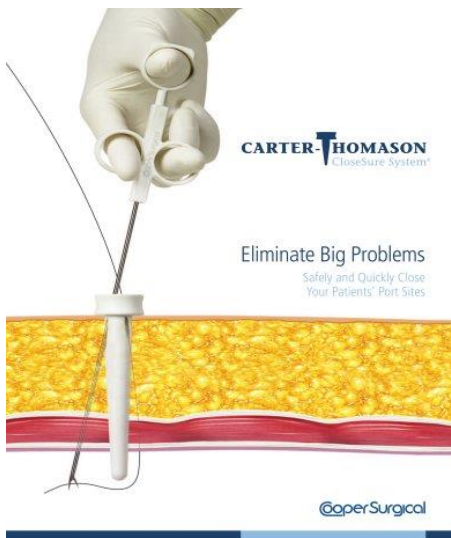
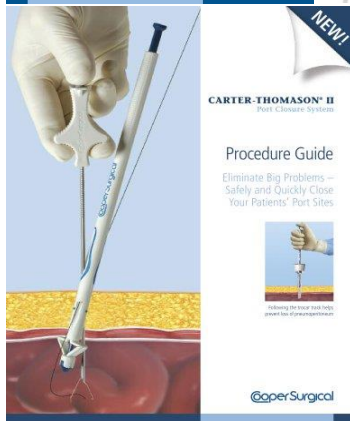
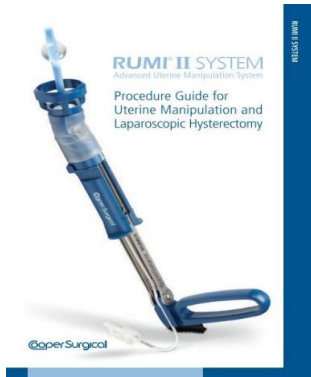
(Of note - In select two patients with MRKH we were able to anastomose a functional uterine horn onto a McIndoe neo vagina as a sequential procedure after three months once neovaginal maturation occurred. They continue to have a menstrual function, but with less flow than expected.)

## VIDEO LINKS

<https://youtu.be/a9CvM947dZY>

<https://youtu.be/BKWD3uBmK0s>

**“Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow.” –William Pollard**



**APPLE HUNT TROCAR  
5MM, 7MM, 10MM,  
12MM**

**RUMI II – UTERINE  
MANIPULATOR WITH  
DISPOSABLE CUP AND  
TIP OPTIONS**

**CARTER THOMASON PORT  
CLOSURE**



## SELECTIVE FETAL REDUCTION WITH RADIO FREQUENCY CORD ABLATION IN MONOCHORIONIC TWIN PREGNANCIES WITH DISCORDANT ANOMALY IN ONE OF THE TWIN.

**DR MALATHI G PRASAD,**  
MD, FRCOG(UK) DIPLOMA IN FETAL MEDICINE FMF BARCELONA)  
**DR RESHMA MARINENI, MD, DGO, Fellowship in fetal medicine**  
Trichy Fetal medicine centre



### ABSTRACT :

To assess the outcome of monochorionic twin pregnancies managed with selective fetal reduction of anomalous twins using radiofrequency ablation (RFA) of the umbilical cord performed at Fetal Medicine Centre.

### KEYWORDS :

Monochorionic Diamniotic pregnancy (MCDA), Discordant anomaly, FGR fetal growth restriction, twin-twin transfusion syndrome (TTTS), Selective termination, Ultrasound- guided radiofrequency ablation. Congenital Diaphragmatic hernia (CDH), Case report

### MONOCHORIONIC DI AMNIOTIC (MCDA) TWIN PREGNANCY COMPLICATED BY ANOMALOUS TWIN

### CASE REPORT :

A 28-year G2P1L1 with a previously healthy child with a present 2nd pregnancy by natural conception, complicated by MCDA twin pregnancy with one Anomalous twin was referred to TFMC for further expert management. Detailed anatomic survey along with fetal echocardiography was performed in both twins followed by aneuploidy screening by detailed genetic sonogram and measurement of the cervical length by transvaginal scan was performed.

This case of MCDA twin pregnancy was complicated by an isolated abnormality affecting one of the fetuses. Fetus 1 had a left congenital diaphragmatic hernia (CDH). The CDH contains the stomach and liver as contents. The

mediastinal shift to the right is secondary to the left-sided CDH. Findings suggestive of postero-lateral congenital diaphragmatic hernia (Bochdalak type) and echogenic intracardiac focus which is an aneuploidy marker for Down's syndrome

The lung-to-head ratio (LHR) is 0.68 -suggestive of low survival rates

Fetus 2 - Second twin presented with second-trimester Aneuploidy marker EIF and choroid plexus cyst and invasive testing i.e. amniocentesis was performed to ensure the normal karyotype.

Extensive counselling was carried out to explain in detail to the couple the pros and cons of continuing a twin pregnancy and its related complications, the chances of preterm delivery and the need for surgical correction of anomalous twin postnatally and its associated morbidities versus selective fetal reduction.

The need for serial monitoring of the surviving co-twin by ultrasound and Neurosonogram, doppler study post RFA reduction.



**FIG 1 AXIAL VIEW OF THE THORAX IN TWIN 1 IN MID-TRIMESTER ANOMALY SCAN WHERE THERE IS HERNIATION OF STOMACH, LIVER INTO THORAX AND MEDIASTINAL SHIFT OF CARDIA TO RIGHT.**

The couple emphasized the complete health of the fetus, and they preferred feticide for anomalous foetuses so that the complications would be minimal for the live and normal fetus.

**DISCUSSION :**

Monochorionic twins are associated with specific complications due to placental sharing including a higher risk of fetal growth restriction, twin-twin transfusion syndrome (TTTS), early preterm delivery and perinatal mortality.

Structural anomalies are also encountered more commonly in monochorionic than compared to dichorionic twins.

**ABOUT RFA:**

Indications for RFA include monochorionic diamniotic twins with TTTS, TRAP and major structural anomalies in one of the twins and in our case it was a discordant anomaly of one fetus

RFA is the option of choice in cases with congenital abnormality of one twin in MCDA

Radiofrequency ablation (RFA) is a minimally invasive procedure that may be performed in utero for monochorionic diamniotic pregnancies with discordant anomaly and TRAP. In these cases, the best course of action may be to stop the blood supply to the anomalous fetus to protect the healthy one

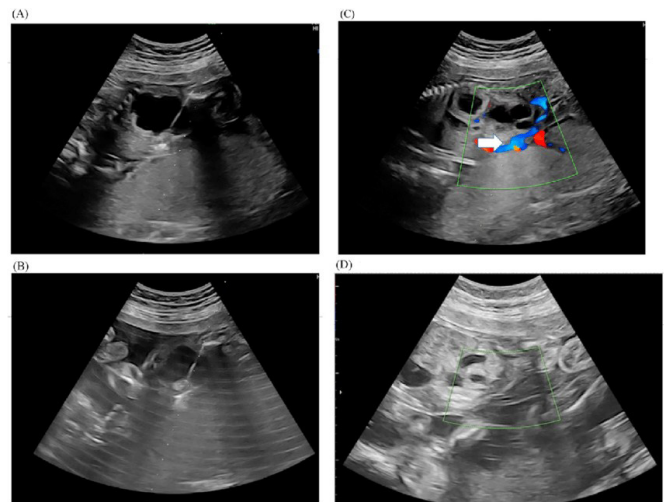
**METHOD OF PROCEDURE:**

The procedure was performed in an operating theatre and strictly abided by the aseptic technique under local anaesthesia

Under continuous ultrasound guidance, the radiofrequency needle 18gauge, was inserted percutaneously and through the uterus into the abdominal umbilical cord insertion site of the abnormal fetus -Fig 2.

The targeted vessel for ablation is an umbilical vein. Then the radiofrequency energy was applied until a temperature of 90 degrees was delivered for 5 min. Of around 2 to 3 cycles were required before complete cessation of blood flow. Accurate post-ablation assessment done for cessation of umbilical blood flow

The mean gestational age at the time of the procedure was 21 and 3 days gestation. There were no maternal complications such as PPRM / bleeding PV.



**FIG 2- RADIOFREQUENCY ABLATION OF INTRA-ABDOMINAL PORTION OF UMBILICAL CORD**

**POST-PROCEDURE:**

Serial follow-up was done after 24 hrs, 1 week later, followed by biweekly follow-up for a month in our centre and ensured normal serial USG findings and fetal well-being.

The middle cerebral artery peak systolic velocity (MCA-PSV) was assessed within 24 hours after the procedure to detect fetal anaemia in the surviving twin

Ultrasound examination was performed 1 week after the

procedure and then every 2 weeks. Each scan involved evaluation of the fetal biometry and middle cerebral artery peak systolic velocity (MCA-PSV) of and utilized umbilical artery Doppler assessment and ductus venosus (DV) Doppler

Commonly reported complications associated with RFA include preterm delivery, preterm premature rupture of membranes (PPROM), and miscarriage.

Also, the mother has been under the care of an obstetrician and fetal medicine specialist. Currently, the mother is on regular antenatal visits with ongoing pregnancy.

**CONCLUSION :**

Meticulous assessment and Accurate placement of the needle under ultrasound guidance with proficient operative skills to minimize the number of ablation cycles plays a crucial role in the procedure being effective and safe.

Radiofrequency ablation for fetal reduction in complicated and anomalous monochorionic twin pregnancies is a relatively safe and minimally invasive procedure for the selective reduction of complicated monochorionic fetuses.

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**Trichy Fetal Medicine & Fertility Centre**

**Dr. Malathi.G.Prasad** MDFRCOG ( UK)  
Diploma in Fetal Medicine (FMF Barcelona)  
Lead consultant in Fetal Medicine



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Cordo Centesis  
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# SOCIAL EGG FREEZING - THE DAWN OF A NEW ICE AGE

**DR. KAVITHA NAGARAJAN, MD (OG), MRCOG (UK), FRM, MICG CLINICAL DIRECTOR & IVF CONSULTANT, SKS WOMENS CENTRE**

2014.....

Aim to give employees more freedom to pursue family planning according to their timeline



- freezing and in vitro fertilization?
- What are the societal implications of social egg freezing?
- What are the medical risks of social egg freezing and IVF?
- What are the medical risks of pregnancy at an advanced age?
- How are human oocytes retrieved and frozen?
- HOW MANY EGGS NEEDED TO ACHIEVE A PREGNANCY
- what are the financial costs of social egg freezing?
- WHAT IS THE PROCEDURE INVOLVED WHEN THEY PLAN TO GET PREGNANT?
- HOW LONG CAN WE CRYOPRESERVE?
- HOW ABOUT THE SUCCESS RATE?

## Priyanka Chopra Freezes Her Eggs: A Look into the Procedure and Why Women Consider It

Reported By: [Swati Chaturvedi](#) • [News18.com](#) • Last Updated: INVALID DATE • [New Delhi, India](#)

Egg freezing, also known as oocyte cryopreservation, is a relatively new technology that has gained popularity as a way for women to preserve their fertility

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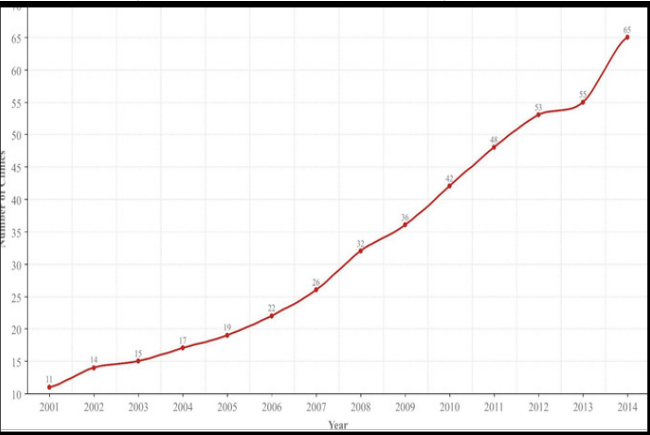


Cryopreservation of mature oocytes on an elective basis for the purpose of delayed childbearing

Empowers women with the opportunity to defer their childbearing years

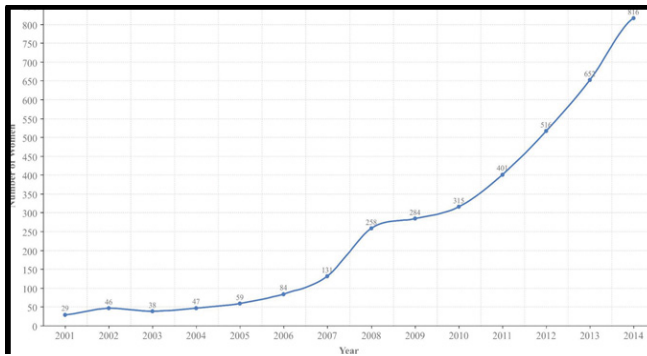
Potentially reducing, but not eliminating, the risk of unintentional permanent childlessness

## WHAT IS SOCIAL EGG FREEZING?

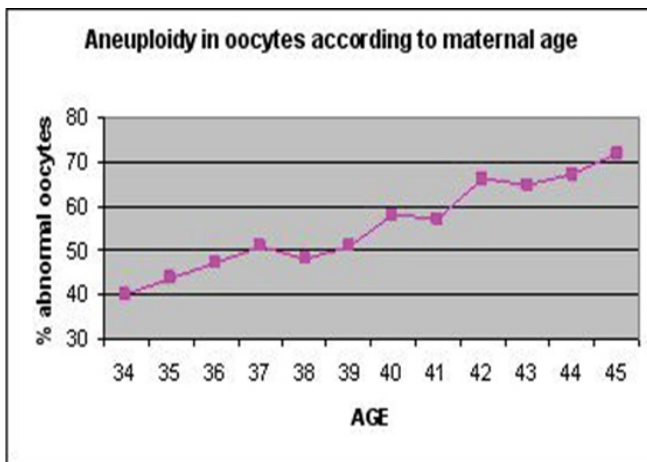
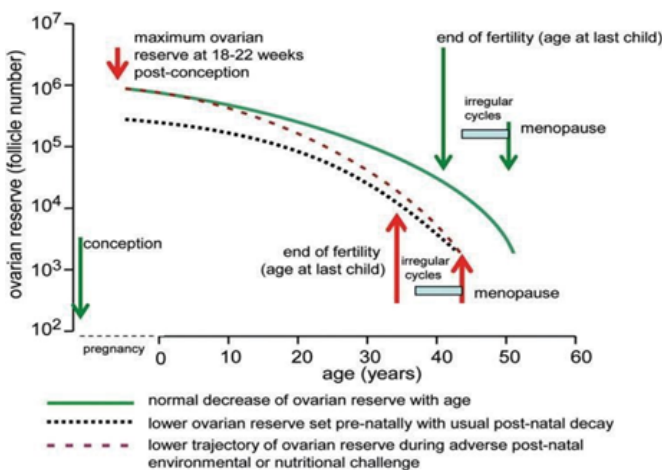


## FAQS ANSWERED

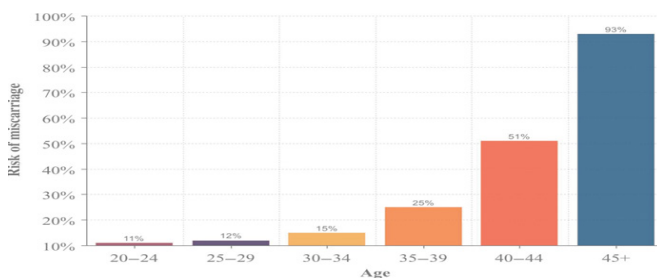
- What is Social egg freezing?
- FOR WHOM?
- WHY WOMEN SHOULD THINK ABOUT EGG FREEZING?
- WHAT IS THE RIGHT AGE FOR EGG FREEZING?
- What are the potential benefits of social egg



## WHY WOMEN SHOULD THINK ABOUT SOCIAL EGG-FREEZING?



## The dawn of a new age: Social



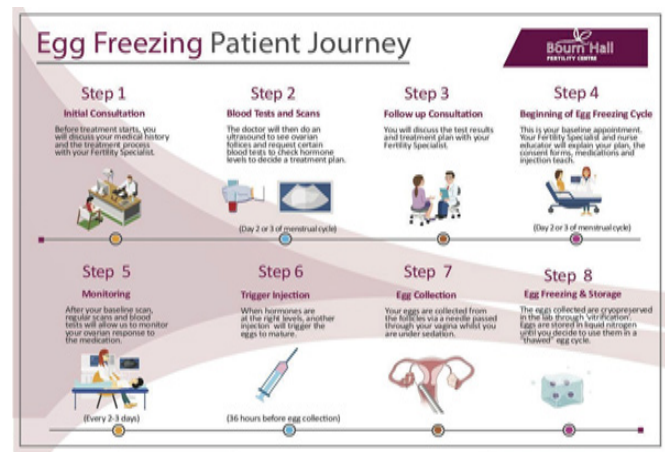
IVF - cannot overcome the irreversible decline in oocyte quality and quantity

Acta Obstet Gynecol Scand, Volume: 97, Issue: 6, Pages: 641-647, First published: 26 February 2018, DOI: (10.1111/aogs.13335)

## WHAT IS THE RIGHT AGE FOR EGG FREEZING?

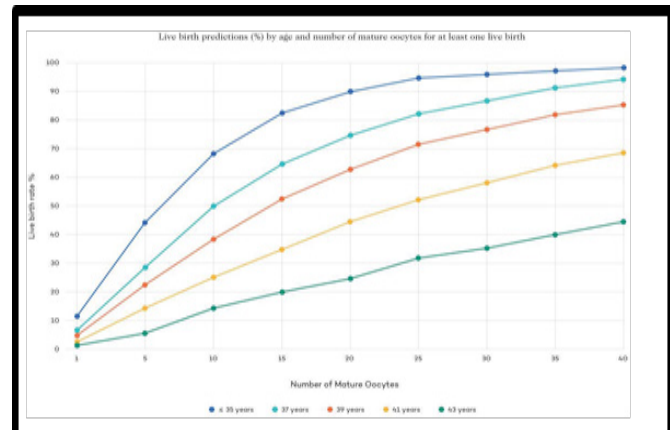
- Asian women age faster than their Western counterparts.
- Asian women age faster than their Western counterparts.
- Asian women age faster than their Western counterparts.

## WHAT DOES EGG FREEZING INVOLVE?



## HOW MANY EGGS WE NEED TO ACHIEVE A PREGNANCY?

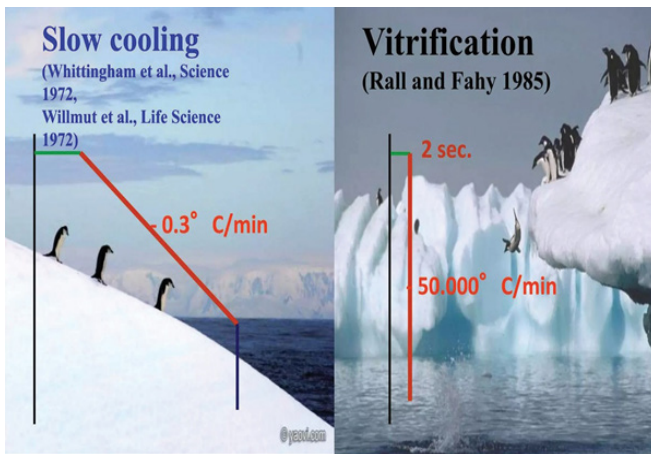
### DEPENDS ON



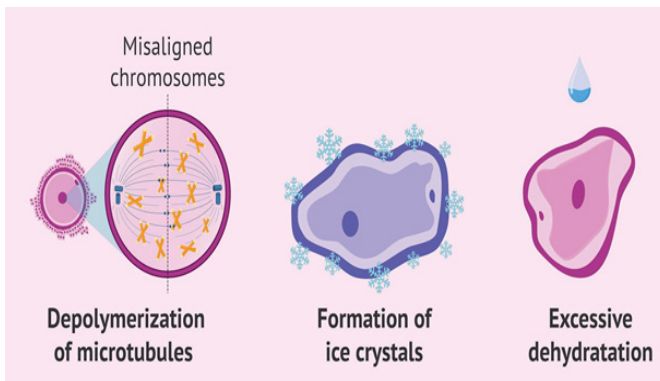
## HOW SAFE IS THE PROCESS OF EGG FREEZING?

- The first birth from a cryopreserved human oocyte was reported in the Lancet in 1986
- Largest cell in the human body, eggs are very difficult to freeze - spherical shape, high water content, and low surface area to volume ratio make eggs especially difficult to permeate with cryoprotectants and prone to intracellular ice crystal formation

## SLOW FREEZING



## VITRIFICATION



## WHAT ARE THE POTENTIAL BENEFITS OF SOCIAL EGG FREEZING AND IN VITRO FERTILIZATION?

- 2 important benefits to women who anticipate becoming pregnant at an advanced age:
- Possibility of becoming a genetic parent using their frozen-thawed eggs

Reduces the risk of having children with chromosomal abnormalities associated with aneuploidy

## WHAT ARE THE MEDICAL RISKS OF SOCIAL EGG FREEZING AND IVF?

- Ovarian hyperstimulation syndrome
- PROCEDURE-RELATED RISKS
- Multiple pregnancy,
- Pregnancy-related high blood pressure,
- Premature delivery,
- Operative delivery and infants with low birth weight

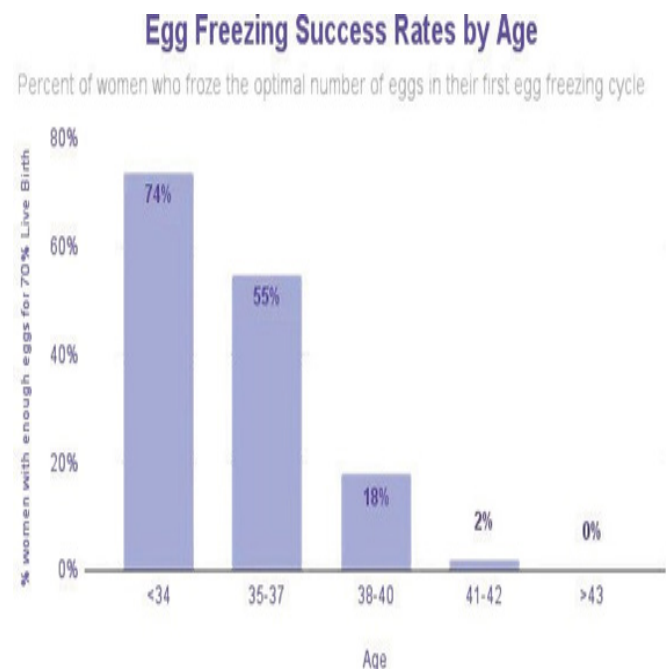
## WHAT ARE THE MEDICAL RISKS OF PREGNANCY AT AN ADVANCED AGE?

- Gestational diabetes
- Preeclampsia
- Cesarean delivery
- Preterm delivery/baby with low birth weight

## WHAT IS THE PROCEDURE INVOLVED WHEN THEY PLAN TO GET PREGNANT?

- THAWING OF FROZEN OOCYTES
- IVF / ICSI
- EMBRYO TRANSFER

## HOW ABOUT THE SUCCESS RATE?



## EVIDENCE.....

- Cobo and colleagues 2016 - 1468 women - 9.3% had returned to use their eggs -
- average age of those returning was 37.7 years - overall egg survival rate was 85.2%
- 35 or younger at the time of egg freezing, who banked 10 eggs, the LBR - 60.5%
- 36 or older, the same 10 eggs yielded a significantly lower live birth rate of 29.7%

## HOW LONG CAN WE CRYOPRESERVE IT?

- 10 YEARS

## WHAT ARE THE FINANCIAL COSTS OF SOCIAL EGG-FREEZING?

- In India, it costs approximately between 125000 and 150000 INR
- IS THIS ALLOWED IN INDIA?
- YES LEGALLY ALLOWED

## WHAT ARE THE SOCIETAL IMPLICATIONS OF SOCIAL EGG-FREEZING?

- Media coverage often emphasizes the potential benefits of egg freezing and ignores or downplays the associated risks
- Physicians should be careful not to place additional pressure on women by portraying egg freezing as something that they should choose to avoid future regret

## KEY POINTS....

- Does not provide women with the same reproductive longevity that men enjoy, but it can allow women to delay childbearing for 2 to 10 years and maybe a reasonable choice for women wishing to do this
- Enhances reproductive autonomy, age-related obstetric complications, economic implications and the risk of unsuccessful future treatment make this a controversial therapeutic option.

- Some women have no reasonable alternative, such as single women approaching their late thirties - offers hope by extending the window of opportunity to find a partner
- Physicians should also discuss financial, ethical and societal implications with women considering social egg-freezing
- Given the upward trend in women electively cryopreserving their eggs, it would appear that a new ice age, from a fertility perspective, is upon us
- OVARIES REMAIN PROGRAMMED FOR REPRODUCTION AT A YOUNGER AGE

**SEF may be able to “bridge the gap between reproductive prime and when a woman is realistically ‘ready’ to have children**

**“Back-up plan” or “Fertility insurance”**



## A CASE STUDY ON OVARIAN DERMOID CYST - RUPTURE

**DR. APARNA RAJENDRAN, MS (OG), FMAS, DMAS**  
Consultant Gynecologist, Aparna Hospital, Perambalur

### ABSTRACT

This case study presents a 31-year-old female who presented with diffuse abdominal pain, predominantly in the right hypochondrium and left iliac region. An ultrasonogram revealed a dermoid cyst in the left ovary with torsion. Subsequent investigations, including MRI and viral markers, indicated a positive Hepatitis A Virus (HAV) infection. A decision dilemma arose among physicians and surgeons regarding the surgical approach due to the patient's symptoms, mild pain in the left iliac region, and moderate pain in the right hypochondrium. The patient was admitted, and after stabilization, a laparoscopy was performed, revealing a ruptured left dermoid cyst. The procedure was converted to laparotomy, the dermoid cyst was removed, and thorough saline lavage was administered. This case emphasizes the uncommon presentation of dermoid cyst complication; and rupture in contrast to their typically asymptomatic nature. Dermoid cysts, although benign, can lead to complications, including ovarian torsion and rupture, necessitating timely surgical intervention. The study highlights the importance of considering underlying infections and associated risks in decision-making, especially in the presence of complicating factors.

Keywords: Ovarian Dermoid Cyst, Rupture, Torsion, Laparoscopy, Laparotomy, Hepatitis A Virus, Decision Dilemmas, Surgical Intervention, Case Study.

### INTRODUCTION

Ovarian dermoid cysts, recognized as mature cystic teratomas, are prevalent benign ovarian germ cell tumours, constituting a significant aspect of

gynaecological pathology. Originating from germ cells that give rise to eggs or sperm, these cysts embody a unique biological phenomenon where tissues from various embryonic layers coalesce to form a diverse assortment of structures, including hair, teeth, and skin. Unlike many ovarian cysts, dermoid cysts manifest independently of the menstrual cycle and often remain asymptomatic, being discovered incidentally through routine imaging. (1)

Evidence suggests that ovarian dermoid cysts are frequently encountered entities, occasionally posing diagnostic and management challenges. As one of the most common ovarian tumours diagnosed during pregnancy, their occurrence emphasizes the need for careful monitoring and management, particularly when complications arise. Dermoid cysts are known to grow progressively, occasionally reaching sizes that prompt intervention to prevent complications such as ovarian torsion or rupture. Understanding the pathological nature of these cysts is imperative for clinicians, given their potential to cause complications. Pathologically, dermoid cysts are characterized by three embryonic layers -ectoderm, mesoderm, and endoderm that inappropriately grow and differentiate, forming a unique cystic structure. Magnetic resonance imaging (MRI) is often employed for a more detailed characterization of these cysts, revealing their diverse internal components. From an obstetrician's perspective, the diagnostic and therapeutic considerations for dermoid cysts become more nuanced, particularly when encountered in pregnant individuals. As part of routine prenatal care, careful monitoring and management strategies must be employed to navigate potential complications. (2)

The case presented here involves a 31-year-old female with a history of two lower-segment caesarean deliveries, highlighting the relevance of obstetric history in understanding and managing ovarian pathology. This case report delves into a distinctive clinical scenario, where a ruptured ovarian dermoid cyst in a patient with recent Hepatitis A Virus (HAV) infection adds layers of complexity to decision-making. Through an exploration of this case, we aim to provide insights into the intricate interplay between pathology and obstetrics, elucidating the challenges faced by healthcare professionals in managing dermoid cyst complications and beyond.

## CASE HISTORY

A 31-year-old female, with P2 L2, previous 2 lower segment caesarean deliveries presented with diffuse abdominal pain increased in Right Hypochondrium and left iliac region for two days. The patient reported a recent history of fever five days prior with no urinary or bowel disturbances. Given the abdominal pain and recent fever, a thorough systemic examination was conducted to evaluate potential sources of infection or systemic involvement.

## INVESTIGATIONS

The haematological examination displayed normal parameters, including a total white blood cell count of 7900 cells/cumm, a haemoglobin level of 12.4 gm/dl, a total red blood cell count of 4.22 milli/cumm, and a platelet count of 1.91 lakhs/cumm. The erythrocyte sedimentation rate (ESR) was 12 mm/hr, and bleeding and clotting time were within the normal range. The patient's blood group was identified as "O" positive. Biochemical analysis demonstrated normal levels of plasma blood glucose, urea, creatinine, and uric acid. However, there was an elevation in total bilirubin (3.87 mg/dl) and indirect bilirubin (3.23 mg/dl). Liver function tests, including SGOT, SGPT, total protein, albumin, globulin, alkaline phosphatase, and gamma GT, revealed values within normal limits. Screening tests for VDRL, HbsAg, and HIV 1&2 were non-reactive. Considering the elevated bilirubin levels and a recent history of fever five days prior, viral markers were assessed, revealing a positive result for the Hepatitis A Virus (HAV).

Further investigations through ultrasonography identified a dermoid cyst in the left ovary with evidence of torsion. Subsequent confirmation was pursued through an MRI, which, while revealing no significant findings in the abdomen, confirmed the presence of a dermoid cyst with torsion in the left ovary of size 8\*7 cm. Importantly, there was no evidence of vascularity noted in the imaging studies.

## DIFFERENTIAL DIAGNOSIS

Considering the clinical presentation and imaging findings, potential differentials were considered, including other ovarian pathologies and infectious causes.

## DECISION DILEMMAS

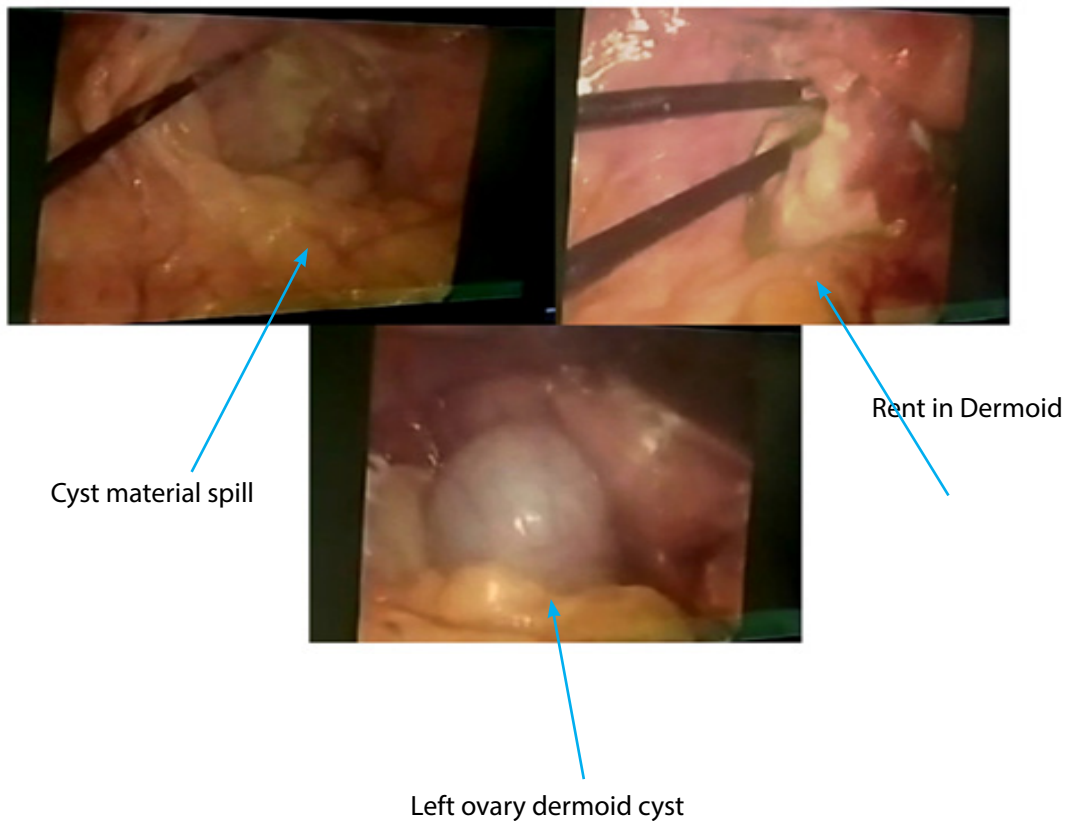
<b>SYMPTOMS</b>	MILD PAIN IN LEFT ILIAC REGION	MODERATE PAIN IN RIGHT HYPOCHONDRORIUM
<b>PHYSICIANS</b>	HAV IS NOT CONTRAINDICATION PROCEED WITHOUT DELAY	NOT TO PROCEED WITHOUT EVALUATION IF PATIENT VITALS STABLE
<b>SURGEON</b>	LAPAROSCOPY	LAPAROTOMY

<b>BLOOD PARAMETERS</b>	BILIRUBIN LEVELS RAISED, BUT SGOT AND SGPT WITHIN NORMAL LIMITS	CRP ELEVATED BUT TLC IS WITHIN NORMAL LIMITS
-------------------------	-----------------------------------------------------------------	----------------------------------------------

The decision-making process involved weighing the risks and benefits of proceeding with surgery or opting for conservative management as the patient's vitals were stable.

### TREATMENT

**Preoperative Preparation and Bilirubin Stabilization:** In anticipation of the surgical intervention, potential risks were thoroughly explained to the patient and attendees. Upon admission, intravenous fluids were initiated, accompanied by the administration of hepato-safe antibiotics. Subsequent monitoring revealed a notable improvement, with a reduction in bilirubin levels to 1.5.vv



**FIGURE 1: LAPAROSCOPIC EXPLORATION REVEALING RUPTURED LEFT OVARIAN DERMOID CYST SURGICAL PROCEDURE-**

**LAPAROSCOPY TO LAPAROTOMY CONVERSION:** Given the patient's improved condition and stabilized bilirubin levels, a decision was made to proceed with surgery. Laparoscopy was initially undertaken; however, intraoperative findings indicated a ruptured left dermoid cyst, leading to the spillage of cyst material into the peritoneal cavity. Consequently, the surgical approach was shifted from laparoscopy to laparotomy. The left dermoid cyst was successfully removed, and thorough saline irrigation was performed. Notably, the examination of the right tube and ovaries revealed normalcy.

## DISCUSSION

### UNRAVELLING THE COMPLEXITIES OF OVARIAN DERMOID CYSTS

The available evidence indicates that in instances of peritonitis resulting from an appendix perforation, the spillage tends to coalesce into sludge, entering the venous circulation. This process contributes to an elevation in bilirubin levels and an increase in CRP (C-reactive protein) levels while maintaining normal levels of TLC (total leukocyte count), SGOT (aspartate aminotransferase), and SGPT (alanine aminotransferase). The observed mechanism aligns with the findings in this particular case. (3)

**Ovarian Dermoid Cysts: A Prevalent Germ Cell Tumor:** Among premenopausal females, ovarian dermoid cysts stand out as the most common ovarian germ cell tumours. While they typically remain asymptomatic and are often discovered incidentally, the rupture of dermoid cysts presents with peculiar symptoms. Notably, these cysts exhibit a spectrum of complications, including torsion (16%), rupture (1.4%), infection (1%), and rarely, malignant teratoma (2%). Intriguingly, these complications can manifest, at times, in the advanced stages of pregnancy, adding a layer of complexity to their clinical presentation.

**Distinctive Characteristics of Dermoid Cysts:** An ovarian dermoid cyst, classified as a mature cystic teratoma, differs from most ovarian cysts by not forming in response to the menstrual cycle. These cysts, essentially fluid-filled sacs, encapsulate tissues from various body parts, such as hair, skin, and teeth. Despite being non-cancerous, the potential for complications arises when these cysts attain significant size. Unlike other ovarian cysts, dermoid cysts are often present at birth but typically go undetected until identified through routine imaging procedures.

**Prevalence and Occurrence During Pregnancy:** Ovarian dermoid cysts hold the distinction of being the most prevalent type of benign ovarian germ cell tumour. Their prevalence extends to cases diagnosed during

pregnancy, constituting about one-third of all benign tumours detected in pregnant individuals. Intriguingly, these cysts may appear bilaterally in 10% to 15% of cases, emphasizing their potential to affect both ovaries. (4)

**Complications and Concerns:** The clinical concern escalates with the size of ovarian dermoid cysts, as larger cysts are more prone to causing complications. Among the notable complications, ovarian torsion is a critical consideration. The growth of dermoid cysts can be such that they induce the affected ovary to twist, leading to potential harm or even the death of the organ. Early intervention becomes paramount to prevent irreversible damage, highlighting the intricate management challenges associated with ovarian dermoid cysts.

### UNDERSTANDING DERMOID CYSTS: A MULTIFACETED PERSPECTIVE

**RUPTURE AND ITS IMPLICATIONS:** Dermoid cysts, although predominantly non-symptomatic, carry the risk of rupture, leading to the leakage of their contents into the abdominal cavity. This rupture, while infrequent, can precipitate infections, necessitating prompt medical attention. It is noteworthy that the transformation of ovarian dermoid cysts into a cancerous state occurs in less than 2% of cases, underscoring the generally benign nature of these cysts. (5)

**SYMPTOMS AND SIZE CORRELATION:** The majority of ovarian dermoid cysts remain asymptomatic unless they attain a considerable size. Symptoms typically manifest as pain, pressure, or a sensation of fullness in the abdomen. In instances where symptoms do arise, they may include nausea, vomiting, constipation, and painful intercourse (dyspareunia). Understanding the correlation between symptoms and cyst size becomes pivotal in gauging the clinical significance of these cysts.

**PATHOGENESIS:** Dermoid cysts originate from germ cells, the precursors to egg or sperm cells. Germ cells follow a three-layered developmental process during fetal growth, leading to the formation of tissues and organs. At times, these layers exhibit atypical growth,

resulting in the amalgamation of mature tissues into dermoid cysts. The cyst's composition may range from hair and teeth to tissue arising from any of the three germ cell layers.

**DIAGNOSTIC MODALITIES:** While dermoid cysts are typically identified through ultrasound, less commonly, magnetic resonance imaging (MRI) is employed for a more detailed assessment. The choice of diagnostic modality depends on various factors, including the clinical context and the need for precise characterization. (6)

**TREATMENT APPROACHES:** Not all ovarian dermoid cysts necessitate removal. Recommendations for removal arise when cysts exceed a certain size (typically greater than 5 cm), cause symptoms, or exhibit malignant potential. Two primary surgical approaches are employed:

**Ovarian Cystectomy:** This procedure involves removing the part of the ovary containing the cyst, preserving fertility while eliminating the cyst.

**Oophorectomy:** In cases where the cyst or the ovary may be malignant, laparoscopy or laparotomy is performed to remove the entire ovary. Laparotomy involves a more extensive abdominal incision.

## LEARNING POINTS

This case illuminates several crucial insights pertinent to the clinical management of ovarian dermoid cysts. Firstly, the presentation of rupture, although rare, underscores the necessity of vigilance even in ostensibly benign conditions. The multifaceted symptomatology, ranging from localized pain to systemic manifestations, highlights the diverse ways in which dermoid cysts may manifest. Additionally, the case emphasizes the importance of considering viral markers, such as HAV, in the preoperative evaluation, especially when factors like elevated bilirubin and recent febrile episodes are present. The significance of prompt decision-making in the face of diagnostic dilemmas, balancing the risks and

benefits of surgery, is evident in this scenario. Moreover, the intraoperative shift from laparoscopy to laparotomy serves as a reminder of the dynamic nature of surgical interventions and the need for adaptability.

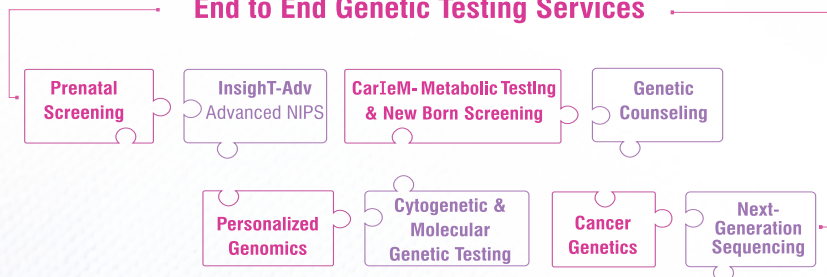
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Consultant Radiologist and  
Fetal Medicine Specialist  
☎ +91 91597 91930

**Dr. S. UMMAR BASHA**  
M.B.B.S., M.D.R.D., F.I.F.O.R  
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#### HIGHLIGHTS

- Premium end scan machine
- Same day appointment\*
- Ethical effective practice
- Radiologist with fetal expertise

\*Maximum effort will be given



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## GYNAECOLOGICAL CANCER SCREENING

DR.UMA VAIDHIYANATHAN DGO, DNB [OG], FICOG.

**Screening helps to detect cancers soon after it develop so that early treatment saves lives.**

Let us see some practical points about screening for Gynecological cancers.

### BREAST CANCER SCREENING:

#### 1. WOMEN AT AVERAGE RISK FOR BREAST CANCER

- Screening starts at the age of 40 years.
- Women between 40 -44 years: Have the option to start screening with a mammogram every year
- Women 45 – 54 years: Should get Mammograms every year
- Women aged 55 years and older: Can switch to a Mammogram every 2 years or can choose to continue every year
- How Long? Screening should continue as long as the woman is in good health and is expected to live at least 10 years
- Clinical breast exams are not recommended for average-risk women at any age

#### NEWER MODALITY:

In recent years, a newer type of mammogram called "DIGITAL BREAST TOMOSYNTHESIS" commonly known as "3D MAMMOGRAM" has become much more common, but is not available in all breast imaging centres. It costs more than 2D Mammography.

**ADVANTAGE:** 3D Mammography finds more breast cancers and is helpful in women with more dense breasts

#### 2. SCREENING RECOMMENDATION FOR HIGH-RISK WOMEN:

- ☛ **High risks include,**
  - Positive family history
  - Have a known BRCA1, or BRCA2 gene mutation
  - Have a first-degree relative with a BRCA1 or BRCA2 gene mutation
  - Had chest radiation therapy before the age of 30 years
  - Have Lifraumen's syndrome. Couden syndrome or Bannayan Riley - Ruvalcaba syndrome
- ☛ Women at high risk should get a breast MRI and a Mammogram every year starting at age 30 years
- ☛ MRI screening is not recommended if the lifetime risk of breast cancer is less than 15 %
- ☛ MRI is used in addition to a Mammogram and not instead of a mammogram
- ☛ Self-breast examination and clinical breast examination are not of much help as mammogram picks up cancer earlier than these

#### OVARIAN AND FALLOPIAN TUBE CANCER SCREENING:

- American Cancer Society [ACS] and ACOG do not recommend screening for ovarian cancer in average-risk women.
- ACOG recommends the evaluation of high-risk women [ie, having a positive family history or positive gene mutation] with Transvaginal ultrasound and CA 125 testing in addition to physical examination.
- For Women with BRCA1 / BRCA2 gene mutations either can undergo risk-reducing salpingo-

oophorectomy or Transvaginal ultrasound with serum CA 125 testing starting at the age of 30-35 years.

**ENDOMETRIAL CANCER SCREENING:**

- On reaching menopause, all women should be informed about the risks and symptoms of endometrial cancer and strongly encouraged to report any unexpected bleeding or spotting.
- There is no evidence to support the screening of asymptomatic women.
- Women at risk of HNPCC, Lynch syndrome, should be offered screening annually by the age of 35 years. [HNPCC- Hereditary Non-Polyposis Colorectal Cancer]
- **Screening tests:**
  1. Transvaginal Ultrasound
  2. Endometrial Biopsy.
- Women at risk for HNPCC should have a colonoscopy every 1 -2 years beginning at the age of 20-25years and Endometrial sampling every 1 -2 years beginning at the age of 30-35years.

**CANCER CERVIX SCREENING:**

**Screening modalities:**

1. HPV testing
  - Primary HPV testing
  - Co-testing [ HPV & cytology]
2. Cytology [Papsmear]
3. VIA.

Frequency of testing: Primary HPV & Co testing every 5 years

Cytology - every 3 years.

VIA - every 5 years

AGE:

Age less than 21 years : No screening.

21-29 years : Cytology every 3 years.

Hr HPV test is approved for use starting at the age of 25 years.

So, Hr HPV test every 5 years can be considered in ages

25-29years

30-65years

Any one of the following:

Cytology alone every 3 years

FDA approved Hr HPV testing alone every 5 years.

Co-testing every 5 years.

> 65 years

No screening if prior 3

consecutive negative cytology results or 2 consecutive negative HPV/ Co testing within 10 years before stopping screening.

**When to stop screening:**

At age 65 years, with consistently negative results in the last 15 years. Women with no prior screening should undergo a test once at 65 years and if negative, they should exit screening.

**SCREENING IN SPECIAL SITUATIONS:**

1. Hysterectomy with removal of cervix :

No screening in individuals who do not have H/o high-grade cervical precancerous lesions or cervical cancer. Follow up in women with CIN in hysterectomy HPE report – Need to be screened with HPV testing at 6 months and 18 months.

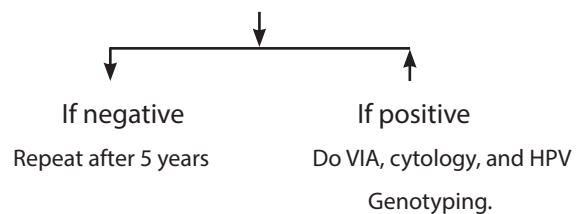
2. Screening following abnormal reports > CIN 2+, irrespective of method of treatment, is for 20 years with HPV testing.

3. Screening of immunocompromised women.

- Start within one year of initiation of sexual activity.
- HPV testing / co-testing / Cytology / VIA – every 2-3 years.

**WHAT NEXT?**

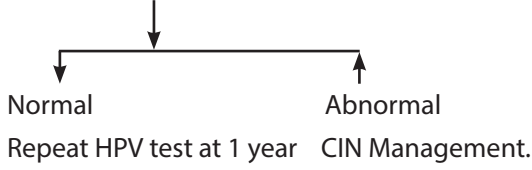
1. Screening with primary HPV testing



2. If VIA negative – Repeat HPV test after 1 year

If negative then 5 yearly testing.

3. If VIA is positive - Colposcopy and biopsy.
4. If Cytology is positive – Colposcopy and biopsy.
5. If HPV GENOTYPING 16 & 18 is positive – Colposcopy & Biopsy.
6. If Colposcopy & Biopsy



### SUMMARY:

1. Breast cancer screening:
  - Starts at 40 years, till good health. If high risk, start at 30years. Mammogram every year
2. Ovary and fallopian tube cancer screening
  - Only for high-risk women

- Transvaginal Ultrasound, Sr. Ca 125 testing and Clinical examination starting at the age of 30-35 years.
- 3. Endometrial cancer screening:
  - Only for high-risk women
  - Transvaginal Ultrasound
  - Endometrial sampling every 1-2 years. beginning at the age of 30-35 years.
- 4. Cervical cancer screening:
  - Starts at the age of 21 years – cytology every 3 years
  - 25-29 years – Cytology every 3 years or HPV testing every 5 years
  - 30-65years – Cytology every 3 years or HPV testing / co-testing every 5 years or VIA every 5 years.

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## MATERNAL NEAR MISS: A RETROSPECTIVE STUDY IN A TERTIARY CARE HOSPITAL AT SOUTH INDIA

**DR. SUBHA SIVAGAMI SENGODN**

(Professor and Head, Department of O&G, GMKMCH, Salem)

**DR. TEJASHWINI MALLESH**

(Junior Resident, Department of O&G, GMKMCH, Salem)



### ABSTRACT

A maternal near-miss case is defined as a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy<sup>1</sup>. Maternal death audit is the mainstay of evaluation of maternal health services in countries where there is a high rate of maternal mortality. Unfortunately, most maternal deaths occur in unbooked emergency cases that present late to the hospital. Maternal near-miss situations tend to mirror the causes of Maternal Death. Hence, a review of these cases has been found to help in the assessment of maternal health services. These cases are called maternal near miss (MNM) or severe acute maternal morbidity (SAMM) and auditing these cases is called a near miss audit (NMA). In 2009, intending to standardize the criteria on which maternal near miss is defined, the WHO proposed a standard classification using 25 criteria based on the presence of organ and system dysfunction such as cardiovascular, respiratory, renal, hepatic, neurologic, coagulation and uterine surgeries. Hence, this study was conducted with the objectives to determine the frequency, to study the demographic characteristics, causes, interventions and fete-maternal outcome of the maternal near miss cases<sup>2</sup>.

### INTRODUCTION

“Women are not dying because of diseases we cannot treat. They are dying because societies are yet to make

the decision that their lives are worth saving.”

-Mahmoud Fathalla, WHO

Maternal near-miss (MNM) is implemented as a new concept that has been used as an adjunct to the investigation of maternal deaths leading to severe maternal outcomes. Near miss, cases share many characteristics with maternal death and can directly inform on obstacles that have to be overcome after the onset of an acute complication. At the same time, the survivor herself can be a source of information. As surviving a near miss event mainly occurs because of the care provided, inquiring into the events of near miss would boost the morale of the care providers. Usually, near-miss morbidity precedes maternal death. Therefore, identifying and analysing the cases of maternal near misses helps in understanding the factors that determine maternal mortality.

There are many ways of identifying maternal near-miss cases using various sets of criteria like disease-specific, management-specific and organ system dysfunction-based. Amongst these, organ system dysfunction-based criteria have been noted to be epidemiologically sound and less affected by bias in identifying maternal near-miss cases. In 2009, the World Health Organization (WHO) developed a new system based on organ system dysfunction which incorporates clinical, laboratory and management-based criteria for identifying maternal near

misses. It has been then recommended that the WHO near-miss approach for maternal death be uniformly used in analysing the cases of near-miss maternal mortality. It includes the following:

### **LIFE-THREATENING CONDITIONS (NEAR-MISS CRITERIA)**

1. Cardiovascular dysfunction - shock, cardiac arrest (absence of pulse/heartbeat and loss of consciousness), use of continuous vasoactive drugs, cardiopulmonary resuscitation, severe hypo perfusion (lactate >5 mmol/l or >45 mg/dl), severe acidosis (pH <7.1).
2. Respiratory dysfunction - acute cyanosis, gasping, severe tachypnea (respiratory rate >40 breaths per minute), severe bradypnea (respiratory rate <6 breaths per minute), intubation and ventilation not related to anaesthesia, severe hypoxemia (O<sub>2</sub> saturation <90% for ≥60 minutes or PAO<sub>2</sub>/FiO<sub>2</sub><200)
3. Renal dysfunction - oliguria nonresponsive to fluids or diuretics, dialysis for acute renal failure, severe acute azotemia (creatinine ≥300 μmol/ml or ≥3.5 mg/dl)
4. Coagulation/haematological dysfunction - failure to form clots, massive transfusion of blood or red cells (≥5 units), severe acute thrombocytopenia (<50 000 platelets/ml)
5. Hepatic dysfunction - jaundice in the presence of pre-eclampsia, severe acute hyperbilirubinemia (bilirubin >100 μmol/l or >6.0 mg/dl)
6. Neurological dysfunction - prolonged unconsciousness (lasting ≥12 hours)/coma (including metabolic coma), stroke, uncontrollable fits/status epilepticus, total paralysis
7. Uterine dysfunction - uterine haemorrhage or infection leading to hysterectomy.

### **MATERIALS AND METHODS**

It is a retrospective study conducted in the Department of Obstetrics and Gynaecology, Government Mohan

Kumaramangalam Medical College and Hospital, Salem, Tamilnadu, India. Ours is a tertiary care institute and a referral hospital for both public and private hospitals in Salem and other surrounding districts in Tamil Nadu. In addition to providing twenty-four-hour emergency obstetric services, the hospital also provides antenatal care and delivery services for both low and high-risk pregnant women. The hospital has a 24-hour facility for blood component therapy, a High dependency unit (HDU) in the labour room complex and an intensive care ICU with a 24-hour facility for multidisciplinary speciality.

Any patient who met the WHO inclusion criteria for maternal near-miss mortality, mentioned above, during the period January 2023 to December 2023 was included in the study.

Data have been collected from the patients having Near Miss Morbidity events during the hospital stay on a pre-designed proforma prepared for the study. Patient characteristics include age, parity, gestational age at admission, type of admission, booking status and interventions taken to save the life of the patient. Investigations were done for anaemia, septicemia, eclampsia and for organ system dysfunction/ failure. Data were collected to determine the nature of obstetric complications, the presence of organ system dysfunction and the timing of near-miss events concerning admission.

### **RESULTS**

There were 11,340 deliveries and 11,126 live births during the study period. The total number of near-miss cases was 201 from January 2023 to December 2023 at Government Mohan Kumaramangalam Medical College, Salem.

Table 1 shows the demographic characteristics of the near-miss cases in the present study. The most common age group affected in the near-miss cases in the present study was 20 to 35 years (80%). In this study, 91 cases (45.2%) were primipara; 110(57.4%) cases were multipara. Maximum cases had received ANC care at nearby PHCs and Government hospitals(78.1%). The majority of the

cases, i.e. 201 cases out of which 99 were in the third trimester and 77 in the postpartum period indicating that late pregnancy and delivery is the worst affected period. The third trimester was the worst time for pregnant women to land up in life-threatening situations as in the present study.

From Table 2, there were 186 cases referred from PHCs, Government hospitals and nearby medical college hospitals; on the other hand, 15 cases were self-admissions. While 79.6% of cases were near miss at the time of admission itself. Only 20.39% became near-miss cases after admission to our hospital.

CHARACTERISTICS		NUMBER (N=201)	PERCENTAGE (%)
AGE	<20YEARS	26	12.9%
	20-35YEARS	161	80%
	>35YEARS	14	6.96%
PARITY	PRIMI	91	45.2%
	MULTI	110	54.7%
ANC CARE	YES	157	78.1%
	NO	44	21.8%
GESTATIONAL AGE	<13WEEKS	17	8.45%
	13-28WEEKS	8	3.98%
	>28WEEKS	99	49.25%
	POSTNATAL	77	38.3%
	TOTAL	201	100%

TYPE OF ADMIS- SION	SELF	15	7.46%
	REFERRAL	186	92.53%
NEAR MISS	ON ADMIS- SION	160	79.6%
	AFTER ADMIS- SION	41	20.39%
	TOTAL	201	100%

The most common cause of near-miss events in the present study (Table 3) was haemorrhage- 79 cases (39.2%), followed by anaemia -69 cases(34.32%) and hypertensive disorders of pregnancy- 62 cases (30%), thrombocytopenia – 10 cases(4.97%) and sepsis – 6 cases(2.98%).

MODE OF DELIVERY	NUMBER	PERCENTAGE
VAGINAL DELIVERY	32	15.92%

CAESAREAN SECTION	108	53.73%
LAPAROTOMY	16	7.96%
DILATATION AND EVACUATION	26	12.93%
CAESAREAN HYSTERECTOMY	19	9.45%

CAUSES	NUMBER	PERCENTAGE
HYPERTENSIVE DISORDERS		
SEVERE PREECLAMPSIA	26	12.93%
ECLAMPSIA	36	17.91%
HAEMORRHAGE		
ABORTION	26	12.93%
PPH	53	26.36%
SEPSIS	6	2.98%
ANEMIA	69	34.32%
THROMBOCYTOPENIA	10	4.97%

Table 5 shows the properly timed interventions that were secured to the near-miss patients which saved their lives. Most of them needed ICU admission (83.5%). Blood and blood product transfusions were needed in 41.29%. Magnesium sulphate therapy was given in 58 cases; they were all cases of eclampsia or severe pre-eclampsia. 29 cases(14.42%) needed ventilatory support. Inotrope support was needed in 13.93%. Hysterectomy was done in 19 cases. Dialysis was done for 11 cases. Many near-miss patients needed more than one intervention during their management.

INTERVENTION	NUMBER	PERCENTAGE
ANTIBIOTIC ADMINISTRATION	152	75.62%
MASSIVE BLOOD PRODUCTS TRANSFUSION	83	41.29%
INOTROPE SUPPORT	28	13.93%
MECHANICAL VENTILATION	29	14.42%
ICU ADMISSION	168	83.58%
MAGNESIUM SULPHATE THERAPY	58	28.88%
HYSTERECTOMY	19	9.45%
LAPAROTOMY	16	7.96%

DIALYSIS	11	5.47%
ANTICOAGULANT THERAPY	121	60.19%
CRANIOTOMY	3	1.49%
INSULIN INFUSION	6	2.98%
DC SHOCK	3	1.49%

Amongst the near-miss cases in the present study, the most common organ system dysfunction (Table 6) was neurological dysfunction (23.38%), and most of them were in cases of eclampsia. Other organ dysfunctions were haematological (9.45%), coagulation dysfunction (8.45%), renal dysfunction (5.47%), uterine dysfunction leading to hysterectomy in 19 cases (22%), hepatic(4.47%), respiratory dysfunction (17.41%) and cardiovascular dysfunction (4.97%).

ORGAN DYSFUNCTION	NUMBER	PERCENTAGE
NEUROLOGICAL	47	23.38%
CARDIAC	10	4.97%
RESPIRATORY	35	17.41%
COAGULATION	17	8.45%
HAEMATOLOGICAL	19	9.45%
HEPATIC	9	4.47%
RENAL	11	5.47%
UTERINE	45	22.38%

## DISCUSSION

In the present study, we identified women with near miss using the WHO criteria. WHO criteria, 2009 are unique in considering not only clinical but also laboratory and management-based criteria<sup>3</sup>. Most of the cases of maternal near miss in this study were in the age group of 20- 35 years (80%) which is similar to the other studies conducted in Ethiopia by Gedefaw et.al.<sup>4</sup>. The majority of cases 79.6% in GMKMCH were near miss on arrival; This same pattern-73% near miss on arrival was observed in the Bolivian study<sup>5</sup>. In a study by Rakesh H.J.et al

62.96% of patients were multipara<sup>6</sup>. Similarly in our study, 54.7% were multipara (110 cases).

A study conducted in Syria by Almerie Y et.al. showed HDP (52%) to be the most common cause followed by hemorrhage<sup>7</sup>. In contrast, The most common cause of near-miss events in our study was haemorrhage- 79 cases (39.2%), followed by anaemia -69 cases(34.32%) and then by hypertensive disorders of pregnancy- 62 cases (30%). Hysterectomy was done in 19 cases in our study, whereas it was done in 43 cases in the study conducted by Shrestra et. al.

## CONCLUSION

The majority of cases (79.6%) in GMKMCH were near-miss on arrival, which is attributed to failure to recognize the seriousness of the condition and hospital Delay. Hypertensive disorders, Hemorrhage and Anemia complicating pregnancy are the leading causes of near-miss situations. Previous LSCS and Anemia seem to be risk factors for developing maternal morbidity, which could be reduced by proper anaemia correction and vigilant reduction of the primary section rate. The causes of Near-Miss reflect the causes of maternal deaths. Maternal Near Miss analysis helps us in identifying and preventing risk factors and thus helps in reducing maternal mortality.

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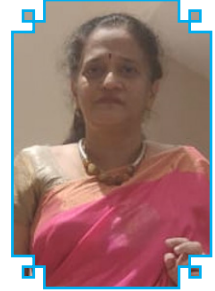
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## RECURRENT RADIAL RAY SYNDROME– A RARE CASE REPORT

**DR REVATHY M C, MEBS, MSIOG),  
ICOG FETAL MEDICINE SPECIALIST (GOLD MEDALIST)  
DR MALATHI G PRASAD,  
MD, FRCOG(UK) DIPLOMA IN FETAL MEDICINE FMF BARCELONA)  
Trichy Fetal Medicine Centre, Trichy.**



### ABSTRACT:

Radial ray defect also known as Duane-radial ray syndrome / Acro-renal-ocular syndrome/ Acrorenocular syndrome/ Okihiro Syndrome/ SALL4-Related Disorders is a rare congenital defect that may be isolated or associated with other anomalies. Some of the well-known combinations are Fanconi's syndrome, Trisomy 18, TAR syndrome, VACTERL association and Holt–Oram syndrome. We report a rare case of recurrent isolated radial ray syndrome with no associated anomalies.

**KEY WORDS: RADIAL RAY, ANOMALY, DUANE-RADIAL RAY SYNDROME.**

### INTRODUCTION:

Limb anomalies are a near commonly occurring group of malformations, deformations and disruptions due to the developmental complexity of the limbs, their extended period of morphogenesis and their position outside the body wall<sup>1</sup>. They can be a part of chromosomal aberrations / single-gene disorders / environmental teratogens<sup>3</sup>.

The prevalence of radial ray defects is 1 in 30,000 to 1 in 100,000 with two-thirds of cases being syndromic<sup>1</sup>.

Radial ray defects are a group of limb malformations characterised by either unilateral or bilateral absence of the radial ray which consists of the radius and thumb<sup>1,3</sup>(Fig.1). The radial ray consists of one solid bone, the radius, and a segmented portion composed of the scaphoid, the trapezium, the first metacarpal, and the two phalanges of the thumb<sup>6,7</sup>. All these bones are absent in the total terminal defect of the ray. In partial terminal

deficiency, the first metacarpal and two phalanges of the thumb and sometimes varying portions of the distal radius may be missing.



**FIGURE - 1 - POSTNATAL IMAGES OF RADIAL RAY DEFORMITY.**

### CASE REPORT:

26 yr. old G2A1, with second-degree consanguineous marriage whose previous pregnancy was terminated at 13 weeks amenorrhea because of hypoplastic nasal bone, hypoplastic left heart, Ductus venous “a” wave reversal, bilateral club hand with single bone in both forearms features suggestive of radial ray deformity. She was referred to our unit at 13 weeks for expert sonographic evaluation and counselling, given the previous history of radial ray deformity. USG examination of fetal extremities revealed a unilateral (right) absence of radius and thumb with right club hand, fetal heart showed hypoplastic left heart, ventricular septal defect, single tiny echogenic focus in the left heart and mitral atresia(fig 2). The morbidities of the above condition were explained to the family and the need for invasive testing by chorionic villus sampling to rule out chromosomal aberration and single gene disorder was explained. The couple opted for invasive testing and termination of pregnancy. An uncomplicated CVS was done and samples were sent for

whole exome sequencing and karyotyping. Post-natal images and fetogram confirmed antenatal USG findings (fig 2).

Karyotyping was normal. On whole exome sequencing pathogenic variant causative of the reported phenotype was identified. The baby was identified as pathogenic for a duplication associated with a 12 Mbp duplication of 18p and detected 3 centromeres of chromosome 18. There is one previous study reporting trisomy 18p due to an unbalanced translocation of 18p onto chromosome 15q showing 2-generation transmission. The results suggest that trisomy 18p can be considered a euchromatic variant. The need for parental whole exome sequencing in this case has been discussed with the couple which would explain the need for prenatal testing in future pregnancies.



## DISCUSSION:

Radial ray anomalies are a spectrum of structural anomalies ranging from partial (Radial Hypoplasia) to a complete (Radial Aplasia) deficiency of radius with or without bones of the thumb<sup>1</sup>. It can be associated with other syndromes like Aase syndrome, amniotic band syndrome, and Cornelia de Lange syndrome. Holt-Oram syndrome, Fanconi anaemia, Tar syndrome, Rothmund Thomson syndrome<sup>12,13</sup>.



The congenital heart defect present in these cases is the most important factor determining morbidity and mortality of patients. More than 85% of affected individuals have cardiac malformations, particularly ASD or VSD. Pulmonary stenosis, arrhythmias, and mitral valve prolapse are the other cardiac associations seen<sup>15</sup>. More complex cardiac lesions, such as Tetralogy of Fallot, endocardial cushion defects, mitral atresia and total anomalous pulmonary venous return, are seen in 18% of the cases.

Antenatal ultrasound shows the radius being absent or hypoplasia with the hand often in medial rotation (club hand). Incidence is around 1 in 1,00,000 live births and is more common in males and Caucasians<sup>7</sup>. Bilateral in 35% - 50% of children. The pathophysiology is vascular insult or injury to developing arms occurring during the fourth to seventh week of embryogenesis. In certain cases, this can be caused by environmental factors including compression, inflammation, nutritional deficiency and chemical and drug exposure.

Radial ray anomalies can be classified into four main subtypes<sup>8,9</sup> as follows,

**Type I:** Radius is slightly (> 2 mm) short and the hand

bends sideways at the wrist (often associated with a hypoplastic thumb); proximal radius is usually unaffected.

**Type II:** The radius bone is very short and the ulna curves sideways and supports the wrist poorly.

**Type III:** Partial absence of radius.

**Type IV:** Complete absence of radius.

Usually, no specific deformity cause is found. The plastic surgeon usually does surgery to correct and achieve the best possible functional use of the hand. Surgery may also be recommended for hypoplastic thumbs<sup>15</sup>.

The challenge of radial ray anomalies is to combine clinical and ultrasound expertise with input from clinical genetics, ultrasound and molecular testing in which case a targeted sonography including 3D views for subtle face, ear and hand anomalies, providing a useful tool to diagnose the underlying condition, crucial for appropriate obstetric management and prognosticating for future pregnancies<sup>10,11</sup> is required.

## LEARNING POINTS

- Radial ray defect is a rare congenital anomaly which may be isolated or associated with other anomalies/syndromes.
- Careful Antenatal USG evaluation and genetic work-up can identify the deformity and its cause to prognosticate current and future pregnancies.
- Newborn should be evaluated with complete blood count, X-ray of the limb, Echocardiography and ultrasound of the abdomen to rule out other associated anomalies.
- Plastic surgeon opinion for surgery to correct and achieve the best possible functional use of the hand.

## ETHICAL APPROVAL ABOUT PUBLICATION:

Ethical approval is not required. The patient's permission was obtained.

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## AUTHORS CONTRIBUTION:

### Data gathering:

Malathi G Prasad, Trichy Fetal Medicine Centre, Trichy.

### Writing manuscript:

Revathy M C, Trichy Fetal Medicine Centre, Trichy.

### Editing and approval of final draft:

Malathi G. Prasad, Revathy M C

### Approval of the final draft:

Malathi G. Prasad, Revathy M C

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# தாயார்

## சில்வர் (பி) லிமிடெட்

மொத்தம் & சில்லரை விற்பனை

விழாக்கால சலுகையாக ஜனவரி 11 முதல்  
ஜனவரி 20 வரை அன்பு பரிசு வழங்கப்படும்.



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## ROLE OF PESSARY IN OBG

### DR PUSHPLATA KUMARI

Associate Professor, Department of Obstetrics & Gynaecology and Urogynaecology  
Christian Medical College, Vellore, Tamil Nadu

### WHAT DO WE KNOW ABOUT PESSARIES?

A vaginal pessary is a soft, removable device placed in the vagina to support areas that are affected by pelvic organ prolapse (POP). With the weakening of the pelvic floor, there is protrusion of pelvic organs like bladder, rectum, vagina, and uterus through the introitus.

The material of most of the pessaries are silicone – a harmless, inert, soft, and non-absorbent material. The different types of pessary available to date depend on the indication of their usage.

Pessaries are used for both diagnostic and therapeutic purposes.

### DIAGNOSTIC USES:

- Dynamic testing –illustrate bladder and urethral function, especially prolapse with SUI.
- Prediction of restoration of bladder function after surgery

### THERAPEUTIC USES:

- Fit by a hinge between the posterior fornix and pubic arch used in stage 1 and 2 POP
- Ring pessary, Shaartz Pessary, Regula Pessary.
- Fit by filling the vaginal vault used in 3rd degree prolapse or Procidentia
- Donut Pessary, Cube Pessary, Gehrung Pessary, Inflatoball Pessary
- Incontinence Pessary fit and support the bladder neck used in SUI
- Ring Pessary with knob, Disc Pessary with Knob

### WHAT NEW HAS COME IN THE LAST DECADE?

Use of pessary in pregnancy for prevention of Spontaneous preterm birth (SPTB).

Early reports on the use of pessaries for the prevention of SPTB originated from the treatment of genital prolapse. In 1959, Cross et al described their experience of the usage of ring pessary in women with either a history of cervical lacerations, cervical incompetence or uterus didelphus. Over the period, in 1970 Hans Arabian introduced a round cone-shaped silicon pessary resembling the vaginal fornix. On application, it surrounds the cervix close to the internal os, the smaller, proximal inner opening within the flattened surface is directed towards the cervix, whereas the wider, distal ring stayed within the vagina. The Arabian pessary was designed with the intention not only to support and compress but also to incline the cervix and possibly rotate it more towards the sacrum.

### EVIDENCES?

In 1982, the design of the Arabian Pessary was first published in a book chapter by Kubli and Arabian with the following short comment: 'Pessaries have the advantage that anaesthesia can be avoided and that insertion or removal is easy, but there are up to now no controlled trials to prove their effectiveness.

In 1990, Quaas et al. reported an observational study of 107 patients, in whom a perforated Arabian pessary was used instead of surgical cerclage as a prophylactic or therapeutic treatment (both elective and emergency intervention). For about 92% of the women, the pregnancy was maintained until 36 weeks of gestation and there were no complications.

### SINGLETON PREGNANCY WITH A HISTORY OF SPTB AND CERVICAL SHORTENING

To date there is no RCT for comparison of efficacy of

the cervical pessary with cerclage or progestogens. A retrospective comparison of three cohorts of women with previous SPTB < 34 weeks and short cervix treated with cerclage (n = 142), vaginal Progesterone (n = 59) or a pessary (n = 42). There were no significant differences in rates of perinatal loss, neonatal morbidity or SPTB, apart from a higher rate of SPTB before 34 weeks gestation in the vaginal progesterone vs pessary groups. (Alfirevic et al 2013)

The only advantage proposed with pessary is that it can be inserted at a later gestational age, when cerclage is no longer performed, or after an unsuccessful cervical cerclage. Subsequently, Acharya et al. demonstrated clinical images in emergencies in patients with a dilated external os in whom the pessary caused closure of the cervix.

## TWIN PREGNANCY

First time the twin pregnancy pessary was used in a pilot case-control study based on TVS findings (short cervical length < 25 mm before 24 weeks), and suggested that the pessary could significantly reduce SPTB in twin pregnancies with a short cervical length (P = 0.02) (Arabian B et al 2003).

Another pilot study suggested a significant reduction of SPTB in monochorionic twin pregnancies with short cervical length (< 25 mm) in which a pessary was inserted following laser treatment for twin-twin transfusion syndrome. (Carreras E et al 2012),

In the Netherlands, women with multiple pregnancies were randomised between pessary versus expectant management. In dichorionic twin pregnancy, prophylactic use of the pessary did not reduce poor perinatal outcomes. However, in a subgroup analysis among women with a cervical length < 25th percentile before 20 weeks (38 mm), the incidence of poor neonatal outcomes was 12% versus 29% for the pessary and the no-pessary group respectively (RR, 0.40; 95% CI, 0.19–

0.83). There was a significantly reduced rate of delivery before 32 weeks (14% vs 29%; RR, 0.49; 95% CI, 0.24–0.97) and of neonatal mortality (child level) before discharge (2% vs 15%; RR, 0.13; 95% CI, 0.03–0.60). (ProTWIN Trial Leim et al 2013)

Patients with a previous large cone biopsy

To date, both prophylactic and emergency cerclage procedures have been found to fail to reduce the rate of SPTB in this group of patients. An observational pilot study in which women with one or more previous surgical conizations and short cervix treated with a pessary, and progesterone showed improvement in the gestational age at delivery and the mean interval from insertion to delivery. (Feltovich et al 2012)

Patient's experience with the Arabin cervical pessary during pregnancy

A single centre questionnaire survey was done on the women treated with Arabian Pessary showed an increase in vaginal discharge was 42.2%, and discomfort at 13.8%. Overall, 77% of women reported an improved quality of life and 94% considered the follow-up during pregnancy adequate. (Viola et al 2022).

In 2021 FIGO good recommendations on the use of pessary for reducing the frequency and improving outcomes for preterm birth

Women with singleton pregnancy and short cervical length - Pessary should not be used in routine clinical care to reduce the frequency of preterm birth or to improve outcomes related to preterm birth.

Women with Twin pregnancy - Regardless of cervical length—pessaries should not be used in routine clinical care to reduce the frequency of preterm birth or to improve outcomes related to preterm birth.



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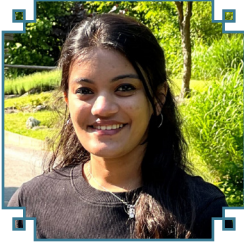
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## AN ODE TO AN OBSTETRICIAN

**DR.K.VIJAYAPRABHA CHEZHIAN** MBBS,DGO.,FICOG  
Executive Member Breast committee FOGSI, Joint secretary TRIOGS

WHEN WE SPECIALISED IN OBSTETRICS  
LITTLE DID WE KNOW THAT WE NEEDED  
TO LEARN NEW TRICKS  
EVERY MOMENT EVERY SINGLE DAY  
TO CLEAR THE WAY  
THROUGH SHADY PATHS FOR THE MOM  
AND BABE  
WE NEVER KNEW THAT WE HAD TO BE  
A PHYSICIAN  
A SURGEON  
A NEONATOLOGIST AND EVEN  
A CRITICAL CARE PERSON  
WHEN THE CONDITIONS WORSEN  
BEFORE THE COUNT OF TEN  
I UNDERSTAND EVERY OBSTETRICIAN IS  
A CARING DAUGHTER A LOVING WIFE  
AND A DOTING MOM  
THE LIST IS ENDLESS  
SHE CAN NEVER AFFORD TO BE LISTLESS  
BEING AN OBSTETRICIAN HAS TAUGHT  
US TO EFFECTIVELY JUGGERNAUT  
AND UNTIE EVERY KNOT  
THAT WE ENCOUNTER  
WITH THE GRACE OF OUR CREATOR



## EXPLORING & INVESTIGATING THE LONG-TERM RAMIFICATIONS OF FERTILITY PRESERVATION IN MEN WITH A HISTORY OF CANCER: A FOLLOW-UP STUDY AT ASINGLE CENTER.

**DR KAAVYA SATHYAMURTHY** ( FNB Trainee 1st year)

**DR KUNDAVI SHANKAR , DR YAMINI, DR NITHYA.M.NAARAM**

**DR GEETHA V; DR RASHMI ; MS HEMA NIVEDHA**

**Institute of Reproductive Medicine and women's health,  
Madras Medical Mission Hospital, Chennai.**

### INTRODUCTION

Cancer treatments introduce a potential threat to spermatogenesis, underscoring the significance of sperm cryopreservation as a strategic choice for male cancer patients navigating the delicate balance between medical intervention and fertility preservation. The integration of semen freezing into routine fertility preservation practices has witnessed a notable upswing in patients undergoing fertility preservation (FP) cycles in recent years. In the intricate landscape of cancer treatments, where specific cells responsible for sperm growth are affected, there is a risk of temporary or even permanent infertility. Preserving male fertility becomes a top priority, and freezing sperm emerges as the most effective solution. In this context, sperm banking emerges as the pinnacle of efficacy for preserving reproductive capabilities post-treatment.

Despite its growing popularity, there is a surprising underutilization of frozen sperm, and we lack comprehensive data explaining why so few patients return to use their stored material.

Recognizing the limited availability of extensive clinical data on large groups of cancer patients, we conducted a thorough retrospective analysis of our sperm-freezing outcomes over the past eight years. We aim to provide insights into the effectiveness of this critical aspect of fertility preservation in the challenging context of cancer care.

### AIM

Our principal objectives centred on evaluating patient follow-up/return rates and delving into the factors that influenced those who did not return. Beyond this, we scrutinized various elements, including their current health status, specifics of cancer treatment and potential relapses, ongoing family plans, sentimental status, and instances of spontaneous conception.

Our broader aim was to elucidate the destiny of cryopreserved material and fertility outcomes in the context of cancer patients. Moreover, we aimed to unravel the complexities associated with the reduced return rates observed among male cancer patients who had undergone cryopreservation, providing a comprehensive understanding of the multifaceted aspects surrounding this critical aspect of fertility preservation.

### MATERIALS AND METHOD

**Study Design:** This study adopts a retrospective approach, focusing on a single centre's follow-up analysis.

**Population:** The study targets men who opted for sperm cryopreservation due to oncological reasons.

**Period:** Data collection spans from January 2015 to November 2023, taking place at the Madras Medical Mission Hospital Chennai, specifically at the ART centre.

**Data Retrieval:** Patient information was extracted from the Medical Record Department.

**Assessment:** A standardized phone survey was conducted to evaluate various aspects, including the participants' health condition, marital status, family plans, occurrences of spontaneous conceptions, and the reasons behind their decision not to return for the utilization of their preserved gametes.

The survey aimed to understand the well-being of cancer patients by exploring mental health, fatherhood desires, and the use of cryopreserved sperm. It delved into cancer specifics—current stage, relapse, and treatments. Fertility-related factors were scrutinized, including past interventions and reasons for not returning for fertility preservation. The goal was a holistic snapshot of patients' health, emotional state, and family plans.

## QUESTIONNAIRE

Name		
Age		
Cancer type		
Treatment (Chemo/Radio/Both)		
Relapse		
	YES	NO
ABSENCE OF PARTNER		
DESIRE TO CONCEIVE SPONTANEOUSLY		
NO CURRENT DESIRE FOR CHILD BEARING		
PREGNANCY WITH SPONTANEOUS CONCEPTION		
CURRENTLY ON CANCER TREATMENT		
RECURRENCE OF CANCER		
FEAR ABOUT OWN ONCOLOGIC HISTORY		
DISCOURAGED BY ONCOLOGIST		
OLDER AGE		
WANTS DONOR SPERMS		

## RESULTS

**Patient Demographics:** A comprehensive follow-up involved 109 patients, ranging in age from 15 to 50 years at the time of cryopreservation. Out of 109, 77 patients could be contacted and traced, 4 were deceased and 28 patients were lost to follow-up due to various reasons. Notably, the majority (85.3%) were under 35 years old, with 14.6% aged over 35. The majority of individuals opting for sperm cryopreservation fell within the 26-30

age range, closely followed by those in the 31-35 age group

Haematologic malignancies were the most prevalent, followed by Non-Hodgkins lymphoma and germ cell tumours. Cryopreservation Decisions: Out of these patients, 62 chose to retain their cryopreserved sperm, while 19 opted for its discard. Interestingly, none transferred samples to other clinics, and 28 were lost to follow-up and 4 patients unfortunately passed away during treatment without utilizing the cryopreserved sample.

**Reasons for Discarding:** Reasons for discarding included spontaneous pregnancy and achieving a normal sperm count post-treatment. The primary reasons for discarding cryopreserved samples varied: 8 patients experienced spontaneous pregnancies, 5 individuals with prior children before chemotherapy opted for disposal, 2 with normal sperm count chose to discard, and the remaining 4, unfortunately, were deceased, leading to their decision to discontinue cryopreservation. Spontaneous pregnancies post-anticancer therapy were observed in 14 cases, and 5 patients already had children before chemotherapy.

**Utilization Patterns:** The study revealed intriguing findings regarding spontaneous pregnancies after anticancer therapy. Among the 109 patients, 14 experienced spontaneous pregnancies, with 5 already having children before chemotherapy. Notably, 6 patients with children chose to preserve sperm, while the 5 patients with pre-treatment children opted against it.

Within the cohort of 58 unmarried patients, 22 refrained from undergoing a subsequent semen analysis after anticancer treatment. Notably, 4 patients encountered azoospermia post-treatment, underscoring the nuanced effects. Encouragingly, 32 individuals exhibited sustained normal semen parameters following the rigours of chemo-radiotherapy.

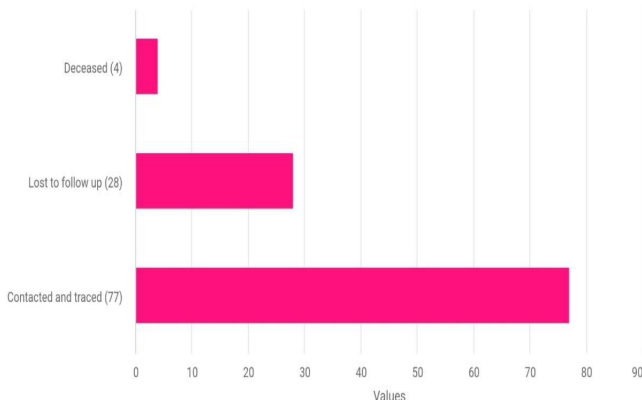
Upon analyzing personal reasons for low return rates, predominant factors included a desire for spontaneous

conception (38 individuals), absence of a partner (38), and 28 patients lost to follow-up. Additionally, 14 patients experienced spontaneous conception, 13 did not undergo post-treatment semen analysis, and varied reasons accounted for the remainder: 4 were deceased, 3 with cancer recurrence, 8 undergoing cancer treatment, and 5 with no desire for childbearing.

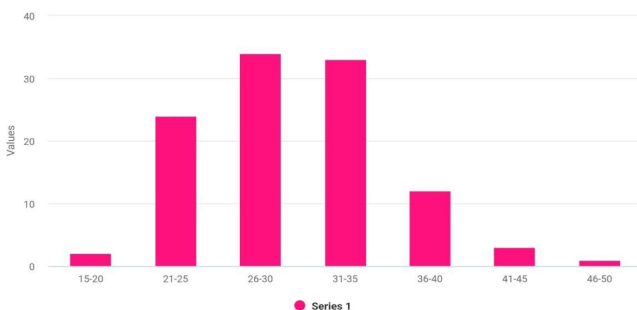
Despite a standard 5-year maintenance cryopreservation period, extended for those unable to follow up, surprisingly none of the 109 patients pursued assisted reproduction with the cryopreserved sample. The primary reason for non-return in our centre was a preference for spontaneous fatherhood post-antitumoral therapy, particularly among those with normal sperm parameters.

Remarkably, 56.9% of patients continued cryopreservation, finding reassurance and hope in the process. Furthermore, 29.1% maintained fertility post-cancer treatment. It is noteworthy that none of the 109 patients granted post-mortem use authorization for their specimens. These insights shed light on diverse perspectives and choices regarding fertility preservation in the context of anticancer therapy.

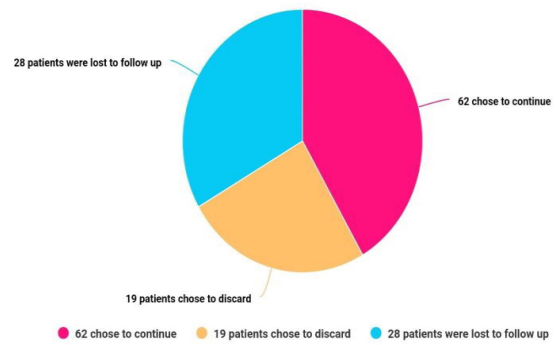
Follow up Status of 109 Patients



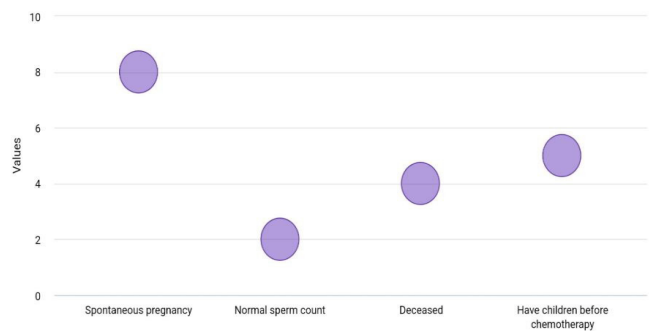
AGE AT CRYOPRESERVATION



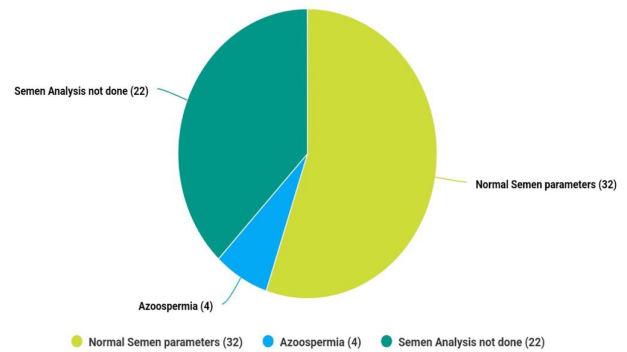
DECISION TO CONTINUE CRYOPRESERVATION



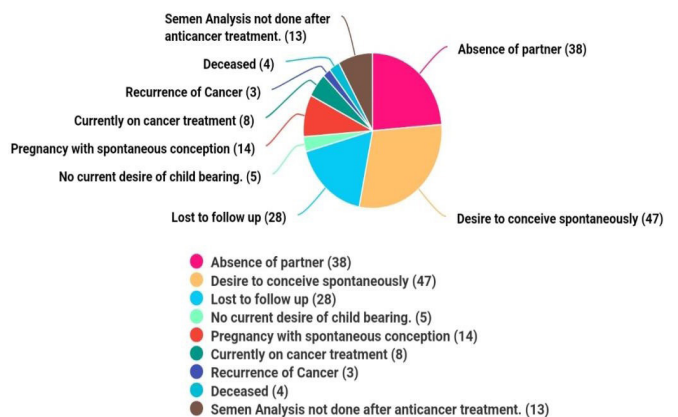
Reason for discarding cryopreserved sample



Semen analysis of 58 unmarried patients after Anticancer therapy completion



PERSONAL REASONS FOR LOW RETURN RATES



## CONCLUSION

This 8-of cancer diagnoses on young individuals' life plans. Despite progress in anticancer treatments enabling family planning, the lack of comprehensive follow-up data after fertility preservation counselling requires further investigation. The study focuses on oncological patients who opted for sperm cryopreservation, aiming to assess follow-up rates and understand reasons for non-return. Its strength lies in a detailed analysis of 8 years of fertility preservation in cancer patients, shedding light on challenges and considerations.

This study challenges concerns about lower return rates in fertility preservation by underscoring the importance of direct patient engagement. The findings emphasize that even a modest number of preserved sperm can offer reassurance, aiding patients in effectively managing the psychological distress associated with their illness.

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## CONSULTANTS

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(Cardiology), FACC., FACP., FRCP (Glasgow),  
FRCP(London),

Dr. **S. PRASANNA KUMAR**, MS  
(Surgery),

Dr. **SURESH CHELLIAH**, MD., DCH.,

Dr. **L. MUTHUMANI**, MBBS.,  
Diploma in Anesthesia., MD(General Medicine),  
MRCP (UK),

Dr. **T. RAMANIDEVI**, MD., DGO.,  
FICS., FICOG.,

Dr. **C. ARCHANA DEVI**, MD (OG),  
MRCOG (UK),

Dr. **S. DIVYA**, MD(OG),

Dr. **V.L. BALAJI**, MS., M.ch.,

Dr. **R. SRI MALAR**, MBBS., DNB  
(Radiology),

Dr. **T. SENTHIL KUMAR**, MS., M.ch  
Cardio-Thoracic),

Dr. **S. ANAND KUMAR**, MD  
(Psychiatry), MRCPsych (UK),

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FNB (Critical care), IFCCM., EDIC., MRCP.,

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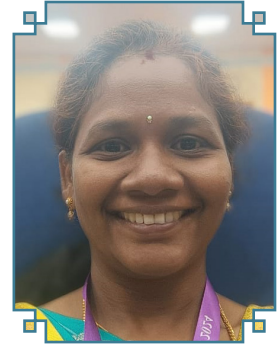
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## HARLEQUIN ICHTHYOSIS (COLLODION BABY) – PRENATAL DIAGNOSIS

**PRESENTER: DR. K. SHOBAPRIYA** 2nd MS OG PG  
**GUIDE: DR PUNITHAVATHI** MS OG  
ASSOCIATE PROFESSOR  
DEPARTMENT OF OBG ,DSMCH, PERAMBALUR



### ABSTRACT

Harlequin ichthyosis is a rare autosomal recessive disorder occurring in 1: 3,000,000 births characterized by thick keratin skin with a scaly appearance. Early and consanguinity of marriage are some risk factors. Antenatal checkup of DNA for ABCA12 mutation helps in diagnosis Where not visible in ultrasonography.

### INTRODUCTION

Harlequin ichthyosis (HI) is the most dangerous form of autosomal recessive congenital ichthyosis characterized by the thickening of the keratin part of the baby's skin and a gross thick scaly appearance, which is a triangular or diamond pattern. The name takes its origin from its characteristic facial appearance as the face is pulled wide open in the manner of a clown's smile. Marked ectropion and eclabium with absent or poorly developed ears and nose, and mobility limitation of joints are some of the clinical features of HI. As the skin barrier is severely compromised, there is excessive water loss and electrolyte abnormalities followed by temperature dysregulation and increased risk of infections. Because of this reason, HI is usually fatal albeit aggressive management.

### AIM:

To emphasise the need for prenatal diagnosis

### CASE REPORT

A 28yrs Old G2P1L1 mother with 38 weeks of GA, 2nd degree consanguineous marriage, first visit to our hospital was admitted with C/O lower abdominal pain and leaking pv.

Her anomaly scan was normal and No remarkable complications were seen in the last USG at the 28 weeks of pregnancy.

She delivered a boy baby with Harlequin ichthyosis and features noted by the presence of thick skin with deep fissures, general hyperkeratinization, cyanosis, flat fontanels, ectropion, immature eyes and auricles and moaning in the physical examination and his APGAR 6/10 and 8/10

Immediately he was referred to the NICU

However, the father of the child was unwilling to the treatment despite several attempts of counselling and had to be discharged against medical advice.



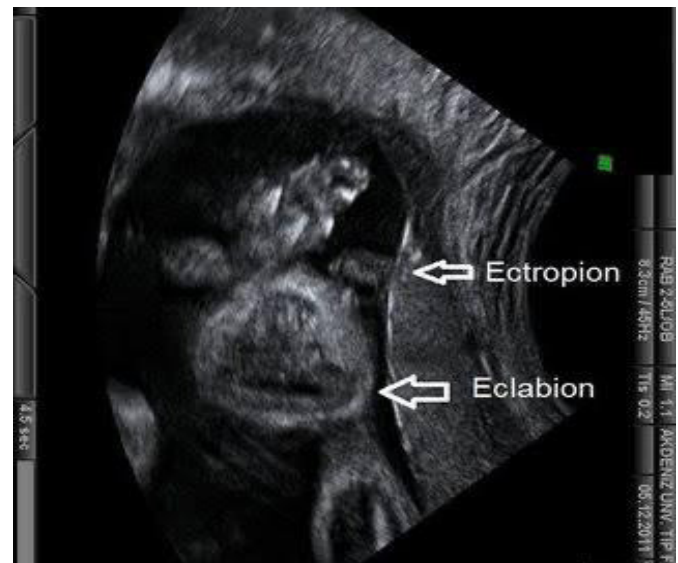
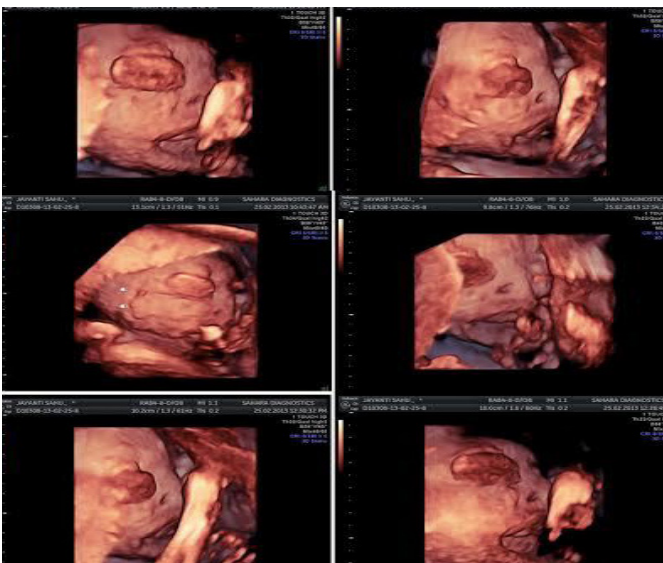
## THE PATIENT'S PARENTS' PERSPECTIVE

The patient's parents belonged to a lower-middle-income family and did not have enough money for management. In addition, they mentioned the social stigmata being an important role in not treating the baby. According to their statement, they were not informed about such a condition on their previous USG reports nor performed any anomaly scan of the fetus. However, we counselled them about the genetic condition and the need for caution in future pregnancies with the proper test to detect HI.

## DISCUSSION

The overall incidence of HI is 1 in 300,000 births. HI is a congenital epidermal disorder that shows abnormal and diffuse hyperkeratosis and loss of the protective skin barrier. In humans, normal cornification of the skin begins between 14 and 16 weeks of gestation. The ABCA12 gene is essential for providing instructions on how to make a protein that is required for normal skin cell development. This protein plays an important role

subsequently results in extreme thickening of the keratin layer of the skin and the formation of hard scales. Most affected neonates die within hours or days after birth due to sepsis, electrolyte imbalance, or mechanical restriction of breathing secondary to restricted chest expansion and prematurity. Thickened, cracked skin leads to impaired temperature regulation and increased risk of infection. The most common sonographic features observed in HI are a large open mouth, a flat nose, ectropion, short feet, and abnormal limb position. Intrauterine growth restriction, polyhydramnios/oligohydramnios, increased echogenicity of amniotic fluid, and floating membranes may also be associated with HI. Because eclabium and ectropion manifest in the third trimester, a diagnosis of HI based solely on these findings occurs too late. However, achieving an early sonographic diagnosis of HI is difficult. Short feet may be an early marker for HI, especially in families with a history of siblings affected by HI. A literature review found that the earliest diagnosis by 3D occurred at 22 weeks in cases with a previous history, whereas in unsuspected cases the earliest diagnosis



in the transport of lipids in the epidermis. Mutations in the ABCA12 gene prevent the cell from making the ABCA12 protein. A loss of function in the ABCA12 protein disrupts the normal development of the epidermis. This

was made at 30 weeks. HI is an autosomal recessive condition, and parents who have already had an affected child have a 25% risk of recurrence in each pregnancy. Consequently, the high recurrence rate allows a prenatal diagnosis to be performed for families at risk. HI can be

diagnosed using either amniocentesis or CVS. Both of these procedures are used to obtain a DNA sample from the fetus to look for mutations in the ABCA12 gene. However, ultrasonography can also diagnose HI, and this is particularly important as it allows antenatal diagnosis even in cases with no family history of the disease. Early sonographic diagnosis is difficult, and most cases are diagnosed in the third trimester. Hence, prenatal ultrasonography can establish the diagnosis of HI in the early third trimester. DNA analysis for ABCA12 mutations can be offered to suspected cases and to families who have previously been affected. 3D SCAN imaging is essential for understanding than the 2D images and enabling the diagnosis of HI.

## CONCLUSION

HI is a rare skin disorder. It follows autosomal recessive mode of inheritance. Prenatal diagnosis should be offered to women with previously affected babies. DNA analysis for ABCA12 mutation will clinch the diagnosis.

Characteristic features on prenatal USG tend to appear late so the scans should be repeated even when the second-trimester anatomy scan is normal and can help in a situation when a DNA diagnosis is unavailable.

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## CAESAREAN SCAR ECTOPIC PREGNANCY: RECOGNITION, RISKS AND REMEDIES

**DR. J. FARHANA, MBBS, DGO, DNB OG**

Resident, Meenakshi Mission Hospital and Research Centre, Madurai.

### ABSTRACT:

Caesarean scar ectopic pregnancy is the rarest form of ectopic pregnancy. The embryo implants in an abnormal location within the myometrium and fibrous tissues in a previous scar on the uterus, following previous caesarean section, hysterotomy, dilatation and curettage, myomectomy, metroplasty, etc. If not diagnosed and managed on time, it can cause significant maternal morbidity and mortality. The ectopic pregnancy will progressively infiltrate the myometrium and lead to the placenta accreta spectrum, eventually, it will lead to rupture of the uterus and massive haemorrhage.

### INTRODUCTION:

Caesarean scar ectopic pregnancy, a rare form of ectopic pregnancy carries the potential for serious maternal morbidity and mortality including complications like uterine rupture, life-threatening haemorrhage and the need for hysterectomy. All sonographers who scan the patient in the first trimester should be aware of this condition and not miss the diagnosis to prevent potentially fatal consequences for the pregnant mother.

### CASE REPORTS:

We present three cases of CSPs managed at MMHRC.

The first case is a 38-year-old, P1L0A1, who had undergone a caesarean section 13 years ago and was diagnosed as a caesarean scar ectopic pregnancy in Singapore and came to us for failed medical management. She had a female child who died at 9 years of age due to swine flu. The current pregnancy, after being diagnosed as scar ectopic pregnancy was managed here. She was given an intrasac

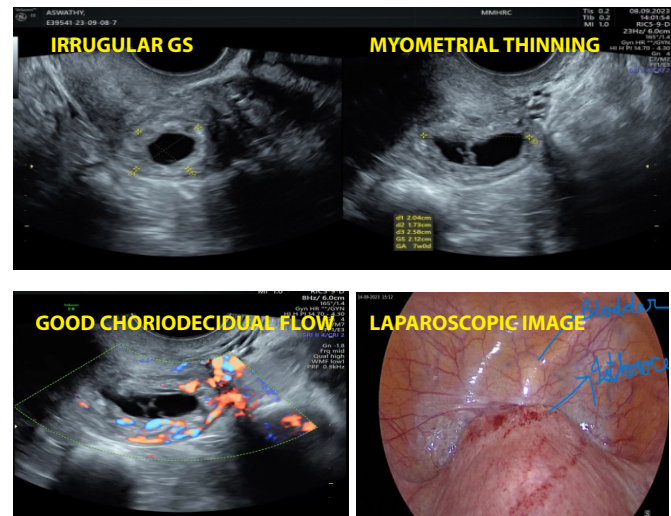
KCI injection transabdominal in April 2023 in Singapore. Follow-up beta HCG showed a falling trend ( from 1627 IU/L on 15/5/2023 to 80 IU/L on 12/6/2023). However, a follow-up scan showed a gestational sac in the caesarean scar.

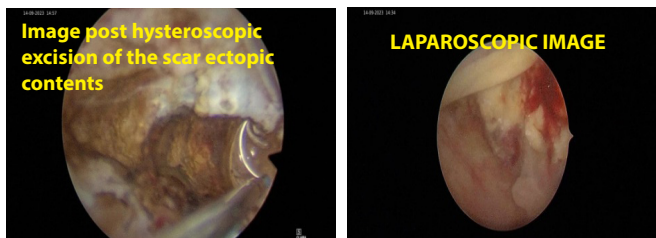
Ultrasound done in our hospital showed an irregular gestational sac within the prior scar site measuring 2 X 1.7 X 2 cm with a heterogeneous choriodecidual reaction. On colour Doppler, a good choriodecidual reaction was noted around the sac. The myometrial thickness at that level was 1.1 mm. MRI done outside had similar findings. Hence a diagnosis of chronic caesarean scar ectopic pregnancy was made and she was planned for diagnostic hysterolaparoscopy scar ectopic excision and wound reconstruction.

### LAPAROSCOPIC IMAGE

### HYSTEROSCOPIC IMAGE

### IMAGE POST HYSTEROSCOPIC EXCISION OF THE SCAR ECTOPIC CONTENTS





Diagnostic laparoscopic findings showed a 5X4cm measuring mass with gestational sac seen bulging at the lower uterine segment at the previous scar site.

Diagnostic hysteroscopy showed a niche of size 5X4 cm with scar ectopic pregnancy just above the internal os. Using a resectoscope, the products were resected. As the tissue was a large hard organized mass, difficulty in removing the bulk of the tissue transabdominal through the laparoscopy port was anticipated and hence removed vaginally. The bulk of the ectopic pregnancy tissues were resected. Then proceeded with laparoscopic excision of the isthmocele. Laparoscopically, the scar niche was excised and the remaining products were removed. The edges of the scar site were freshened. Reconstruction of the scar site was done using V-lock sutures in two layers. Proper closure of the defect is essential to correct the pre-existing uterine scar defect and increase the residual myometrial thickness. Interceed was placed over the anterior surface of the uterus to prevent adhesions. Closure done.

We present another case. 28 years old, P2L2A1 with a history of previous 2 LSCS had a recent history of spontaneous abortion at 16 weeks. She had undergone dilatation and curettage twice for retained products of conception at an outside hospital. Later, she was referred to us with excess bleeding PV, fever and abdominal pain for 2 weeks. Ultrasound revealed evidence of heterogenous content at the prior scar site measuring about 5X5X5 cm with serosal bulge with minimal peripheral vascularity. Myometrium was grossly thinned out measuring 1.2mm. Both internal and external os of the cervix were open with protrusion of the products. These features were suggestive of scar pregnancy with retained products of conception. Since she had completed her

family and owing to the deteriorating general condition of the patient, she was taken up for total abdominal hysterectomy and bilateral salpingectomy. Intra-operative findings showed an ectopic mass of size 5X5X5 cm in the lower uterine segment, which was adherent to the bladder, rectus sheath and omentum. She had a stormy postoperative period suggestive of sepsis and postoperative paralytic ileus and was treated with higher antibiotics, fluid and electrolyte management and thromboprophylaxis. She was later discharged in good general condition.

We present another case. 27 year old, P1L1A1 with a history of previous 1 LSCS 2 years ago and a history of induced abortion at 9 weeks 1 month ago, had undergone dilatation and curettage for the same. She was referred to us with excess bleeding PV. Ultrasound revealed a focal bulging and heterogeneous area in the lower uterine segment measuring 4X3X2 cm with significant perifocal vascularity. Myometrium at this level was grossly thinned out measuring 1mm. The fat plane between the bladder and this lesion was lost. MRI scan suggested retained products of conception at the previous scar site with uterine arteriovenous malformation. Significant intra-operative bleeding was anticipated and she underwent uterine artery embolization pre-operatively. Repeat ultrasound revealed a marginal reduction in the size and vascularity of the lesion. She was taken up for laparotomy and scar ectopic excision. The uterus was closed in 2 layers and an omental patch was kept over the suture line. An intrauterine silicone catheter was placed to prevent adhesions. This patient had an uneventful postoperative period and was discharged in good condition.

## DISCUSSION:

A pregnancy implanted within the uterine myometrium at the site of a healed caesarean scar is called caesarean scar ectopic pregnancy. Though rare, its incidence is increasing in pregnancies with previous caesarean sections, reaching 1 in 500 pregnancies.

An isthmocele is a precursor to caesarean scar ectopic

pregnancy. An isthmocele or uterine niche is any indentation representing myometrial discontinuity at the site of a previous uterine scar. The ectopic pregnancy implants within this defect.

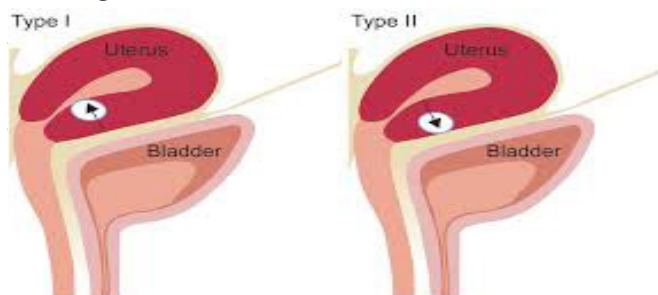
### ISTHMOCELE



Though CSP can occur in any uterine scar, factors that cause impaired healing and weak scar can increasingly predispose to caesarean scar ectopic pregnancy. Factors that cause impaired wound healing are multiple caesarean sections, which provide a large scar surface, poor vascularity and fibrosis. Poor anatomical apposition of uterine cut margins can occur when a caesarean is performed in the overstretched lower uterine segment as in big baby, polyhydramnios, poorly formed lower uterine segment as in breech, preterm deliveries which provide a poorly healed scar. The presence of infection, poor general condition of the patient, imperfect hemostasis, and wound hematoma hampers healing which provides a weak and deficient scar.

There are two types of caesarean scar ectopic.

Type1 CSP/ endogenic type which develops in the myometrium and grows towards the uterine cavity. There is a high risk of morbidly adherent placenta and massive bleeding if left unattended.



Caesarean scar ectopic pregnancy and morbidly adherent placenta are in a continuous spectrum of implantation abnormalities.

Ultrasound is the primary diagnostic modality, using a transvaginal approach supplemented with transabdominal imaging may help. Defined criteria for diagnosing caesarean scar ectopic have been described. The diagnostic criteria include an empty uterine cavity, gestational sac or solid mass of trophoblast embedded at the level of the previous scar site, a thin or absent layer of myometrium between the gestational sac and the bladder, evidence of prominent trophoblastic circulation on Doppler and empty endocervical canal. MRI can be used to confirm the diagnosis. Serum beta-HCG may be useful for monitoring only if conservative treatment is contemplated.

### A NEW CLINICAL CLASSIFICATION SYSTEM FOR CAESAREAN SCAR PREGNANCIES HAS BEEN SUGGESTED:

TYPE	SAC SIZE	RESIDUAL MYOMETRIAL THICKNESS
I	GS within CS scar	More than 3mm
IIA	GS or mass 30mm or less	Between 1-3 mm
IIB	GS or mass greater than 30mm	Between 1-3mm
IIIA	GS or mass less than 50mm	1mm or less
IIIB	GS or mass greater than 50mm	1mm or less

Management depends on the case, the presentation, hemodynamic stability and the desire to preserve future fertility. Medical management with intrasac KCl and methotrexate injections has been tried. Systemic methotrexate, single dose or multidose regimens have been tried. Follow-up is done with serial beta HCG values. The risk of incomplete clearance of trophoblastic tissue persists with medical management, as the vascularity in

the scar tissue is not good and the drug may not reach its full potential. Also, medical management carries the risk of non-resolution of the scar niche and the risk of recurrence of this disorder.

Surgical management remains the main modality of treatment, more so when future fertility is desired. Type 1 CSP can be excised hysteroscopically, if diagnosed early, and provide complete tissue clearance. Type 2 CSPs require a combination of hysteroscopic and laparoscopic treatments, to provide complete trophoblastic clearance as well as reconstruct the scar site effectively to prevent future recurrence.

Uterine curettage is not encouraged as the first-line modality of treatment as it may ensure bleeding and result in uterine rupture. It may fail to evacuate the contents completely or may altogether fail in reaching the products of conception as they lie deeply embedded in the myometrium. However, it can be combined with hysteroscopy under direct visualization and ensure complete resection.

Laparoscopic repair of a uterine defect is safer and more effective in patients with a residual myometrial thickness of less than 3mm as it provides complete clearance of trophoblastic tissues, can reconstruct the scar site effectively and preserve future fertility. Also, there is minimal risk of morbidly adherent placenta and recurrent CSPs in future pregnancies.

Many adjuvant methods have been tried before the procedure to reduce the vascularity. Uterine artery embolization can be done before the procedure to reduce the vascularity, however, the risk of inadvertent ovarian embolization should be kept in mind and the patient counselled when future fertility is desired. Uterine artery ligation, vasopressin injection and newer modalities like HIFU have been tried.

Hysterectomy is reserved for intractable bleeding and advanced CSPs where a large part of the myometrium has been invaded and it is not possible to reconstruct the uterus effectively.

Reproductive outcomes following caesarean scar ectopic pregnancies are good, with most women being able to achieve subsequent pregnancies successfully. The risk of complications including recurrent scar implantation appears to be low. If subsequent pregnancies get implanted into the uterine cavity normally, the risk of complications also is low.

## CONCLUSION:

The incidence of scar ectopic pregnancy is rising. It is a life-threatening condition. Early and accurate diagnosis is crucial. Management needs to be individualized. If subsequent pregnancy is desired, scar repair is essential. Early USG in subsequent pregnancy is essential to rule out CSPs.

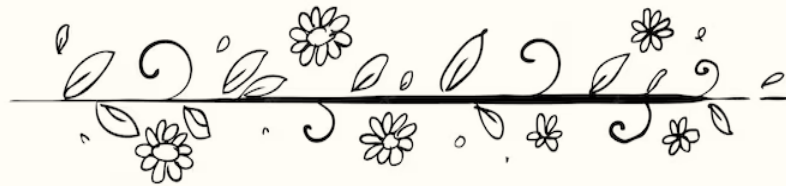
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## REVIVING SINGLE PLACENTATION "HAPPY EQUITABLE VS SAPPY DISCORDANCE"

**DR TANUJAA .M 2 nd year OBG PG  
GUIDE – Dr. PUNITHAVATHI .M  
Associate professor OBG, DSMCH, Perambalur**



### ABSTRACT

### INTRODUCTION:

Since monochorionic twins share single placentation when one twin afflicted, both twins are at risk. Due to unequal placental sharing with suboptimal growth of one twins, SIUGR (selective intrauterine growth Restriction) Results, it complicates 10-15 percent of monochorionic twin pregnancy. Twins with birth weight of more than 20%, calculated from the weight of the larger twin is considered for discordance.

Two more limitations have been added in the definition of discordant twins:

- 1) Absence of chromosome anomalies or major congenital anomalies in either one or both fetuses in the pair .
- 2) Twin to twin transfusion syndrome is also been excluded.

### CASE SUMMARY:

A 21 year old primi, spontaneously conceived MCDA twins, post cervical encercilage with chronic hypertension on Tablet Labetalol 100 mg BD, anaemia corrected, first examined at 20 weeks and 5 days of gestation, as estimated by last menstrual peroids. discordance growth

has been encountered with type I SIUGR at 22 weeks, monitored progressively and steroids covered, had absent end diastolic flow at 34weeks + 5 days in small twin taken up for emergency LSCS, and two viable babies delivered.

Small twin was 1.620kgs with APGAR 1min-5\10,5min-6/10,10min-8/10.big twin was 2.002kgs with APGAR 1min-8/10 and 5 min -9/10.the weight discordance between twins at birth where 23.5%.

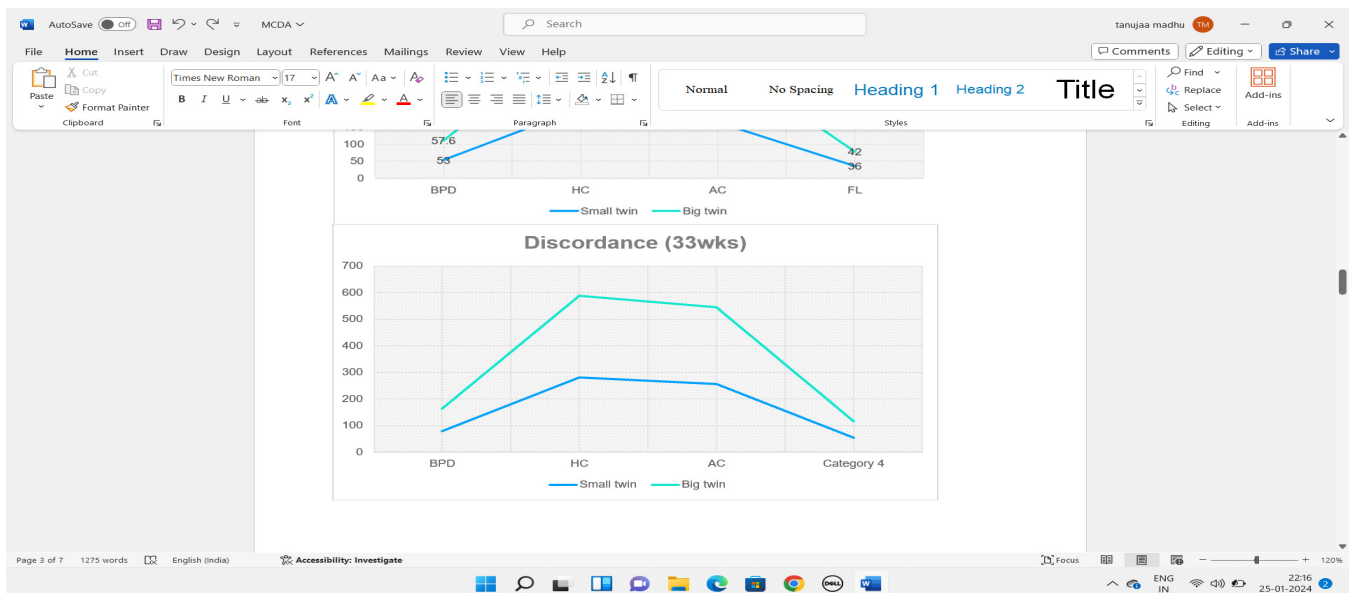
The small twin developed respiratory distress, the baby connected to CPAP, after 3 days, settling trends of respiratory distress, weaned off from CPAP, connected to O2 via nasal prongs, progressively oxygen tapered and stopped. OG feeds started on day 3 of life and gradually increased and converted to palladia feed on day 7 of life. Sepsis screening done on day 1 and 3 of life found to be negative, IV fluids and IV antibiotics continued for 7 days and stopped. Echo had ASD OS type 4 mm with tiny PDA and L to R shunt. ROP screening showed stage 1 progression at zone 2, the baby after 11 days of neonatal intensive care unit handed over to mother side.

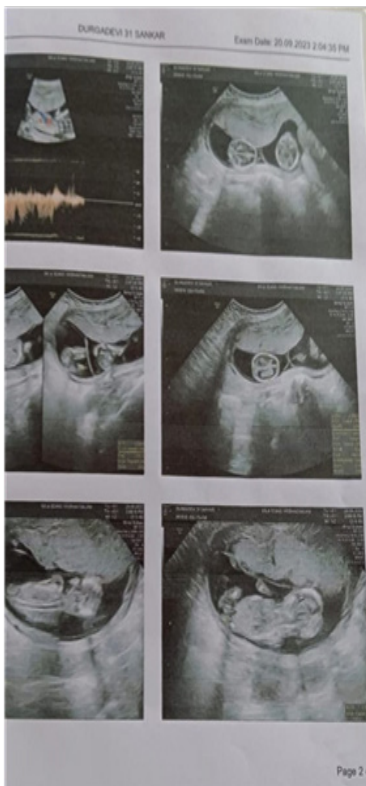
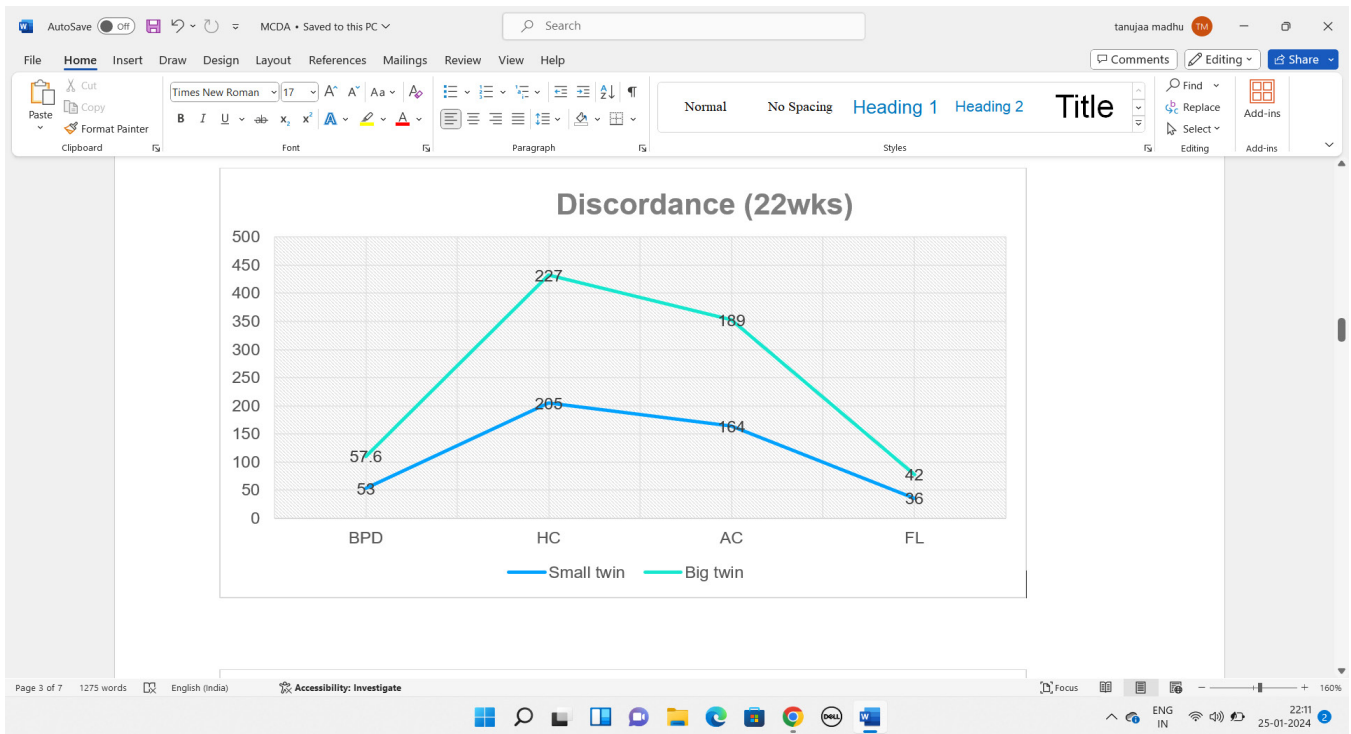
The big twin was connected to O2 via nasal prongs, started on IV fluids, tapered slowly stopped on day 2 of life, baby handed over to mother side, started on Single surface phototherapy on day 4, due to clinical icterus and stopped very next day, the regular laboratory screening was within normal limits.on physical examination no structural anomalies found. On Echo had ASD 3 mm with L to R shunts. Baby discharged at day 6 of life.

The placenta was examined for gross and microscopic evaluation, was found to be monochorionic diamniotic type, it was single oval weight 650 gms, there is unequal sharing of placenta, it seems to have 75% occupied by big twin and 25% seems belong to small twin.

33wks	Small twin	Big twin	Difference
Biparietal Diameter	78.2mm	84.6mm	6.4mm
Head circumference	281mm	308mm	27mm
Abdominal circumference	257mm	288mm	31mm
Femoral length	54mm	62mm	8mm
Estimated fetal weight	1.612+/-0.254kg	1.993+/- 0.254kg	19.4 %
GA by USG	31w	33w5d	2w5d

22w	Small twin	Big twin	Difference
Biparietal Diameter	53mm	57.6mm	4.6mm
Head circumference	205mm	227mm	22mm
Abdominal circumference	164mm	189mm	25mm
Femoral length	36mm	42mm	6mm
Estimated fetal weight	0.432+/-0.065kg	0.520+/- 0.065kg	16.9 %
GA by USG	21w	23w	2w





**PREVALENCE:**

1,2,3-ultrasound serial intervention 4-The happy discordant baby after reviving from the neonatal care unit handed over to mother

Discordant fetal growth (more than 20%) have seem to complicate 15% to 29% of twin gestations<sup>1</sup>. In a large collaborative study<sup>18</sup>, birth weights differed between

500 and 999gms in 18% of the twin sets and were in excess of 1000gms in 3% seem to prevail.

### **PATHOGENESIS:**

The etiology of discordance in monochorionic twins remains elusive<sup>2</sup>. Etiological factors backing up include genetic potential, fetal sex, environmental factors and congenital anomalies<sup>2</sup>. It has been postulated that the smaller twin might have a genetic predisposition for a lower birth weight and becomes compounded by a crowded intrauterine environment and/or uteroplacental insufficiency that results in greater divergence in growth rate<sup>1</sup>.

### **SONOGRAPHIC FINDINGS FOR EASY PICK UP:**

The standard care for twin pregnancy includes serial sonographic evaluations to assess the growth of each fetus<sup>20</sup>. Findings suggestive of growth discrepancy include:

Estimated fetal weights discordant by more than 20%. It can be classified as mild (15-25%) or severe (>25%). Cases of pre-term twin gestations with severe discrepancy are associated with a higher morbidity rate<sup>3</sup>.

Abdominal circumference diverging by 20 mm or more.

Difference in biparietal diameter greater than 6 mm, with the smaller biparietal diameter less than 2 standard deviations below the mean<sup>5</sup>.

Head perimeter diverging by more than 5%.

Umbilical artery S/D ratios discordant by more than 15% and elevated umbilical artery S/D ratio (<sup>3</sup>0.4) in one or both twins.

### **DISCUSSION:**

According to Erkkola et al study<sup>2</sup>, growth discrepancy in twins can be attributed to IUGR, twin-to-twin transfusion syndrome and to anomalies. In this case-report twin-to-twin transfusion syndrome was excluded from the diagnosis because of the normal amniotic fluid in the

small twin. Moreover, the small twin had the greater hematocrit (56%) of the pair at birth. In addition, major anomalies were not found in either of the twins.

In this case report the discordancy between the two fetuses was actually due to IUGR in one of the fetuses. IUGR has a prevalence of 25% in twins, which is 10 times greater than in singletons. Moreover, 17% of all IUGR are twins<sup>6</sup>. Especially for the dizygotic twins, significant differences in growth rates have been attributed to selective intrauterine growth retardation of one twin<sup>2</sup>.

. In study of 382 twin pregnancies<sup>48</sup>, the most frequent findings in the placentas of severely discordant twins were small placental weight and umbilical cord abnormalities. Vascular-thrombotic lesions, particularly infarcts, acute atherosclerosis of spiral arteries, thrombosis of fetal vessels, intraplacental hematomas and perivillous fibrin deposition are common in the placentas of growth restricted fetuses<sup>4</sup>. In our case, however, none of the above lesions were found. The only possibly significant finding was that the umbilical cord of the smallest fetus had a marginal insertion, its diameter was small in the small twin.

The overall risk of fetal death in discordant twins (>25% weight discrepancy) is 6,5-fold greater than in concordant twins<sup>1</sup>. However, when there is discordancy with an appropriate for gestational age twin and a small for gestational age twin there is no increased morbidity or mortality.

According to Rydhstrom<sup>1</sup>, a malformed twin has a tendency to intrauterine growth retardation, leading to an increased discordance even in cases when the malformation does not prove lethal.

This was a case report of a dichorionic twin pregnancy with discordance between the pair approaching 25% that had a favorable outcome. It is important that the counselling of patients with so greatly discordant twin pairs will include not only the definition of the possibility of pregnancy loss, but also the possibility of

malformations, prolonged stay in the Neonatal Intensive Care Unit and the possible neurological damage. It would be also useful to know how many of these babies will eventually have a sufficiently normal life, importance of careful monitoring with frequent doppler and serial ultrasound interventions predicting the Twin's prognosis and catastrophe that can be prevented and minimalizing the burden of babies admission to neonatal intensive care unit.

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## A CASE OF SEPTO OPTIC DYSPLASIA - DIAGNOSIS AND FOLLOW-UP

**PRESENTER : DR.M.SUMITHA 2ND YR OG PG**  
**GUIDE: DR.PUNITHAVATHI MS OG**  
**ASSOCIATE PROFESSOR**  
**DEPARTMENT OF OBG ,DSMCH, PERAMBALUR**



### INTRODUCTION :

Rare congenital anomaly. Incidence of 1 in 10000 live births. Diagnosed by two or more features of 1) optic nerve hypoplasia, 2) pituitary hormone abnormalities, 3) midline brain defects including agenesis of septum pellucidum and/or corpus callosum. Other name - de morsier syndrome.

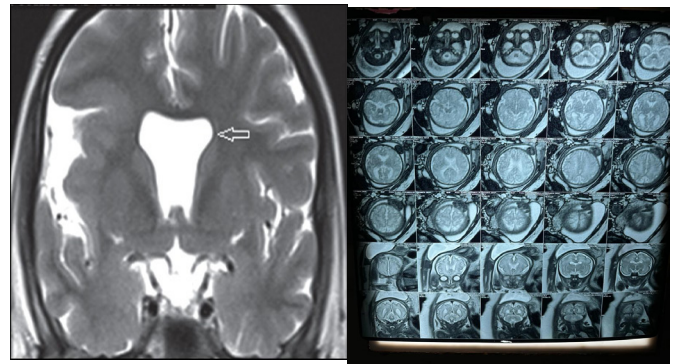
### CASE REPORT:

A 30yrs G3A2, Rh +ve, booked and immunised at Perambalur Gh, Married at 24 years old age, Non-consanguineous marriage with no history of any congenital anomalies in family and No exposure of teratogenic agent in first trimester with GA -31w+2d came to opd for regular AN check-up. Usg on 6/10/23- SLIUG of 20w+6d, No anomaly. Usg on 29/11/23 - SLIUG of 28w+3d with bilateral ventriculomegaly. Usg on 19/12/23- SLIUG of 31w+2d, left lateral ventriculomegaly with non-visualization of CSP and narrow optic nerve. Fetal MRI on 20/12/23 - Absent CSP. She was delivered by LSCS(Doppler changes)on 2/1/24. The baby cried immediately after birth. Given preterm Baby was admitted to NICU for observation.



### NEUROSONOGRAM:

Neurosonogram for baby on 5/1/24- CSP not imaged, optic chiasm could not be imaged, corpus callosum imaged. Both ventricles are 9.3mm.



MRI done on 23/01/24

~Absent Septum pellucidum with mono-ventricle appearance

### DISCUSSION:

SOD was first described by de-Morsier in 1956 after a necropsy of a patient showed septum pellucidum agenesis and ONH. Later on in 1970, Hoyt and his team put forth the possibility of hormonal insufficiency in patients with SOD.

It was noted that mutant mice, in whom the novel homeobox gene Hesx 1 is disrupted manifest with the phenotype resembling SOD. Certain SOX2 mutations are associated with severe bilateral eye abnormality and defects of the corpus callosum.

SOD is not a specific entity but a spectrum of clinical manifestations. The wide range of phenotypic variability as seen in SOD patients can probably be attributed to the interaction between the environmental and genetic factors. Infants with SOD usually present very early in their life with features of jaundice, neonatal hypoglycemia, failure to thrive, seizures, unusually small size of their genital organs and delayed developmental milestones. These patients may also have strabismus, and diminished vision due to optic nerve and refractive errors. There is an increased incidence of mental retardation, abnormal behaviour, and cerebral palsy.

Bilateral ONH may be regarded as the hallmark of SOD, although it may be seen unilaterally as well. Some of the useful predictors of long-term visual outcome are initial acuity of vision, visual evoked potentials and optic disc size. Endocrinal abnormality, especially the dysfunction of the HPA is an important feature of SOD.

It may be due to pituitary gland malformation and/or hormonal insufficiency of the pituitary.<sup>5</sup> The deficiency of the pituitary hormone may manifest as episodes of hypoglycemia, failure to thrive, hypothyroidism or diabetes insipidus. Some studies also show a deficiency of growth hormone.

The radiological diagnosis of SOD is best established by Magnetic Resonance Imaging (MRI) of Brain. It identifies the hypoplasia of the olfactory bulb, optic nerve and optic chiasma and certain malformations in the brain present congenitally.<sup>7</sup> Some of the malformations of the brain are schizencephaly, absent septum pellucidum, and abnormal ventricles.

Patients with SOD need to be followed up at least once in six months to evaluate for hormonal insufficiencies, and ophthalmological and Otolaryngology evaluation. Genetic counselling is important in patients with SOD.

### **CONCLUSION:**

Due to its multi-factorial and heterogenous nature, SOD remains a diagnostic challenge despite the best of genetic studies and neuroimaging modalities. One should have a high index of suspicion when the patient has midline CNS defects, optic or olfactory nerve hypoplasia and signs of HPA dysfunction.

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## A RARE CASE OF NORMAL KARYOTYPE DURING CHORIONIC VILLOUS SAMPLING PRESENTED WITH DOWN'S PHENOTYPE AT BIRTH



**PRESENTER : DR. S.E.SWETHA, 2ND YEAR MS OG PG**

**GUIDE: DR.J.PUNITHAVATHI, MS OG, ASSOCIATE PROFESSOR  
DEPARTMENT OF OBSTETRICS AND GYNECOLOGY, DSMCH, PERAMBALUR.**

### INTRODUCTION :

Down syndrome is the most common chromosomal abnormality characterized by developmental delay, mild to moderate intellectual disability and characteristic physical features. It affects 1 in 700 babies(CDC). Chromosomal patterns in Down's can be Trisomy 21, Mosaic Down's, and Translocation Down's. Down syndrome is due to meiotic non-disjunction of chromosomes during development, however, Translocated Down's can be inherited from parents accounting for about 3-4 % of Down syndrome. Maternal age plays a major risk factor with a previous history of Down baby adding to the risk. Prenatal screening paves the way for diagnosis of Down syndrome.

### AIM :

Significance of detailed prenatal genetic analysis of babies of high-risk mothers.

### CASE REPORT :

A 41-year-old G3P1L1A1 mother with a previous full-term caesarean section delivered an alive girl baby who is at present 9 years old with normal growth and development. The first pregnancy was followed by a spontaneous abortion 2 years back at 60 days of amenorrhoea. In the third pregnancy, the mother was booked and immunized at PHC and presented to DSMCH at 8 weeks of gestational age. The routine ANC investigations were found to be within normal limits. At 12 weeks NT scan was done (NT-1.4mm), along with a double marker and the risk for Trisomy 21 was found to be 1:70. Hence the

patient was subjected to Chorionic Villous Sampling. The fetus was found to have a normal karyotype, and the FISH was normal. Pregnancy was continued, an Anomaly scan along with fetal echo was done and the fetus was found to have echogenic foci in the left ventricle. At 34 weeks, a growth scan showed stage 1 IUGR with oligohydramnios. Under antenatal surveillance, pregnancy was continued till 37 weeks and the mother delivered an Alive Term Girl baby of birth weight 2.614kg, with APGAR at 1min- 8/10 and 5min 9/10, by emergency LSCS, On examination, the baby was found to have Down's phenotype with imperforate anus with decompensated rectovestibular fistula, on ECHO baby had PDA. Baby tolerated feeds well, and was active and alert. A paediatric surgeon's opinion was obtained who suggested conservative management with a prosthesis at present till initiation of oral solids.

### DISCUSSION :

Down syndrome was first described by an English Physician JOHN LANGDON DOWN in 1866, but its association with chromosome 21 was established 100 years later by Dr. Jerome Lejeune. It is the presence of all or a part of the third copy of the Chromosome. The majority of patients with Down syndrome have an extra copy of chromosome 21. There are different hypotheses related to the genetic basis of Down syndrome and the association of different genotypes with the phenotypes. Among them is gene dosage imbalance, in which there is an increased dosage or number of genes of Hsa21, which results in increased gene expansion. It further includes the possibility of association of different genes with different phenotypes of Down syndrome. The

other popular hypothesis is the amplified development instability hypothesis, according to which the genetic imbalance created by several trisomic genes results in a greater impact on the expression and regulation of many genes.

The critical region hypothesis is also well-known in this list. Down syndrome critical regions (DSCR) are a few chromosomal regions that are associated with partial trisomy for Has21. DSCR on 21q21.22 is responsible for many clinical features of Down syndrome. After a thorough study of different analyses, it became clear that a single critical region gene cannot cause all the phenotypical features associated with trisomy 21, rather it is more evident that multiple critical regions or critical genes have a role to play in this phenomenon.

An extra copy of chromosome 21 is associated with Down syndrome, which occurs due to the failure of chromosome 21 to separate during gametogenesis, resulting in an extra chromosome in all the body cells. Robertsonian translocation and isochromosome or ring chromosome are the other 2 possible causes of trisomy 21. Isochromosome is a condition when 2 long arms separate together instead of the long and short arms while in Robertsonian translocation, the long arm of chromosome 21 is attached to another chromosome, mostly chromosome 14. This occurs in 2% to 4% of the patients. In mosaicism, there are 2 different cell lines because of the error of division after fertilization.

#### • **DIFFERENTIAL DIAGNOSIS:**

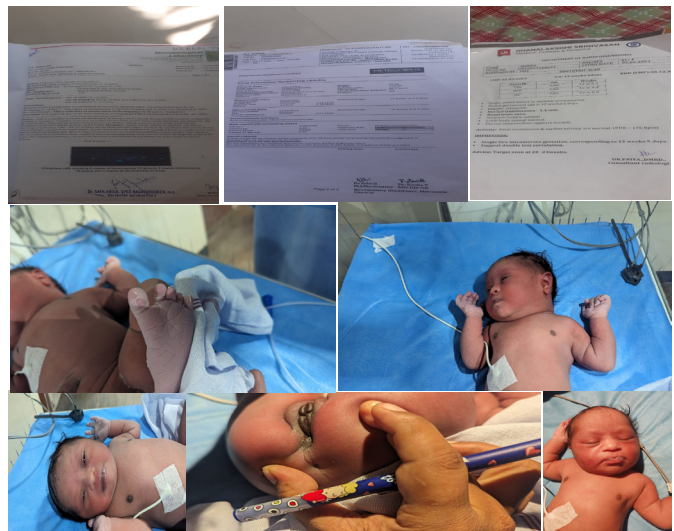
- Congenital hypothyroidism
- Mosaic trisomy 21 syndrome
- Partial trisomy 21 (or 21q duplication)
- Robertsonian trisomy 21
- Trisomy 18
- Zellweger syndrome or other peroxisomal disorders

With the recent advances in the medical practice, development of surgical techniques for the correction of congenital disabilities, and improvement in general care, there has been a tremendous increase in the survival of infants and life expectancy of patients with

Down syndrome. A Birmingham (United Kingdom) study done almost 60 years ago showed that 45% of infants survived the first year of life, and only 40% would be alive at 5 years. A later study conducted about 50 years after that showed that 78% of patients with Down syndrome along with a congenital heart defect survived for 1 year, while the number went up to 96% in patients without the anomalies. This rise in the life expectancy of these patients should continue to rise significantly because of the development in medicine. Healthcare facilities aim to provide proper and timely management of these patients and to help them have a fulfilled and productive life.

#### **CONCLUSION:**

Down syndrome is the most common congenital anomaly. Despite its high detection rate by various antenatal screening programmes, still 4% of Down babies go undetected during prenatal screening. This established the significance of detailed prenatal genetic evaluation of high-risk mothers with chromosomal microarray technique, whole exome sequencing, and targeted genetic assays for the detection of Down syndrome. This elaborative genetic analysis can detect microdeletion, microduplication, submicroscopic chromosomal imbalances and translocations. Though prevention and cure of Down syndrome are difficult, proper prenatal counselling and detailed genetic evaluation of high-risk mothers can help overcome this postnatal catastrophe.





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## A CASE OF CLEFT LIP & PALATE- EMPHASISING THE IMPORTANCE OF ANTENATAL DIAGNOSIS AND COUNSELLING



**PRESENTER: DR NIROSHINI** 2<sup>nd</sup> yr. PG MS OG

**GUIDE: DR PUNITHAVATHI** MS OG,  
ASSOCIATE PROFESSOR DEPARTMENT OF OBG, , DSMCH, PERAMBALUR

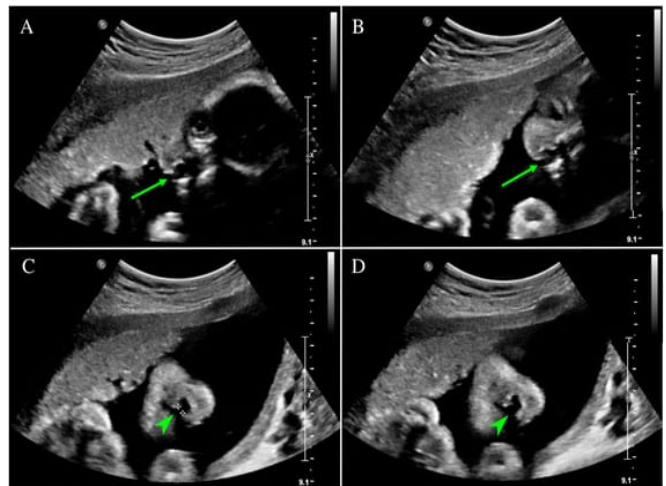
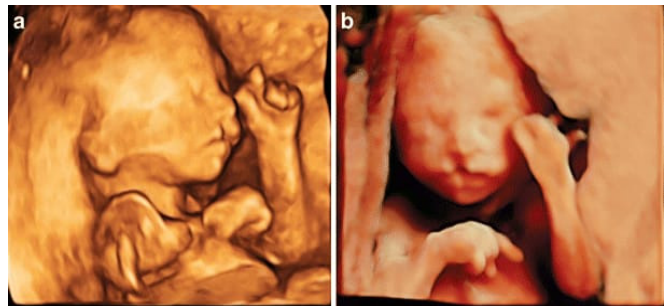
### INTRODUCTION

Cleft lip and palate are the most common congenital anomalies to affect the orofacial region. It can occur isolated or in various combinations with other congenital anomalies, particularly congenital heart diseases. They must be treated at the right time and at the right age to achieve both functional and esthetic well-being of the child. Successful management of the child requires coordinated care provided by several specialities like Oro-facial surgery, Otolaryngology, Speech language pathology, Orthodontics, Prosthodontics, Genetics etc. Hereby we are presenting a case of cleft lip and cleft palate, the diagnosis of which is missed in the first trimester and was picked up at the anomaly scan; however, the pregnancy continued with an effective prenatal counselling of the parents about the postnatal management of the child.

### CASE REPORT

A 25 yr old G2A1 Rh +ve, booked and immunised at GH, married at 23 yrs of age, non-consanguineous marriage with no history of any congenital anomalies in the family and no exposure to any teratogenic agents in the first trimester. The NT scan was normal. Her anomaly scan showed the fetus to have a left paramedian cleft lip and cleft palate. The mother and her family were counselled regarding the postnatal surgical treatment methods and the pregnancy was continued and followed up with interval growth scans. The mother as admitted at 39 weeks 6 days for safe confinement. She was able to perceive the

fetal movements well. NST as reactive. All Investigations were done. USG showed –oligohydramnios [AFI-8cm]



She was induced with PGE2 gel on 16/09/2023. Labour was progressively monitored and she delivered an alive term boy baby at 3:12 AM on 16/09/2023 of weight 3.212 kg. Baby cried immediately after birth. Baby was found to have left complete cleft lip and palate. Intra natal period was uneventful. The baby had a respiratory distress and was on oxygen via nasal prongs at 2L/min. Chest X-ray showed a feature of TTN. Baby was gradually weaned off

oxygen at 72 hrs of life once tachypnea settled down. Baby was started on OG feeds initially and simultaneously paladai feeds were tried and both were tolerated well. Post-natal evaluation with USG cranium, abdomen and pelvis and ECHO done which were found to be normal. Hence the mother and baby were discharged with advice on palatal obturator prosthesis and advised to follow up with corrective surgeries.



## DISCUSSION

**CLEFT LIP:** The failure of fusion of the frontonasal and maxillary processes, resulting in a cleft of varying extent through the lip, alveolus, and nasal floor.

**CLEFT PALATE:** The failure of fusion of the palatal shelves of the maxillary processes, resulting in a cleft of the hard and/or soft palates. Clefts arise during the fourth developmental stage.

Clefts of lip and palate can occur isolated or together in various combination and/or along with other congenital deformities particularly congenital heart diseases. They are also seen as associated features in over 300 recognized syndromes. In the developed world, most scientists believe that clefts occur due to a combination of genetic and environmental factors. Early detection gives us time to do parental education about the potential causes of the CL/P and the procedures that the child might need after birth.

The overall incidence of cleft lip and palate is approximately 1 in 600 to 800 live births (1.42 in 1000) and isolated cleft palate occurs approximately in 1 in 2000 live births. Thus, the typical distribution of cleft types is

1. Cleft lip alone – 15%

2. Cleft lip and palate – 45%

3. 3. Isolated cleft palate – 40%.

The potential problems of the condition include social handicaps such as impaired suckling and resultant failure to thrive, speech impediment, deafness, malocclusion, gross facial deformity and severe psychological problems.

Patient with Oro-facial cleft deformity needs to be treated at the right time and at the right age to achieve both functional and aesthetic well-being. The treatment process is complex requiring interdisciplinary approach. Successful management of the child born with a cleft lip and palate requires coordinated care provided by several different specialties including oral/maxillofacial surgery, otolaryngology, genetics/dysmorphology, speech/language pathology, orthodontics, prosthodontics and other. This successful reconstruction routinely requires multiple phases of surgical intervention. The etiological factors of cleft lip and palate can be grouped as under:

### GENETIC:

**Syndromic:** Here cleft is associated with other malformations. Usually, it is due to a single gene (monogenic or Mendelian) disorder.

### SYNDROMIC FORM OF CLEFT LIP AND PALATE:

Waardenburg syndrome

Di George syndrome

Treacher Collins mandibulofacial dysostosis

CLP-Ectodermal dysplasia syndrome

Zollinger syndrome

Diastrophic dysplasia

### NONSYNDROMIC FORM OF CLEFT LIP AND PALATE:

**Here the cleft is mostly an isolated feature.** This type is seen in most of the individuals having a cleft lip or palate. In this form, neither a cleft is seen with a recognized pattern of malformation nor a known cause

for the disorder is identified. It occurs due to mutation of the following genes: TGF-A, TGF-133, MTHF3, Endothelin 1 gene, RARA, MSX-1

**NON-GENETIC FACTORS:** Besides genetic factor, environmental factors also play a very important role in etiology of CL/P.

Environmental factor includes smoking, alcohol abuse, maternal diseases, stress during pregnancy, chemical exposure, decreased blood supply in nasomaxillary region, increased maternal and paternal age are also said to increase the risk of cleft lip with or without cleft palate while higher parental age has been associated with cleft palate only. Fetal exposure to retinoid drugs can result in severe craniofacial anomalies.

Soft palate repair techniques may be used in isolation or in combined with hard palate procedures, as and when necessary. Most surgeons today perform either some modification of an intravelar veloplasty or a two flap palatoplasty with double opposing z-plasty to achieve levator muscular repositioning. Maxillary distraction is increasingly used for correction of severe maxillary retrusion in patients with cleft lip and palate. Robotic cleft surgery is a new and exciting field that holds numerous advantages to both patients and surgeons.

## CONCLUSION

Early prenatal diagnosis of cleft lip and palate helps in educating the parents to make the delivery of the child to be a positive experience. Allows informed parental choice regarding continuing or terminating the affected pregnancy.

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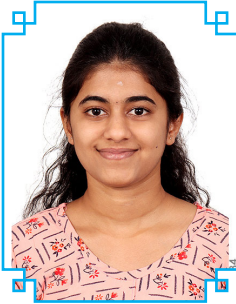
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## NAVIGATING BLADDER EXSTROPHY: A COMPREHENSIVE CASE ANALYSIS

**DR. PRITIKA** SECOND YEAR OG PG,  
**GUIDE: DR. NUZAT ZEBA** - ASSOCIATE PROFESSOR,  
DEPARTMENT OF OBSTETRICS AND GYNECOLOGY  
DSMCH, PERAMBALUR



### INTRODUCTION:

Bladder exstrophy falls on a spectrum of benign isolated epispadias to severe cloacal exstrophy. In regards to bladder exstrophy, the disorder is characterized by a lower midline defect, when the abdominal wall and underlying structures, including the ventral wall of the bladder, fail to fuse in utero with the bladder lumen being exposed and the everted bladder appears through the abdominal opening.

Cloacal exstrophy is a rare congenital disorder thought to be related to the abnormal development of the cloacal membrane, a transitory structure composed of endoderm and ectoderm that overlies the embryonic cloaca. The result is primarily an abdominal wall defect with failed closure of the lower urinary tract. Cloacal exstrophy comprises the most severe deformation along a spectrum which includes both epispadias and classic bladder exstrophy, which collectively have been termed the BEEC (Bladder Exstrophy Epispadiasis Complex).

The component findings of BEEC have variable severity and include Epispadias (E), the mildest phenotype, and Classic bladder exstrophy (CBE), which is the intermediate and most common defect. Persistent cloaca (PC) or Urorectal Septal Malformation Sequence, characterized by a common cloacal cavity (including bladder and intestinal elements), usually imperforate anus, and without exstrophy and Cloacal Exstrophy (CE), which is often referred to as the OEIS complex (omphalocele, exstrophy, imperforate anus, and spinal defects) may represent the more severe forms of BEEC; however, some consider CE to have a different embryologic origin from CBE. Epidemiology/Genetics

This condition is seen in 1 of 200,000–400,000 live births, although the true incidence may be as high as 1 in 10,000–50,000, taking into account the lack of diagnosis in stillborn infants. A 2:1 male preponderance has been observed, but more recent studies suggest no predilection towards either gender. Multivariate analysis of cases in New York State between 1983 and 1999 revealed that the incidence of cloacal exstrophy appeared highest in Hispanic mothers.

Classic bladder exstrophy occurs in 1:10,000 to 1:50,000 live births; epispadias is estimated to occur in 1:117,000 live births and cloacal exstrophy in 1:250,000 births.

### Normal development/differentiation of the cloaca

The underlying embryologic defect is thought to be related to abnormal development of the cloacal membrane, a bilaminar structure composed of endoderm and ectoderm, overlying the cloacal cavity at the caudal end of the germinal disk. In normal development, lateral mesodermal ingrowth, during the 4th and 5th weeks of gestation, between the two layers of the cloacal membrane, results in formation of the lower abdominal wall and pelvis. Subsequent caudal growth of the urorectal septum results.

EEC derives from a derangement in mesodermal layers fusion during the first weeks of fetal life. Normally, at the end of the third week of gestation, an intermediate layer of mesoderm starts to invaginate to give origin to the urogenital system, while the lateral plate mesoderm will contribute to forming the primitive gut tube. A disruption in this interaction, possibly related to a cloacal membrane overgrowth preventing medial migration of

mesenchymal tissue, is reported to give origin to EEC; the severity of the resulting condition depends on the point at which disturbed mesodermal layers interaction begins.

There is no tissue loss and evidence argues strongly that BEEC (Bladder Exstrophy Epispadiasis Complex) occurs as a result of a strong genetic predisposition that is yet to be deciphered.

**ASSOCIATED ANOMALIES**

<b>UROLOGICAL</b>
STENOSIS/OBSTRUCTION OF THE URETEROPELVIC JUNCTION
VESICoureTERAL REFLUX
ECTOPIC KIDNEY
HORSESHOE KIDNEY
RENAL DYSPLASIA/AGENESIS
<b>MEGAURETER</b>
URETERAL ECTOPY
URETEROCELE
<b>MUSCULOCUTANEOUS</b>
ABDOMINAL WALL DEFECTS
DIVERGENT DISTAL RECTUS ABDOMINIS MUSCLES
UMBILICAL HERNIA

The classic presentation of cloacal exstrophy includes two exstrophied bladder halves separated by a strip of exstrophied cecum, typically accompanied by a prolapsed ileal segment. The hindgut is shortened and often blind-ending, resulting in an imperforate anus, and two phallic halves are seen on either side of a widened pubic diastasis. An omphalocele of varying size generally accompanies the abdominal wall defect.

EEC is often associated with other peculiar orthopaedic,

musculocutaneous, and gynaecological conditions. Associated upper urinary tract anomalies are rare. Gastrointestinal and spinal/neurological anomalies can be associated in patients with cloacal exstrophy.

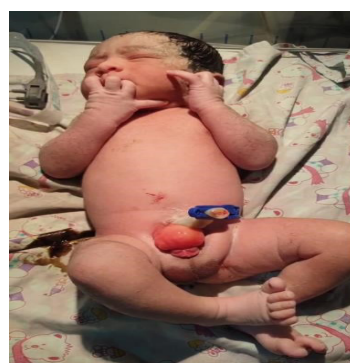
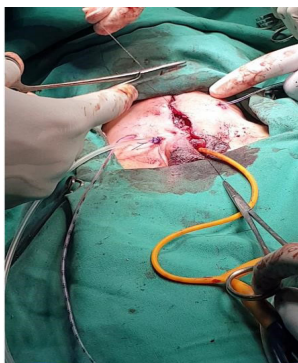
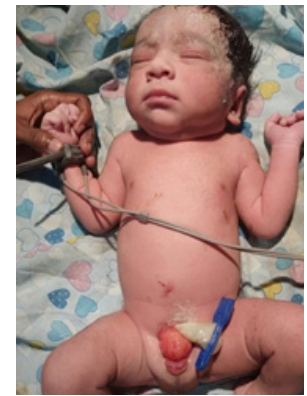
<b>SPINAL/NEUROLOGICAL</b>
NEURAL TUBE DEFECTS
<b>MYELODYSPLASIA AND/OR MYELOMENINGOCELE</b>
DYSRAPHISM
TETHERED CORD
<b>ORTHOPEDIC</b>
CLUBFOOT DEFORMITIES
ABSENCE OF FEET
TIBIAL OR FIBULAR DEFORMITIES
HIP DISLOCATIONS
PUBIC SYMPHYSIS GAP
<b>GASTROINTESTINAL</b>
COMMON HINDGUT REMNANT
ANTERIORLY DISPLACED ANUS
IMPERFORATE ANUS
RECTAL STENOSIS
RECTAL PROLAPSE
OMPHALOCELE

**CASE REPORT:**

A male newborn was delivered vaginally at 385/7 weeks. Pregnancy was uneventful, and no fetal anomalies were detected at prenatal ultrasound controls. Maternal serologies for HbsAg, HCV, HIV, Toxoplasma, and Rubella were negative, as was the vaginal swab uneventful. Dating, NT Scan, Anomaly and Growth Scan were all corresponding and showed no evidence of oligohydramnios, diabetes in the mother, fetal bladder, or renal pelvicalceal system appeared to be normal. Post-

delivery bladder exstrophy was diagnosed clinically. Delivery was not complicated and Apgar Score was 8 at 1st, 9 at 5th, and 10 at 10th minute of life. The neonate presented at birth with a genitourinary defect consistent with the classic bladder exstrophy variant of the exstrophy–epispadias complex (BEEC). Baby was a male Child with Undescended Testis, a triangle–shaped defect in the abdomen & and visible mucosa of the bladder which was bright pink with outwardly rotated legs & and feet, and a cranially displaced umbilicus. The baby had a Short penis with a urethral opening along the dorsal surface (Epispadias). Further management was proceeded Immediately after birth and stabilization of the newborn, exposed organs/mucosal surfaces, including the omphalocele, bladder and intestine protected by enclosing the infant’s lower torso in a bowel bag or by first moistening surfaces with saline and covering with sterile plastic wrapping. These measures aid in the prevention of evaporative losses, trauma and infection. The urologic exam attempted to note the genetic sex and size of hemi-bladders. Physical examination was otherwise unremarkable. The defect was covered in the delivery room with sterile silicon gauze and transparent waterproof dressing. Prudently, no umbilical vascular catheters were positioned at birth. Cerebral, cardiac, abdominal, and kidney ultrasounds were then performed, and turning out to be normal. Pelvic ultrasound esteemed a pubic symphysis diastasis of 28 mm. At 72 hours of life, primary closure of the bladder, pelvis, and abdominal wall was performed successfully, without pelvic osteotomy. Two ureteral catheters, one transurethral catheter and an epicystostomy tube were left indwelling. In the first 5

postoperative days, the patient was kept immobilized with the pelvis and lower limbs wrapped around and suspended in a special hammock device (modified Bryant traction). Parenteral nutrition was administered during this period. C Tubes were sequentially removed during the fourth postoperative week, and the patient was discharged on postoperative day 28. Further surgery for epispadias repair is scheduled at the age of 9 months of life



## DIFFERENTIAL DIAGNOSIS

**Pseudoexstrophy:** The covering over the bladder consists only of the skin. The musculoskeletal abnormalities, including divergent recti and pubic diastasis, are noticeable. When the bladder is distended, it bulges out like a hernia.

**Superior Vesical Fissure:** the bladder is normally formed; however, there is an opening from the skin into the bladder leading the bladder to prolapse. It must be differentiated from patent urachus as musculoskeletal abnormalities are absent in a patent urachus.

**Duplicate exstrophy:** there is the presence of a normal

bladder with a normal phallus. Adjacent to the normal bladder, there is a suprapubic exstrophic mucosal plate. The exstrophic bladder plate is dry and does not receive any ureters. The presence of a superior vesical fissure that later gets fused is supposed to be responsible for this anomaly.

Covered exstrophy: it is different from pseudo exstrophy in the fact that there is the presence of an isolated ectopic bowel segment. This is present on the inferior abdominal wall. Another important difference from other variants is the presence of abnormalities of the external genitalia in covered exstrophy.

## DIAGNOSTIC MODALITIES

Sonographic diagnosis may be limited by fetal position but should be suspected in a fetus when a urinary bladder is not visualized in the presence of normal-appearing kidneys and amniotic fluid volume. Other findings common with classic bladder exstrophy include a low-set umbilical cord, epispadias, and a widened or bifid scrotum in males or a bifid clitoris in females. In late gestation, the pubic symphysis will also be widely spaced or absent. In some instances, MRI may aid in diagnosis and surgical planning.

Fetal MRI improves diagnostic accuracy in anomalies affecting the fetal kidney and genito-urinary systems by better morphological delineation.

Low insertion of the umbilical cord is a constant anatomic feature of bladder exstrophy. Fetuses with bladder exstrophy have an umbilical cord insertion-to-genital tubercle length below the fifth percentile of the general population and counselling of cases suspected of having bladder exstrophy during early pregnancy.

## MANAGEMENT

Immediate medical management of EEC consists of covering the extruding viscera with sterile silicon gauze plus a surmounting occlusive dressing to prevent air contact and dehydration of the exstrophy plaque. Umbilical catheters should not be positioned.

No prophylactic antibiotic therapy is mandatory at birth if no physical signs of infection are detectable; on the contrary, postoperative prophylactic antibiotic treatment is advisable to avoid potential postoperative complications (see section "Long-Term Complications and Outcome").

Surgical correction varies depending on the type and severity of the defect; most neonates, however, will need closure of the bladder and abdominal wall, repair of epispadias, ureteral reimplantation, and bladder neck repair. Some of them will also require pelvic osteotomy to facilitate relaxation of the abdominal wall during closure. Osteotomy might also improve functional outcomes of genitourinary reconstruction. Criteria proposed to select cases requiring an osteotomy include patients undergoing closure after 72 hours of life, when the pelvis becomes stiffer, those with a pubic diastasis wider than 4 cm, and those with a nonmalleable pelvis. Under these circumstances, the osteotomy is performed at the same time as exstrophy closure (i.e., combined pelvic osteotomy). In patients with extremely wide pubic diastasis (> 6 cm, most often associated with cloacal exstrophy), a strategy involving osteotomy before bladder closure (i.e., staged pelvic osteotomy) has been proposed to allow a gradual reduction in diastasis with slow stretching of pelvic soft tissue.

Postoperatively, management key factors for the success of closure include immobilization and traction of the lower limbs, appropriate urinary drainage, curarization, analgesia (also using epidural catheters when possible), broad-spectrum antibiotic prophylaxis, and parenteral nutrition.

Currently, a staged approach is the strategy most commonly used. Alternatively, the neonatal primary complete repair and the deferred primary complete repair have been proposed. In the standard-staged repair, a primary closure of the bladder without osteotomy, and genital reconstruction in males, is attempted in the first 72 hours of life; between 6 and 12 months of age, the epispadias repair is performed in males. Bladder neck

reconstruction follows around the age of 5 years if a reasonable bladder capacity is reached.

Patients whose bladders fail to grow before bladder neck reconstruction (to at least 100 mL of capacity), or fail to keep growing after bladder neck reconstruction thereby causing persistent incontinence or upper urinary tract deterioration, are candidates to undergo augmentation cystoplasty. A segment of the sigmoid colon or ileum can be used to augment the bladder.

Augmented bladders generally lose the ability to empty voluntarily to completion; therefore, periodical clean intermittent catheterizations become necessary. As the reconstructed urethra is unreliable for catheterization, bladder augmentation is combined with the placement of a catheterizable conduit bridging the bladder to the skin. The conduit can be created using the appendix (i.e., Mitrofanoff appendicovesicostomy) or a 2 to 3 cm long segment of the ileum (i.e., Monti ileovesicostomy) and should be patent to a 12–14 Ch tube. The most common complications include stomal stenosis and urinary leakage via the conduit. The appendix is generally less keen than the ileal tissue to develop complications.

Various surgical interventions have been employed with variable success in the hope of achieving complete dryness, full control over the delivery of urine, freedom from catheters and external appliances, and a protected upper urinary tract. Important principles of initial management include proper nutritional support, early closure of exstrophy, and preservation of intestinal length. The achievement of urinary and fecal continence remains a challenge. Data for long-term outcomes are now emerging which provide new insight into issues of gender identity, function, and psychosocial development of these patients.

The most popular surgical approach is the primary bladder closure with secondary bladder neck reconstruction.

The surgical treatment aims to provide a competent receptacle (bladder) for storage, to prevent upper tract damage, and to provide cosmetically acceptable

genitalia providing good functional outcomes in terms of continence and sexual function.

Surgical management of cloacal exstrophy is typically undertaken in the newborn period (48–72 h) as a combined effort between pediatric surgery and urology. In the setting of associated spinal dysraphism, neurosurgical consultation and closure should be undertaken as soon as the infant is medically stable. Early operation minimizes bacterial colonization of exposed viscera and may decrease the need for pelvic osteotomy

#### Long-Term Complications and Outcomes

Modern-staged repair of the EEC as previously described has shifted the goal from patient's survival to quality of life. The single most important outcome in bladder exstrophy repair is probably urinary continence, which is more easily achieved with successful primary bladder closure and good bladder growth. The latter occurs as an adaptation of the bladder wall to the increase in bladder outlet resistances after bladder closure and after bladder neck reconstruction. Of note, this increase in resistance should never happen at the cost of upper urinary tract deterioration, which may occur in the case of poorly compliant bladders with incomplete emptying. Reportedly, up to 80% of cases can achieve socially acceptable urinary continence (3-hour dry interval during daytime and volitional voiding) using this surgical strategy. Nevertheless, many series report that 20 to 50% of cases will require bladder augmentation eventually.

Genital function keeps being a relevant problem in patients with exstrophy long term. Males can experience problems for the presence of a short penis or persistent penile curvature.

Excessive bladder-neck tapering may cause seminal obstruction and recurrent epididymitis leading to infertility. Female patients can experience problems because of the abnormal genital appearance, stenosis of the vaginal introitus, and pelvic organ prolapse. These problems, however, do not generally impair a good quality of life.

Although patients with exstrophy have almost invariably an abnormal gait in the long term because of the recurrence of pelvic diastasis, which invariably recurs also in patients undergoing osteotomy, long-term orthopaedic complications are rare. Patients receiving an osteotomy may experience transient or persistent nerve damage, hip pain, and unequal length of limbs

## CONCLUSION:

Reportedly, modern-staged repair of EEC can achieve socially acceptable urinary continence (3-hour dry interval during daytime and volitional voiding) in up to 80% of cases after successful primary closure; sexual function can be an issue in the long term (particularly in males), but overall quality of life can be good. Modern techniques in addition to recent discoveries in the diagnosis and delayed management of this disorder have enabled high rates of urinary continence, genital cosmesis, and an improved quality of life.

Historically children with this abnormality were consigned to poor outcomes and quality of life. Modern advancements in the diagnosis and management of this disorder have resulted in low mortality rates and shifted clinical focus toward optimizing quality of life.

Cloacal exstrophy remains a rare and complex congenital anomaly characterized by an array of anatomical defects affecting multiple organ systems. A multidisciplinary approach to management is advocated with a focus on the optimization of patient function and quality of life.

Cloacal exstrophy remains a rare and challenging diagnosis. As evident from this review, the optimal treatment of cloacal exstrophy must address many different aspects of an individual, from the timing and type of repair to genital reconstruction and quality of life issues. Advances in medical and surgical management have allowed for dramatically improved survival and continence rates; however, the chronic nature of cloacal exstrophy must be emphasized.

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## HUMAN PAPILLOMA VIRUS VACCINES

**DR. M. MEENA, MD, DGO, DNB, MRCOG, FICOG**  
Senior Assistant Professor, ISO & Government KGH, Chennai

Human papillomavirus (HPV) is a sexually transmitted pathogen that causes anogenital and oropharyngeal disease in males and females. Persistent viral infection with high-risk HPV genotypes causes virtually all cancers of the cervix. HPV types 16&18 cause 70 percent of all cervical cancers. 77,348 deaths in India are due to cervical cancer. HPV vaccine protects against cervical, vaginal, vulvar, oropharyngeal and anal disease.

### 3 KEY GLOBAL TARGETS TO ACCELERATE THE ELIMINATION OF CERVICAL CANCER BY 2030:

90% of girls fully vaccinated with HPV vaccine by age 15 years .

70% of women screened with a high-performance test by 35 years of age and again by 45 years of age.

90% of women identified with cervical disease receive treatment (90% of women with precancer treated, & 90% of women with invasive cancer managed).

**HPV VACCINES:** 3 different types: quadrivalent vaccine (Gardasil contains HPV types 6,11,16,18), nonavalent vaccine (Gardasil 9 contains HPV types 6,11,16,18,31,33,45,52&58) and bivalent vaccine (Cervarix contains HPV types 16&18)

### IMMUNIZATION SCHEDULE:

#### FOGSI recommendation:

- Optimal dosing: for 9-14 years, 2 doses, 6 months apart; for 15-45 years-3 doses (0, 1-2 months, 6 months).
- Reduced dosing (awaiting DCGI approval); 9-20 years -1 or 2 doses, 2 doses for older persons.
- Boys as per IAP recommendation.

#### IAP Advisory Committee on Vaccines & Immunization Practices (ACVIP):

Recommends the use of HPV vaccines.  
9-14 years of age (boys and girls): Two-dose schedule (0 and 6 months).

15-26 years of age (females and males): three-dose schedule (0, 2, 6 months).

**The World Health Organization's Strategic Advisory Group of Experts (SAGE):** One or two doses for 9-20 years, 2 doses for older persons.

**Storage:** Vaccines should be stored at 2-8°C, should not be frozen. Protected from light.

**Administration:** First choice is nonavalent vaccine. If vaccination is completed with other than nonavalent vaccine then no need to readminister nonavalent vaccine.

**Special circumstances:** During Pregnancy, vaccine is not recommended however, vaccine can be administered during lactation. Vaccination is recommended for those with pre-existing HPV-associated disease, patients with HIV or immunocompromising conditions and health care workers at risk of occupational exposure

**Immunogenicity:** Excellent antibody responses with seroconversion rates of 93 to 100% in females & 100% in males. Immunogenicity lasted for at least 10 years among trial participants.

**Vaccine safety:** All the types of vaccines are safe except for mild local reactions.

**Recent advances:** Therapeutic vaccines, designed to induce regression of existing HPV-associated lesions, are in development but are not clinically available

# TNFOG 2<sup>nd</sup> STATE CONFERENCE



## *Dear Friends,*

Welcome to yet another academic bonanza, in this breathtakingly beautiful city of Tiruchirapalli, known for its culture, heritage and beautiful temples. TNFOG is waiting to serve you with not only the latest in the field of Obstetrics and Gynecology, but also the best of South Indian cuisine and soulful spiritual satisfaction.

It was here in Trichy that Lord Shiva braved the river Cauvery's spate to conduct a chettipenn's delivery safely! He now stands tall as "Thayumanavar" at the exquisite Rockfort temple and continues to bless mothers to be. With Lord Ganesha atop the Rock, the rock itself has taken his form and qualifies to be the skyline of Trichy. Every Vaishnavite yearns to be blessed by Lord Ranganatha who lies in "Ananthasayanam" caressed by mother Cauvery at Srirangam, the first of 108 Divyadesams. The Sanctity of the city is further enhanced by the Jambukeswara temple, where Shiva manifests in the water from, or the water element of the pancha maha bhoothas. St. Joseph's church, one of the oldest churches is an architectural marvel too.

Trichy is also an academic hub, with several Educational Institutions that Tamil Nadu is proud of. Our esteemed Dr. Abdul Kalam had his education in Trichy. Not just that, the city also boasts of rapid advances in the medical field, and is already attracting people for medical tourism.

For the nature lover, the vibrant Butterfly park in Srirangam and the Kallanai dam are must-visit places. This dam is an engineering marvel and stands testimony to the majesty of the Chola Kings. Wood crafts and weaving ?

Yes, Trichy is the destination.

**Come, experience the joy of Trichy!**

**Warm regards**

**TRICHY O&G SOCIETY TEAM**





# Department of **Obstetrics and Gynaecology & Neonatal Intensive Care Unit**

(Saving the Unsaveable)



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