



# 25<sup>th</sup> Annual Conference of National Association for Reproductive & Child Health of India, Delhi Branch



**Souvenir  
and  
Abstract Book**



***Theme: "Optimizing  
Maternal & Child  
Health: Prevention,  
Prediction and  
Practice"***

**NARCHI Secretariat  
Room No. 001, Department of  
Obstetrics & Gynaecology,  
Vardhman Mahavir Medical  
College & Safdarjung Hospital,  
New Delhi-110029**



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Organising Secretary



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Organising Chairperson



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जगत प्रकाश नड्डा  
Jagat Prakash Nadda



संस्कृत उक्ति



स्वास्थ्य एवं परिवार कल्याण मंत्री  
भारत सरकार  
Minister of Health & Family Welfare  
Government of India



#### MESSAGE

I am extremely happy to know that National Association for Reproductive and Child Health of India (NARCHI), Delhi is organizing its 25<sup>th</sup> Annual Conference on 23<sup>rd</sup> and 24<sup>th</sup> February, 2019.

The Government of India is committed to improve the maternal and child health as it remains a challenge, particularly in the developing countries which account for 99% of maternal deaths. The role played by health care providers is vital in preventing maternal and fetal complication. The theme of the conference, prediction of the complications and steps taken to prevent maternal morbidity and mortality, as the key to optimize maternal and child health is apt.

I wish to congratulate all the delegates for exchange of their knowledge through interactive sessions, panel discussions and hand on workshops for improving maternal health.

I congratulate NARCHI and wish the organizers of the conference a grand success.

(Jagat Prakash Nadda)

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प्रीति सूदन  
सचिव  
PREETI SUDAN  
Secretary



संस्कृत उक्ति

भारत सरकार  
स्वास्थ्य एवं परिवार कल्याण विभाग  
स्वास्थ्य एवं परिवार कल्याण मंत्रालय  
Government of India  
Department of Health and Family Welfare  
Ministry of Health & Family Welfare

Dated : 13<sup>th</sup> February, 2019



#### MESSAGE

I am happy to know that the National Association for Reproductive & Child Health of India, NARCHI-Delhi Branch is organizing the 25<sup>th</sup> Annual Conference with the theme 'Optimizing Maternal & Child Health: Prevention, Prediction & Practice' from 23<sup>rd</sup> to 24<sup>th</sup> February, 2019 at New Delhi.

This conference, I am informed, will see a huge national participation towards deliberations on basic and clinical research and provision of superior clinical services for reproductive and child health. I am confident that the relevant workshops and scientific sessions would provide a platform to exchange the expertise, experience of medical fraternity to update their knowledge and skills improving quality of health service delivery as well as enriching the knowledge regarding the latest and modern technologies in the field of reproductive medicine.

I congratulate the organizers and the participants of the congress and extend my best wishes for its success.

(Preeti Sudan)

Tele : (O) 011-23061863, Fax : 011-23061252, E-mail : secyhfww@nic.in  
Room No. 156, A-Wing, Nirman Bhavan, New Delhi-110011



#### MESSAGE

I am happy to learn that the National Association for Reproductive and Child Health of India, NARCHI Delhi Branch is organizing its 25<sup>th</sup> Annual Conference on 23 & 24 February, 2019 with the theme “Optimizing Maternal & Child Health : Prevention, Prediction & Practice”.

The Government of India is committed to improving quality of care around birth and ensuring respectful maternity care leading to reduction in neonatal and maternal mortality. The initiatives like the LaQshya (Labour Room Quality improvement), establishment of Obstetric High Dependency Units (HDUs) & ICUs, Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA), Mission Indradhanush, Rashtriya Bal Swasthya Karyakram (RBSK) and Mother's Absolute Affection (MAA) programme, to name a few are a testimony to this commitment.

With nearly a third of the population under 15 years of age, it is imperative that the demand for adolescent health care services is going to increase significantly in the near future. The issues related to Adolescent Reproductive & Sexual Health (ARSH), particularly of the adolescent girls require that the RCH practitioners take this issue up as a separate sub-specialty. Menstrual hygiene, sex education, HPV vaccination etc. are some of the key areas that require concerted efforts.

I wish the organizers and the conference a great success and hope that the deliberations will be shared with programme managers and policy makers for fine tuning the interventions initiated by the Government.

  
( S. Venkatesh )

## Message from Chief Guest



It gives me great pleasure to know that National Association of Reproductive and Child Health of India, Delhi branch is organizing their 25<sup>th</sup> annual conference on 23<sup>rd</sup> & 24<sup>th</sup> February 2019, at Hotel Eros, Nehru Place.

India has come a long way in improving maternal health still a lot needs to be done to further uplift the health of mother and child. With increase in the number of institutional deliveries the maternal mortality and morbidity has improved significantly over the past few years. The focus now is on providing them the high quality health services.

I am sure this conference on the theme, “Optimizing Maternal & Child Health: Prevention, Prediction & Practice” will provide a forum to add to the existing knowledge of the delegates which will help them in providing quality health services to their patients.

I take this opportunity to thank the organizers for giving me this opportunity to be the part of this conference and sharing my view point with you. I wish your conference a great success.



**Dr Dinesh Baswal**

Deputy Commissioner In charge Maternal Health  
Ministry of Health & Family Welfare

डॉ राजेन्द्र शर्मा  
DR. RAJENDRA SHARMA

परामर्शदाता (पीएमआर)

Consultant (PMR)

चिकित्सा अधीक्षक

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### MESSAGE

It gives me great satisfaction to know that National Association for Reproductive and Child Health of India, NARCHI Delhi Branch, is organizing their 25<sup>th</sup> Annual Conference on 23<sup>rd</sup> and 24<sup>th</sup> February 2019 on the theme "optimizing maternal child health: prevention, prediction and practice".

I believe this conference will incorporate a unique blend of inputs from both obstetricians and pediatricians, providing a great academic platform for the delegates of both specialties, for productive exchange of ideas, clinical expertise and academic know-hows.

I am sure that this would in turn be instrumental in enhancing the competency of obstetricians and pediatricians attending the same, making them well equipped with mandatory skills, and competency to nurture enhanced reproductive and child health across the region.

I congratulate NARCHI Delhi for this noble endeavor and wish the organizers of the conference a grand success.

  
(DR. RAJENDRA SHARMA)



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### MESSAGE

I am delighted to know that the National Association for Reproductive and Child Health of India, NARCHI Delhi Branch, is celebrating its silver jubilee by organizing "25<sup>th</sup> NARCHI Delhi Annual Conference" on the theme "Optimizing Maternal Child Health: Prevention, Prediction and Practice" to be held on 23<sup>rd</sup>-24<sup>th</sup> February, 2019 at Eros Hotel, New Delhi.

I congratulate the department of Obstetrics and Gynaecology, Vardhman Mahavir Medical College and Safdarjung Hospital for their efforts in selecting conference topics to address the important national health issues. Women are the supporting pillars of family, society and hence the nation and promoting their health by providing quality services and at the same time protecting their rights is of vital importance.

The conference will have several learned speakers across Delhi NCR who would be sharing their experiences and knowledge with the participants. I hope the conference will witness an academic bonanza and encourage the members to carry forward their knowledge for improving maternal and child health.

I wish the the organizers and all the members of the association a great success.

Best wishes.



Dr Prof N N Mathur

Tel: 011-26161365 Fax: 011-26107226 Email: principal@vmmc-sjh.nic.in

# Message from Secretary General, NARCHI



I am delighted to learn that NARCHI-DELHI Chapter is organising Annual Conference on 23<sup>rd</sup> & 24<sup>th</sup> February, 2019.

A large number of delegates from Delhi, NCR and adjoining regions will participate in the conference. A galaxy of eminent national experts will contribute to the theme of the conference.

I am sure that the scientific deliberation will be greatly interesting and highly educative.

**I wish the conference all success.**

**Dr Subrataa Dawn**  
Secretary General  
NARCHI- HQ, Kolkata

# Message from Chief Advisor



## Message

It is a pleasure to welcome you all to the 25<sup>th</sup> Annual Conference of NARCHI Delhi Chapter. Since its inception NARCHI has always strived to improve the maternal and fetal outcome through innovations, which are sustainable as well as accessible to all. I am happy and satisfied to see that the topics chosen are very contemporary and in tune with the goal of NARCHI. I am sure that all the workshops & lectures will help the delegates in their day to day practice. My sincere wishes to all the organizers for a highly successful conference.

Dr Pratima Mittal  
Professor & Consultant  
Deptt of Obst & Gynae

# Message from Organising Chairperson



I would like to extend very warm thanks to all the esteemed delegates and faculty who have come to attend the **25<sup>th</sup> Annual Conference of NARCHI, Delhi Branch**. NARCHI, Delhi Branch has conducted numerous activities this year. We had aimed to *“Reach the Unreached”* and I am proud to share with all of you that we have taken a big step forward in this direction. From conducting health camps in rural slums to reach the needy ones, to conducting CMEs all over Delhi to reach all practicing doctors. In order to reach the women who couldn't visit hospitals, we conducted public forums; and for the nurses and ASHA workers, various educational programs were held. In addition to this, we also conducted many school health programs in various government schools across Delhi.

In this conference, we have tried to keep topics pertaining to advances in maternal and child health care and also a CME for nurses.

I am extremely thankful for my team, specially my organising secretary Dr Monika Gupta and organising joint secretaries Dr Divya Pandey and Dr Archana Kumari who have worked day and night to make this conference happen. I am also grateful to the editorial team led by Dr Jyotsna Suri and Dr Rekha Bharti who has put in tremendous efforts for the timely release of this souvenir issue.

Hope you all will enjoy this conference!

A handwritten signature in cursive script, reading 'Achla', followed by a long horizontal line.

**Dr Achla Batra**  
Organising Chairperson



# Message from Vice President



Dear friends,

It's a pleasure to invite you to the 25<sup>th</sup> Annual Conference of NARCHI Delhi with the theme **"Optimising Maternal & Child Health-Prevention, Prediction and Practice"**. Prioritising preventive health is the need of the hour as "An ounce of **prevention** is worth a pound of cure". Prevention is vital for good reproductive health, maternal health in pregnancy and delivery and good fetal & neonatal health. Our pre-conference workshops are aimed to target prevention at all levels.

A unique workshop in this conference is on **Vulval Disorders from Adolescence to Menopause** dealing with all common vulval problems often seen but never discussed. We bring to you eminent faculty from the first vulval clinic in India at Mumbai.

Hope you enjoy interacting with your NARCHI friends whilst taking home key messages on prevention in this academic bonanza hosted by the warm Safdarjung family!

Welcome to NARCHI DELHI 2019!

A handwritten signature in dark ink, appearing to read 'Saritha Shamsunder'. The signature is fluid and cursive, with a horizontal line underneath the name.

**Saritha Shamsunder**

MD FRCOG

Vice President

NARCHI Delhi 2018-20

# Message from Organising Secretary



Dear faculty and delegates,

Greetings to all !

As organising Secretary of the 25<sup>th</sup> Annual NARCHI Delhi Conference, it gives me immense pleasure to welcome you all to this silver jubilee edition of NARCHI Delhi being held on 23<sup>rd</sup>-24<sup>th</sup> Feb'19 at Hotel Eros, New Delhi. Our team NARCHI at Safdarjung hospital has left no stone unturned to make this event grand and an everlasting enriching academic experience.

The scientific programme of this conference is based on the theme **"Optimizing Maternal and Child Health: Prevention, Prediction And Practice."** It is a beautiful amalgamation of three pre conference dedicated workshops which focus on practical and basic issues in fetal medicine, basic infertility and vulval disorders and two post conference workshops on hand on critical care in obstetrics and suturing skills in PPH management. The main conference encompasses subjects of materno-fetal medicine, reproductive health and neonatal health which will be deliberated by expert faculty in didactic lectures, debates and engaging panel discussions. Orations and Keynote addresses by eminent dignitaries of our field will add to the value of this conference. Special paediatric workshop and CME session for nursing staff are also part of the conference adding flavour to our theme. This is apart from the scientific paper and poster presentation by the young delegates.

The invited faculty comprises of renowned professionals and practitioners from all over the country.

Deliberations on current research and evidence based practices and protocols will enlighten the delegates. Every delegate attending the conference will have loads of take-home messages as ready reckoners which will definitely help in improving their maternal and child health care practices.

As a part of silver jubilee year celebration of NARCHI Delhi, we have also organized a cultural gala evening and a welfare dinner, that will help everyone loosen out a bit and at the same time engrossed with the program. The proceeds of welfare dinner will be contribution for thalassemics which is in continuum to the successful NARCHI WALKATHON for Thalassemia held in December 2018.

Organising this conference has been a great experience for all of us in the organising team and we have tried our best to meet the expectations of our delegates in spite of certain limitations.

I am very thankful to our chief advisor Dr Pratima Mittal and organising Chairperson, Dr Achla Batra who has been constant source of guidance and support throughout in conceptualisation and execution of this academic endeavour. My joint secretaries Dr Divya Pandey and Dr Archana Kumari have been instrumental in fine-tuning the nitty-gritties of planning such a humungous task and our editors Dr Jyotsna Suri and Dr Rekha Bharti have strived hard in meticulous development of this conference souvenir.

“Coming together is beginning, keeping together is a progress, working together is success”.

**A hearty welcome to everyone of you!!**



**Dr Monika Gupta**  
Organising Secretary

# Editor's Message



Dear Readers

Warm greetings from the editorial team!

It is our proud privilege to present this special souvenir issue of NARCHI BULLETIN to commemorate the 25<sup>th</sup> Annual Conference of NARCHI Delhi Chapter. We are happy to bring forth to you write-ups of the prestigious orations, key notes and invited lectures from doyens in their field. It also includes abstracts from our young budding researchers.

The editorial team is grateful to the Organizing Chairperson, Dr Achla Batra for entrusting us with such an important task of bringing out this issue. Editing and compiling the abstracts received from the blossoming obstetricians and articles from our veteran speakers, was a pleasant experience for all of us. We would like to extend special thanks to all of them for sending us the material well in time so as to enable us to compile this issue for release in the Conference.

We are also very thankful to our dynamic organizing secretary, Dr Monika Gupta and joint secretaries Dr Divya Pandey and Dr Archana Kumari for all the valuable inputs given in the making of this souvenir. We sincerely applaud the dedication and efforts of our publisher and printer, Mr. Rakesh Ahuja and his entire team at the 'Process and Spot' for impeccable printing.

We hope you enjoy reading this souvenir.

*The Mind That Opens To a New Idea Never Returns  
To Its Original Size*

**-Albert Einstein**

**Dr Jyotsna Suri**

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**Dr Rekha Bharti**

[rekhabharti@gmail.com](mailto:rekhabharti@gmail.com)



# Pre Conference Workshop on Basic Infertility

**Date: 20<sup>th</sup> February, 2019, Wednesday**  
(09.00 - 18.00 hrs) at Auditorium, West Block, Max Hospital, Saket, New Delhi

**Dr Achla Batra**  
President, NARCHI

**Dr Monika Gupta**  
Secretary, NARCHI

**Dr Surveen Ghumman**  
Workshop Convener

**Dr Bindu Bajaj**  
Workshop Co- Convener

## Workshop Program

Time	Topic	Speaker
8:30 - 9:00	<b>Registration</b>	
9:00- 9:45	<b>Session 1</b>	
	<b>Chairpersons:</b> Dr Bela Makhija, Dr Sohani Verma, Dr Kusum Sahni Dr Pragnesh	
9:00 -9:15	Diagnostic Work-Up of Infertile Women: Which ? When? How far Should We Go in the Gynecologist OPD Chamber?	Prof. Renu Tanwar
9:15 - 9:30	Ultrasounds in Male and Female Infertility - Questions the Gynecologist Should Ask the Ultrasonologist	Dr Kuldeep Singh
9:30 - 9:45	Managing Male Infertility from Your OPD Chamber	Dr Shweta Mittal
9:45 - 10:05	<b>Session 2   Debate</b>	
	Chairpersons: Dr Anuradha Kapoor, Dr Banashree Das Dr Indu Chawla, Dr Tanya Buckshee	
9:45 - 9:55	Drilling to be Done in PCOS Women with Clomiphene Resistance	<b>For:</b> Dr Soumya Prasad <b>Against:</b> Dr Mansi Jain
10:05-10:50	<b>Session 3</b>	
	<b>Oral Ovulogens – Addressing the Finer Points</b>	
	<b>Chairpersons:</b> Prof. Abha Singh, Prof. Kiran Aggarwal Dr Sonia Naik, Dr Anita Sabharwal	
10:05 - 10:20	Oral Ovulogens – Moving Beyond Traditional 5 Day Regimes– How and When to Use	Dr Shalini Khanna
10:20 - 10:35	HCG / GnRH Agonist Trigger & Subsequent Luteal Phase – What to Give? When to Give? In Whom ? How Much ?	Dr Sweta Gupta
10:35 - 10:50	Clomiphene or Letrozol? – Expert Opinion	Prof. Sudha Prasad
10:50 - 11:15	<b>Tea</b>	
11:15 - 12:05	<b>Session 4</b>	
11:15 - 12:05	<b>Panel Discussion:</b> Gonadotropin Use for Ovulation Induction - Case studies <b>Moderator:</b> Prof. Manju Puri <b>Panelists:</b> Prof. Anjali Tempe, Dr Manju Khemani, Dr Neeti Tiwari Dr Nympha Walecha, Dr Richa Singh, Dr Divya Pandey	
12:05-13:05	<b>Session 5</b>	
	<b>Tackling Special Conditions With Infertility</b>	
	<b>Chairperson:</b> Prof. Shashi Prateek, Prof. Achla Batra Prof. Jyotsna Suri, Dr Monika Gupta	
12:05 - 12:20	Hyperprolactinemia & Fertility	Dr Bindu Bajaj
12:20 - 12:35	Adjuvants in Basic Infertility	Dr Rupali Bassi
12:35 - 12:50	Tuberculosis and Infertility	Dr Rashmi Sharma
12:50 - 13:05	Endometriosis - Approach to Patient with No Prior Infertility Treatment History	Dr K D Nayar
13:05 - 13:20	<b>Inauguration</b>	
13:20 - 14:15	<b>Lunch</b>	
14:15 - 15:00	<b>Session 6</b>	
	<b>Chairpersons:</b> Dr Sonia Malik, Dr Madhu Ahuja, Dr A K Bajaj Dr Meenakshi Ahuja	
14:15 - 14:30	Improving Success Rates of an IUI Cycle	Dr M Gouri Devi
14:30 - 14:45	What a Gynecologist Must Know About Aounseling & Timelines in Fertility Preservation in Cancer Patients	Prof. Pankaj Talwar
14:45 - 15:00	Unexplained Infertility - Which Intervention will Really Help?	Prof. Geeta Radhakrishnan
15:00 - 15:50	<b>Session 7</b>	
15:00 - 15:50	<b>Panel Discussion:</b> Moving from Ovulation Induction to IUI to IVF – When & In Whom – The Gynecologist Perspective vs IVF Specialist Perspective <b>Moderator:</b> Dr Surveen Ghumman <b>Panelists:</b> Dr M Gouri Devi, Prof. Geeta Radhakrishnan, Dr Asha Rawal, Dr Leena Wadhwa, Dr Jyoti Mishra, Dr Jyoti Bali, Dr Garima Kapoor	
15:50- 16:35	<b>Session 8</b>	
	<b>Chairpersons:</b> Prof. Neera Aggarwal, Dr SN Basu, Prof. Kiran Guleria Dr Shweta Rajarani	
15:50 - 16:05	Fibroids and Polyps - To Operate or not in a Patient yet not Treated for Infertility?	Prof. Kuldeep Jain
16:05 - 16:20	Poor Ovarian Reserve – Diagnosis and Management in Gynae OPD Chamber. Interpreting the Novel Poseidon Classification in Basic Infertility Treatment	Prof. Neeta Singh
16:20 - 16:35	Tackling Tubal Factor Infertility	Dr Pikee Saxena
16:35 - 18:00	<b>Session 9</b>	
	<b>Demonstration Of Semen Analysis and Processing</b>	
	<b>Chairperson:</b> Dr Ila Gupta, Dr Neeru Thakral, Dr Bhavna Banga Dr Pinkee Saxena	
16:35 - 18:00	Demonstration: Step by Step Semen Analysis and Processing	Mr. Sehgal
18:00	<b>Tea</b>	

# Pre Conference Workshop on Vulval Disorders from Adolescence to Menopause

*Date:* **21<sup>st</sup> February, 2019, Thursday**  
(08.30 - 16.30 hrs) at Old Lecture Theatre -  
1, VMMC & Safdarjung Hospital

**Dr Achla Batra**  
President, NARCHI

**Dr Rupali Dewan**  
Workshop Convenor

**Dr Vijay Zutshi**  
Workshop Convenor

**Dr Saritha Shamsunder**  
Workshop Convenor

**Dr Sujata Das**  
Workshop Co-Convenor

**Dr Sheeba Marwah**  
Workshop Co-Convenor

## Workshop Program

Time	Topic	Speaker
8:30	<b>Registration and Pretest</b>	
8:45 - 9:00	Welcome - Dr Rupali Dewan (Head of Dept of Obs & Gynae, VMMC & SJH)	
9:00 - 9:30	<b>Session 1</b>	
	<b>Vulval Disorders - The Basics</b>	
	<b>Chairperson:</b> Dr Rupinder Sekhon, Dr Sweta Balani, Dr Raksha Arora, Dr Jyotsna Suri	
9:00 - 9:15	Normal Vulva	Dr Sujata Das
9:15-9:30	Terminology of Vulval Disorders	Dr Sheeba Marwah
9:30-10:30	<b>Session 2</b>	
	<b>Common Vulval Disorders</b>	
	<b>Chairperson:</b> Dr Swaraj Batra, Dr Kiran Agarwal, Dr Ramandeep Kaur, Dr Anjali Dabral	
9:30 - 9:45	Vulval Pruritus	Dr Niti Khunger
9:45 - 10:00	White Lesions of Vulva	Dr Nina Madnani
10:00 -10:15	Warty Lesions of Vulva	Dr Sunita Malik
10:15 - 10:30	Discussion	
10:30 - 11:00	<b>Session 3</b>	
	<b>Making a Diagnosis</b>	
	<b>Chairperson :</b> Dr Aruna Nigam, Dr Roopa Hariprasad, Dr Renu Arora, Dr Veena Acharya	
10:30 - 10:45	Approach To A Patient With Vulval Symptoms	Dr Fahmida Banu
10:45 - 11:00	Vulvoscopy and Biopsy	Dr Saritha Shamsunder
11:00 -11:30	<b>Tea</b>	
11:30-12:30	<b>Session 4</b>	
	<b>Premalignant and Malignant Lesions of Vulva</b>	
	<b>Chairperson:</b> Dr Aruna Batra, Dr Usha Rani, Dr Deepti Goswami, Dr Mamta Dagar	
11:30 -11:45	VIN	Dr Nina Madnani
11:45 - 12:00	Early Stage Vulval Cancer	Dr Vijay Zutshi
12:00 - 12:15	Advanced Vulval Cancer	Dr Vijay Yadav
12:15 - 12:30	Discussion	
12:30 - 13:30	<b>Session 5</b>	
	<b>Challenging Situations of Vulva</b>	
	<b>Chairperson:</b> Dr Sudha Salhan, Dr Pratima Mittal, Dr Harsha Gaikwad, Dr Puneet Chandna	
12:30 - 12:45	Vulvodynia	Dr Nina Madnani
12:45 - 13:00	Vulval Problems In Children And Adolescents	Dr Niti Khunger
13:00 - 13:15	Helping your Pathologist To Give The Right Diagnosis	Dr Geetika Khanna
13:15 - 13:30	Discussion	
13:30 - 14:00	<b>Lunch</b>	
14:00-16:00	<b>Session 6</b>	
14:00 - 15:00	<b>Case Discussions - The Multidisciplinary Approach</b>	
	<b>Moderators:</b> Dr Saritha Shamsunder, Dr Archana Mishra <b>Panelist:</b> Dr NB Vaid, Dr Neerja Bhatla, Dr Shalini Rajaram, Dr Gauri Gandhi, Dr Amita Suneja, Dr Geetika Khanna, Dr Niti Khunger, Dr Nina Madnani	
	<b>Interactive Sessions</b>	
15:00 - 15:30	Spot The Diagnosis (Win Attractive Prizes)	Dr Satinder Kaur, Dr Sheeba Marwah
15:30 - 16:00	<b>Post Test Questionnaire, Feedback &amp; Certificate Distribution</b>	
16:00	<b>Vote of Thanks</b>	

# Pre Conference Workshop on Fetal Medicine: Common Fetal Problems

**Date: 22<sup>nd</sup> February, 2019, Friday** (08.00 - 16.00 hrs) at Sir Ganga Ram Hospital, Delhi

**Dr Achla Batra**  
President, NARCHI

**Dr Mala Srivastava**  
Workshop Convener

**Dr Nandita**  
Workshop Co- Convener

**Dr Sumitra Bachani**  
Workshop Co- Convener

## Workshop Program

Time	Topic	Speaker
8:00 - 9:00	<b>Registration</b>	
9:00 - 9:40	<b>Session 1</b>	
	<b>Chairperson:</b> Dr S.K. Bhandari, Dr Nidhish Sharma & Chandra Mansukhani	
9:00 - 9:20	Implementation of First Trimester Screening	Dr Varun Duggal
9:20 - 9:40	Making Sense of Likelihood ratios in Second Trimester	Dr Aparna Sharma
9:40 - 10:20	<b>Session 2</b>	
	<b>Chairperson:</b> Dr K Gujral, Dr Deepak Chawla, Dr Mamta Dagar	
9:40 - 10:00	Fetal Emergencies! Need Skilled Intervention	Dr Vatsla Dadhwal
10:00 - 10:20	Role of Ultrasound in Diagnosing Fetal Lung Maturity	Dr Nandita Dimri
10:20 - 10:50	<b>Tea</b>	
10:50 - 11:30	<b>Session 3</b>	
	<b>Chairperson:</b> Dr I Ganguli, Dr P Chadha, Punita Bhardwaj, Dr Ritika Bajaj	
10:50 - 11:10	Optimal Use of Antenatal Corticosteroids for Fetal Lung Maturity	Dr Pankaj Garg
11:10 - 11:30	TORCH: An Update	Dr Sumitra Bachani
11:30 - 12:30	<b>Session 4</b>	
11:30 - 12:30	<b>Panel Discussion:</b> Fetal Growth Restriction (Case Based Scenario) <b>Moderator:</b> Dr Ashok Khurana <b>Panelist:</b> Dr Manisha, Dr K Gujral, Dr A. Baijal, Col. Reema Kumar Bhatt, Dr Sunita Brijania	
12:30 - 13:20	<b>Session 5</b>	
	<b>Chairperson:</b> Dr B G Kotwani, Dr Renu Arora, Dr Geeta Mediratta, Dr Kanika Jain	
12:30 - 12:50	From Genetics To Geonomics - An Obstetrician Perspective	Dr I C Verma
13:00 - 13:20	Brain Anomalies - An obstetrician's nightmare	Dr Anita Kaul
13:20 - 13:50	<b>Lunch</b>	
13:50 - 14:30	<b>Session 6</b>	
	<b>Chairperson:</b> Dr Harsha Khullar, Dr Sunita Kumar, Dr Shweta	
13:50 - 14:10	Cardiac Evaluation in & Anomaly Scan	Dr Kuldeep Singh
14:10 - 14:30	Fetal Autopsy	Dr Neerja Gupta
14:30 - 15:30	<b>Session 7</b>	
	<b>Chairperson:</b> Dr Mala Shrivastava, Dr Ruma, Dr Manoj Modi, Dr Debasish Dutta	
14:30 - 15:30	NST - Interpretation and Scenario	Dr Chanchal Singh
15:30 - 15:50	Twin Pregnancy - Risk Stratification: Need of the hour	Dr Devender

## Post Conference Workshop on Obstetric Critical Care

**Date: 24<sup>th</sup> February, 2019, Sunday**  
(14.00 - 16.00 hrs) at EROS Hotel, Nehru Place, New Delhi

**Dr Achla Batra**  
President, NARCHI

**Dr Jyotsna Suri**  
Workshop Convener

**Dr Rekha Bharti**  
Workshop Co- Convener

**Dr Monika Gupta**  
Workshop Co- Convener

## Workshop Program

Timing: 14:00 - 17:00	
<b>Station 1</b>	
Fluid Resuscitation in Obstetric Shock	Dr Jyotsna Suri, Dr Sarita Singh
<b>Station 2</b>	
Maternal Collapse- How to Respond	Dr Ayush Gupta, Dr Divya Pandey, Dr Manjeera, Dr Megha Mittal, Dr Ankita Jain
<b>Station 3</b>	
Nuts & Bolts of Infusion Pump & Life-Saving Drugs in Obstetrics	Dr Monika Gupta, Dr Ruchi Hooda
<b>Station 4</b>	
Breathe Easy - Understanding Oxygen Therapy & Non Invasive Ventilation	Dr Rekha Bharti, Dr Archana Kumari
<b>Station 5</b>	
Deciphering the complexities of ABG - Systematic interpretation through real cases	Dr Rohit & Team

# Nursing CME

**Date: 24<sup>th</sup> February, 2019, Sunday** at  
EROS Hotel, Nehru Place, New Delhi

**Dr Achla Batra**  
President, NARCHI

**Dr Monika Gupta**  
Organising Secretary

**Dr Renu Arora**  
Convener

**Dr Divya Solanki**  
Co- Convener

Day 2   Hall B		
Time	Topic	Speaker
9:00 - 10:00	<b>Session 1</b>	
	<b>Chairpersons:</b> Dr Karishma Thariani, Mrs. Manju Chhugani Mrs. Pushpa Bharti	
9:00 - 9:15	Preconception Counselling	Dr Sumitra Bachani
9:15 - 9:30	Antenatal & Intranatal Checklist: High Risk Pregnancy	Dr Richa Sharma
9:30 - 9:45	Nutrition during Pregnancy & Labour	Mrs. Preethy Dinesan
9:45 - 10:00	Vaccination during Pregnancy	Dr Renu Arora
10:00 - 11:00	<b>Session 2</b>	
	<b>Chairpersons:</b> Dr Sunita Singal, Dr Yamini Sarwal, Mrs. Radha Rani	
10:00 - 10:15	Lakshaya: Nurses perspective	Mrs. Geeta Saifi
10:15 - 10:30	Basics of Infertility	Dr Surveen Ghumman
10:30 - 10:45	Contraceptive Basket	Mrs. Sandhya Saji Varghese
10:45 - 11:00	Neonatal Resuscitation	Dr Avijit Bansal

## Post Conference Workshop on PPH Hands on Surgical Skills

**Date: 24<sup>th</sup> February, 2019, Sunday** (14.00 -  
17.00 hrs) at EROS Hotel, Nehru Place, New  
Delhi

**Dr Achla Batra**  
Workshop Convener

**Dr Sheela Mane**  
Workshop Co- Convener

**Dr Rashmi Asif**  
Expert Faculty (Jhpiego)

Timing: 14:00 - 17:00		
Time	Station 1	
2:00-2:30pm	Balloon Tamponade	Dr Rashmi Asif, Dr Sunita Dhamija Ms Deboparna Ghosh
	Station 2	
2:30-3:00pm	B-Lynch / Hayman's Suture	Dr Achla Batra, Dr Anita Sabharwal
	Station 3	
3:00-3:30pm	PPH Suture	Dr Sheela Mane, Dr Divya Solanki
	Station 4	
3:30-4:00pm	Internal Iliac Artery Ligation	Dr Pragati Khalatkar Dr Shashilata Kabra Maheshwari
	Station 5	
4:00-4:15pm	Science of Bleeding Management	Dr Parul Aggarwal, Dr Nishi Choudhary



# Orations

## Smt. Leelawati Oration

### Catering to Maternal & Child Health: Government Initiatives

**Dr Abha Singh**

Director Professor & Head of Department,  
Obstetrics & Gynaecology, Lady Hardinge  
Medical College & Smt. Sucheta Kriplani  
Hospital, New Delhi

Women are strong pillars of any vibrant society. The quality of health care in a country is reflected by the vital statistics like maternal and neonatal mortality. The maternal and neonatal mortality has been reduced but not to the desirable level as projected in MDG. So, to reduce the maternal and neonatal mortality GOI has made massive and strategic investments under NHM for improvement of maternal health like, emphasizing on quality care, training of doctors, flagship programmes, strategies and implementation, infrastructural improvement and information system for maternal health.

**Quality Ante Natal Care:** Quality ANC includes minimum of 4 ANC visits including early registration- 1st ANC in first trimester and investigations like Hb estimation, screening for Gestational Diabetes Mellitus, Thyroid disorders, testing for HIV/Syphilis and urine testing. Immunization against tetanus- 2 doses of TT and consumption

of IFA tablets & Calcium after 1<sup>st</sup> trimester & 6 months during PNC along with counselling for nutrition. Early detection of high risk pregnancies, their follow up and management.

**Essential Obstetric Care:** This includes quality antenatal care including prevention and treatment of anaemia, institutional/safe delivery services and post-natal care. To provide essential obstetric care services, Gol is operationalizing the FRUs & PHCs for 24 hrs delivery services and also training the SNs/LHVs/ANMs in Skilled Attendance at Birth.

**Provision of Emergency Obstetric and Neonatal Care at FRUs:** Provision of Emergency Obstetric and Neonatal Care at FRUs is being done by operationalizing all FRUs in the country. While operationalizing, the thrust is on the critical components such as manpower, blood storage units and referral linkages etc. Availability of trained manpower (Skill Based Training for MBBS doctors) is linked with operationalization of FRUs.

The initiatives being undertaken in this regard are augmentation of skilled human resources for Maternal Health. To overcome the shortage of skilled manpower particularly Anaesthetists and Gynaecologists, the following key skill based training programs are being implemented- 18 Weeks Training Programme of MBBS Doctors in Life Saving Anaesthesia Skills for Emergency Obstetric Care; 16 weeks Training programme of MBBS Doctors in Obstetric Management Skills including C-Section, in collaboration with Federation of Obstetric and Gynaecological Society of India (CEmOC); 10 days Training Programme in Basic Emergency Obstetric Care for Medical Officers (BEmOC); and 3 weeks Training Programme for ANMs/SNs/LHVs as Skilled Birth Attendants (SBA).

**Referral Services at both Community and Institutional level:** Gol has a thrust to establish a network of basic patient care transportation ambulances with aim to reach the beneficiary in rural area within 30 minutes of the call for quick service delivery. Presently, states have been given the flexibility to establish assured referral systems to transport pregnant mothers and sick Infants, etc which includes different models including public, private partnership models

**Post Natal Care for Mother and New Born:** Ensuring post-natal care within first 24 hours of delivery and subsequent home visits on 3rd, 7th, 14th and 42nd day is the important components for identification and management of emergencies occurring during post-natal period. The ANMs, LHV's and staff nurses are being oriented and trained for tackling emergencies identified during these visits.

**Strengthening of Infrastructure:**

*Pre-Service Education for strengthening Nursing Midwifery Cadre-* Five National Nodal Centre (NNC) have been strengthened achieving above 70% of performance standards. Around 43% of the targeted ANM & GNM Nursing institutions in the high focus States have fully equipped mini-skill labs and 85% of these institutions have library and around 89% have IT labs. Capacity building of 700 nursing faculties in the country through customized 6 week Training has been conducted and 6 days training of 250 nursing faculties also have been conducted at National Skills lab "Daksh".

*Delivery Points:* All the States & Union Territories have identified DP's above a certain minimum benchmark of performance to prioritize and direct resources in a focused manner to these facilities for filling the gaps like trained and skilled human resources, infrastructure, equipment, drugs and supplies, referral transport etc. for providing quality & comprehensive RMNCH (Reproductive, Maternal, Neonatal & Child Health) services.

*Obstetric HDU/ICU:* Operationalization of Obstetric ICU/HDU to handle complicated pregnancies in high case load tertiary care facilities is being conducted across country.

**Information systems for Maternal Health**

*Maternal Death Surveillance and Response (MDSR):* The process of maternal death review (MDSR) has been implemented & institutionalized by all the States since 2017. Guidelines and tools for conducting community based MDSR and Facility based MDSR have been provided to the States. The States are reporting deaths along with its analysis for causes of maternal death.

*RCH portal / MCTS Portal:* Name Based Tracking of Pregnant Women and Children has been initiated by Government of India as a policy decision to track every pregnant woman, infant & child upto 5 years of age by name for provision of timely ANC,

Institutional Delivery, and PNC along-with immunization & other related services.

*MCP Card:* Ministry of Health & Family Welfare and Ministry of Women and Child Development (MOWCD) has launched MCP card as a tool for documenting and monitoring services for antenatal, intranatal and postnatal care to pregnant women, immunization and growth monitoring of infants.

### **Flagship programmes: Strategies & Implementation**

*Janani Suraksha Yojana (JSY):* A demand promotion and conditional cash transfer scheme was launched by GOI in April 2005 with the objective of reducing Maternal and Infant Mortality. It was implemented with the objective of reducing maternal and neonatal mortality by promoting institutional delivery among pregnant women below poverty line. ASHA works as a link health worker between the women and government.

*Janani Shishu Suraksha Karyakram (JSSK):* Government of India has launched JSSK on 1st June, 2011, which entitles all pregnant women delivering in public health institutions to free and no expense delivery including caesarean section. The initiative stipulates free drugs, diagnostics, blood and diet, besides free transport from home to institution, between facilities in case of a referral and drop back to home. Similar entitlements have been put in place for all sick new-borns accessing public health institutions for treatment till 30 days after birth. In 2013 this has been expanded to sick infants and antenatal and postnatal complications.

*Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA):* Carrying forward the vision of our Hon'ble Prime Minister, the Pradhan Mantri Surakshit Matritva Abhiyan was launched in 2016 to ensure quality antenatal care free of cost to pregnant women in the country on the 9th of every month. These women should be examined by specialist and all investigations to be done free of cost including ultrasonography.

*LaQshya:* In order to further accelerate our decline in the coming years, Health Ministry has recently launched 'LaQshya- Labour room Quality improvement Initiative'. LaQshya program is a focused and targeted approach to strengthen key processes related to the labour rooms and maternity operation theatres which aims at improving

quality of care around birth and ensuring Respectful Maternity Care.

*Child Health Programme:* Under NHM comprehensively integrates interventions that improve child survival and addresses factors contributing to infant and Under-five (U5) mortality. Since neonatal deaths are the biggest contributor to child deaths (approximately 57% of the U5 deaths), improving child survival hinges on improving newborn health.

*Mission Indradhanush (MI):* In December 2014, DoHFW launched a targeted programme to immunize children who have either not received vaccines or are partially vaccinated. The activity focuses on districts with maximum number of missed children. Four phases have been completed wherein 2.53 crore children have been vaccinated, of which 66.16 lakh children have been fully immunized, leading to a 6.7% increase in full immunization coverage. In addition, 68.43 lakh pregnant women were vaccinated against tetanus. On 8th October 2017, Hon'ble Prime Minister of India launched Intensified Mission Indradhanush to be held in 121 districts in 16 States, 52 districts in the North Eastern States and 17 urban areas where immunization coverage has been very low inspite of repeated phases of UIP and Mission Indradhanush with an aim to rapidly build up full immunization coverage to more than 90% by December, 2018.

Sustained development can be achieved only if we take holistic care of our women and children. The Ministry of Health and Family Welfare addressed the prevalent social issues such as safety, security, nutrition, education and hygiene of women and girls, and aimed to move forward on its reproductive and child health agenda. The social issue of saving the girl child with the "Beti Bachao, Beti Padhao" Scheme has gained momentum ground in most of the States with the support of the PC & PNDT Act.

When a woman dies in childbirth,  
amid the shock is the haunting  
question  
of "why? what went wrong?"  
Answering the question  
of what went wrong is critical to  
strengthening health system.

## **Dr S K Das Oration**

# **Reaching the Unreached**

**Sonal Bathla**

Consultant Gynaecologist & Laparoscopic Surgeon, Sant Parmanand Hospital, Delhi  
Secretary General, Okti Foundation

Despite great advances, the economic and social challenges faced by people in India are pervasive. Statistics indicate about 66% of Indian population lives in the rural areas, of which a sizeable portion is stated to be poor and devoid of basic amenities such as water, electricity and health. Those who reside in the remote and hilly locations tend to be much more vulnerable. Leaving aside emergency services, even the elective surgical services are unavailable to the inhabitants there.

It is so ironical that the best brains from India's medical colleges prefer to settle either in the metropolitans or abroad, simply because of poor infrastructure in the rural areas or perhaps due to lack of adequate opportunities for them and their children. The outcome is that the ungroomed undergraduates are posted in the villages to work and serve in the ill-equipped government run hospitals and clinics. This may mean that half of our population has access to only substandard medical treatment. This is a serious affliction of India's health system today which has far reaching implications for the future generation and their well-being. We must remember however, that it is easy to complain about the bad circumstances, what is required today, is the courage to challenge it and change it!

In 2009 a group of groomed professionals, the medical superspecialists, in an effort to give back to the society, initiated the concept of conducting elective surgical ventures in remote locations under the banner of Okti Foundation. The Project was initiated in a village called "Shillai in Himachal Pradesh" where utero vaginal prolapse was rampant. The women here were managing their prolapse by pushing their uteri in using their fingers. The smell of urine surrounding them was making them social recluse. A surgical intervention in a city hospital would deprive them of their lifetime savings and would put their family's earning too at stake. So the need

of the hour was to provide them with adequate and prompt services to save them from prolonged morbidity, social exclusion and embarrassment pertaining to bladder & bowel incontinence thereby improving their quality of life. We constantly expect the Government to solve our problems and blame it ! Why should we, when we have the power to make the change that we want to see!

A unique model of raising funds from family, friends and companies under the CSR, recruiting skill from the city and encouraging community participation, has helped Okti to conduct surgeries in the village hospitals at a low cost. Each camp requires few days away from work and family. This model not only helped the poor with elective surgeries but also helped to enable skill development and capacity building in the village setup. The villagers specially poor mothers with prolapse got benefitted at their door step free of cost. The entire expenditure on surgery and food was borne by the organization. The local hospitals were very generous and contributed to the cause in their full capacity. The Surgical Team volunteered to render services to the fellow men disadvantaged due to their difficult locations. The dedicated team of doctors, paramedical staff, financial partners, the village hospitals and community took over the herculean task as their moral responsibility and brought smiles to many faces. The mission, in next five years plans to scale up the number of beneficiaries & extend to many other states of India.

Our land is too big for any one group or system to provide the needed surgical and medical care for all. So the need for small groups like Okti! We are insignificant from the nation's point of view yet we feel compelled to do something to alleviate the unnecessary suffering of a few. If such care can be multiplied across this land by small groups of committed professionals then a greater degree of wellbeing could be experienced by many more. We should break free from the restrictions imposed by various power structures and be involved in caring for the disadvantaged in our own unique way!

***Weary eyes watch twisted paths, for those  
who can help and give,***

***Health and dignity to their ailing bodies,  
they too have the right to live!***

***Let their suffering not end with the sunset  
of their lives,***

***Let's be of some help to others before the  
sunset of our lives!***

## **Key Note Address & Invited Lectures**

### **Cesarean Section: Challenges**

**Pratima Mittal<sup>1</sup>, Megha Mittal<sup>2</sup>**

<sup>1</sup>Professor & Consultant, <sup>2</sup>Senior Resident,  
Vardhman Mahavir Medical College &  
Safdarjung Hospital, New Delhi

Caesarean section (CS) is one of the most commonly performed surgical procedures in medical practice. Though CS is the most commonly performed surgery but at time challenges faced during surgery lead to desperate situations for the Obstetricians. Challenges can be faced at any step: during opening the abdomen, giving uterine incision, taking out the baby, delivery of placenta or closing the uterine /abdominal incision. This article encompasses the difficulties in CS and how to manage them without increasing the maternal and fetal morbidity.

#### **Entry into the abdomen**

The midline vertical skin incision was the preferred incision for cesarean section because of the speed and ease of entry into the peritoneal cavity with minimal dissection required. Vertical incisions remain useful in situations where access, high on the uterus is needed. Now a days



usually caesarean is done using Pfannenstiel incision but in cases like preterm pregnancy or morbidly obese patients, Joel Cohen incision is for good exposure.

*Causes of difficult entry into abdomen* are: Dense abdominal adhesions, cicatrization of abdominal scar; flimsy abdominal adhesions; ventrifixation of the uterus (plastered uterus); adherent bladder; and adherent bowel. These causes can lead to extensive muscle splitting incisions, increased operative time, direct entry into the bladder, uterus and blood loss > 1l.

Sharp dissection of layers instead of blunt dissection helps in opening layers easily and provides good exposure to operate. Transverse opening of the parietal peritoneum instead of habitual vertical cut prevents unnecessary bladder injuries. Sharp dissection and methylene blue instillation into the bladder during bladder dissection helps in keeping the dissection away from the bladder.

### **Uterine incisions**

There are three standard uterine incisions that can be performed for delivery of the fetus: low transverse, low vertical, and classical. Following are the situations raising challenges in uterine incision.

*Uterine lower segment not well formed:* This situation usually encountered while doing CS for Preterm pregnancy. Low transverse uterine incision is preferred as easy to repair and decreased risk of haemorrhage. Occasionally the uterine incision needs to be extended to T shaped, vertical or J shaped. The fetus could be delivered en caul or via splint technique to minimize fetal injuries.

*Adherent bladder:* Sharp dissection and methylene blue instillation into the bladder during bladder dissection helps in reduction of bladder injuries. It is advisable to trace the pelvic peritoneum by identifying round ligament and tracing the uterovesical pouch accordingly.

*Caesarean Section in Fibroids:* Uterine incision should be given sparing the fibroid as myomectomy during cesarean section is still controversial. Routine myomectomy should be executed only if unavoidable to facilitate safe delivery of the fetus or closure of the uterine breach. The surgical expertise, tertiary center and blood bank facilities must be considered. CS myomectomy requires care about incision orientation, recognition and preparation

of cleavage plane, hemostasis, and sutures. Haemorrhage during fibroids due to atony is very common and compression suture sparing fibroids capsule should be generally preferred e.g. Cho suture.

*CS in Uterine Anomalies:* Uterine incision should be given after identifying round ligament to avoid uterine artery lacerations. After the foetus and placenta are delivered, the uterus should be examined for the presence of communicating or non communicating horns through digital palpation of uterine cavity and direct inspection of the fundus. The contraception should be offered accordingly.

*Abnormal Placentation:* Avoiding the placental incision, classical cesarean incision, inverted T cesarean incision, and mid transverse incision have been used. Uterine incision should be aimed to not to disturb the placenta. Hence transverse uterine incision sparing the placenta or incision in upper segment in morbidly adherent placenta is the incision of choice.

### **Delivery of Fetus**

Delivering fetus in various situations can be very tricky and require expertise.

*Deeply impacted head:* When the fetal head is impacted in the maternal pelvis, such as in deep transverse arrest or cesarean at full dilatation there are a number of options to assist delivery of the fetal head. *Push technique* – one assistant pushes the fetal head to disengage, so that surgeon can deliver the head. *Reverse breech technique*-after grasping one of the fetal legs baby is extracted as breech. *Patwardhan technique*-fetus is delivered after delivering both fetal arms followed by fetal trunk and then fetal head. *Fetal pillow*- it is a device placed in perineum disengaging the head from maternal pelvis. At caesarean section for obstructed labour with a deeply impacted fetal head, reverse breech extraction appears to be significantly safer for mother and baby than head push from below (Cochrane Review 2016).

*Free floating head:* If the head is high and delivery is difficult, the Wrigley's forceps or Kiwi ventouse cup can be applied to gently guide out the baby's head. In absence of the availability of forceps or ventouse after uterine incision the liquor should be allowed to drain adequately till head fixes and fetal head delivery should be attempted.

*Abnormal lie:* In breech or transverse lie caesarean, if the legs are extended the operator's right hand should be cupped around the bottom and the breech delivered by lateral flexion while the assistant exerts fundal pressure. Alternatively, a foot (recognized by the heel) can be held and the legs delivered first.

### **Uterine and abdominal closure**

Closing the uterus after cesarean section is best performed with a double layer technique. *If lower segment of uterus is very thin*, taking a full thickness of lower segment is the logical answer. The principle to remember is that the dead space needs to be obliterated to achieve hemostasis and reduce the chance of hematoma formation. Sutures should be interrupted and absorbable. *The incision has gone low down, below bladder*– Push the bladder and apply interrupted suture till the point one can visualize, use that suture as guiding suture and reach upto the lower most end.

*Closing the abdominal incision:* Closure of a vertical fascial incision, a continuous unlocked running delayed absorbable or permanent suture should be used. Reverse locking one or two sutures at even distances across the wound can help to distribute tension. It is also important to remember that a 10-mm zone of collagenolysis occurs surrounding the incision; therefore, sutures should be placed more than 1 cm from the fascial edge to achieve maximal wound strength and to avoid hernia formation.

The subcutaneous tissue may be closed with an absorbable suture in women with more than 2 cm of subcutaneous fat or if a previous scar has been excised in order to minimize the risk of wound hematoma and infection. In slimmer patients, closing this layer has not been associated with decreased rates of superficial wound disruption in several studies. In cases of obese patients or history of burst abdomen tension suture should be applied.

### **Conclusions**

With the growing rate of cesarean deliveries worldwide, women should be counselled that the repeat cesarean are bound with surgical difficulties and complications. Anticipation of complications, early decision and active intervention reduces morbidity and prevent mortality.

# Diagnosis of Hypoxic Fetus

**Narendra Malhotra<sup>1</sup>, Jaideep Malhotra<sup>2</sup>, Rishabh Bora<sup>3</sup>, Neharika Malhotra Bora<sup>4</sup>**

<sup>1</sup>Managing Director, Global Rainbow Healthcare, <sup>2</sup>Managing Director ART Rainbow IVF, <sup>3</sup>Consultant Radiologist, Director 4-D Life Care, Global Rainbow Healthcare, <sup>4</sup>Consultant, Rainbow IVF Hospital, Agra

## Fetal Oxygenation

Oxygen crosses from maternal circulation to fetal circulation through a process of facilitated diffusion. Maternal uterine arterial blood enters placenta with a high  $PO_2$  and fetal umbilical artery blood enters with a low  $PO_2$ . Umbilical venous  $PO_2$  increases and becomes almost same as uterine venous  $PO_2$  (never exceeds) thus umbilical venous  $PO_2$  (not higher than mother's) transports enough oxygen to fetal tissues.

Due to high affinity of fetal haemoglobin fetal organ perfusion always exceeds the requirement. The normal fetal  $PO_2$  is 20-25 mm Hg and normal fetal scalp pH is above 7.25. For an adult these might suggest hypoxic values.

The fetus becomes hypoxic only when the fetal oxygenation drops below critical levels. Oxygen uptake by fetus exceeds what is needed and the fetal oxygen delivery can be reduced by 50% before fetal tissue perfusion gets affected. Only then fetus has hypoxia and anaerobic metabolism. Fetus has a "oxygen reserve".

## Hypoxemia

When circulating oxygen is reduced and tissue perfusion of oxygen is normal. Fetal  $PO_2$  falls to critical level of 19mm Hg (18-19) fetal pH ranges between 7.25 and 7.20. This leads to some compensatory saving mechanisms by increase of left heart cardiac output leading to increased and preferential perfusion of brain and heart. These will show as→ altered cardiac velocities on fetal echocardiography, low resistance cerebral flow (MCA ↓ RI) and high resistance umbilical flow (↑ RI of UA), however NST changes do not occur at this stage.

## Hypoxia

When fetal oxygen supply drops to surpass the oxygen reserve, fetal  $PO_2$  drops to 16–17 mm Hg and this leads to tissue hypoxia. The metabolism changes to anaerobic and

the scalp pH falls to 7.20 and below. These changes will show as: AEDF in umbilical artery, ↑ed blood flow in MCA, abnormal NST, may be reduced fetal movements, amniotic fluid slightly reduced or even normal, and reduced blood flow in fetal aorta, however fetal heart variability still maintained.

### **Asphyxia or Acidosis**

If fetal oxygenation further deteriorates there is severe tissue hypoxia. Fetal  $PO_2$  falls to 16 or even less and pH falls to 7.10 – 7.20 and fetal lactic acidosis and acidemia occurs. These changes will show as: AEDF/REDF in umbilical a, AEDF in fetal aorta, high resistance in MCA (cerebral decompression), altered ductus venosus and fetal inferior vena cava flows, marked Oligohydramnios (AFI <5), abnormal NST (Flat, non reactive pattern), loss of fetal heart variability, absent fetal movements and reduced fetal tone (fetus lying limp).

### **The Markers for Fetal Distress Hypoxia are**

Amniotic fluid volume is a marker of chronic distress and acute distress markers are Cardiac rate, fetal tone, fetal movements and fetal breathing movements.

### **Hypoxia Markers are**

Abnormal NST → umbilical artery pH  $\geq 7.20$ ;  
↓ fetal breathing movements → pH 7.20; ↓  
FM → pH 7.10-7.20 and ↓ fetal tone → < 7.10.

A fetal biophysical profile is suggested by Manning, includes NST, FBM, FM, FT and AFI. It has been observed that oligohydramnios or ↓ AFI indicates an abnormal BPP irrespective of the other four variables, hence to simplify Vintzello et al suggested a modified BPP with only two parameters: VAST (Visual acoustic stimulation test) and AFI (Amniotic fluid index).

### **Conclusions**

Fetal Doppler examination gives an early and reliable warning of the fetal perfusion status and hypoxemia, Hypoxic and acidosis can be diagnosed by Color Doppler Examination.

### **Suggested Reading**

1. Hecher K, Spernol R, Stettner H, Szalay S (1992) Potential for diagnosing imminent risk to appropriate and small for gestational age fetuses by Doppler Sonographic examination of umbilical and cerebral blood flow ultrasound obstet Gynecol 2 : 266-71.
2. Bilardo CM, Nicolaides KH, Campbell S (1990) Doppler measurement of fetal and utero placental circulation : relationship

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## Timing and Mode of Delivery in Fetal Growth Restriction- What is new?

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The optimum timing of delivery of the growth restricted fetus depends on the underlying aetiology of the growth restriction, gestational age, and the degree of fetal hypoxia as detected by antenatal fetal surveillance. Altering the date and timing of delivery for the fetus with aneuploidy may not improve the outcome. In cases of early severe FGR (<26 weeks) it may be prudent to forgo delivery even if there is increased risk of fetal death. Management of FGR needs to be individualised and multidisciplinary.

After establishing the diagnosis of FGR, next step is to identify the presence of any sign of fetal hypoxia or acidosis that may warrant delivery before term. This is done by fetal Doppler studies and CTG alone is not a good monitoring modality for FGR.

Classically FGR has been divided into early and late onset FGR with 32 weeks as the cut off. Early or late onset determines the differences in the severity of placental disease as well as in fetal adaptive response and deterioration. Early onset FGR has high association with preeclampsia, severe uteroplacental insufficiency with systemic cardiovascular adaptation and more tolerance to hypoxia. On the other hand, late onset FGR has mild placental disease with mild hypoxia and cerebral vascular adaptation. Late onset FGR fetus has low tolerance to hypoxia as there is very short natural history. Different behaviour of two phenotypes of FGR determines the monitoring and timing of delivery policy.

### **Timing of delivery in early onset FGR**

The Growth Restriction Trial (GRIT) RCT assessed the timing of delivery of early preterm (<34 weeks of Gestation) growth restricted foetuses. In this trial, women with growth restricted foetuses whose

obstetricians were uncertain whether delivery would be beneficial, were randomised to either the early delivery group (delivery within 48 hours), or to the expectant management group (with ante partum surveillance until it was felt that delivery should not be delayed any longer). The perinatal survival was similar and timing of delivery varied by only 4 days. At 6 to 12-year follow-up there were no differences in cognitive, language, behaviour, or motor abilities of the children born to a woman in the early delivery group versus those in the expectant management.

TRUFFLE the trial of Randomised Umbilical and Fetal Flow in Europe dealt with management of FGR between 26-32 weeks where mothers were allocated to 1 of the 3 monitoring strategies to indicate timing of delivery: 1) reduced FHR STV on CTG, 2) early changes in ductus venosus waveforms, or 3) late changes in fetal DV waveforms. Many infants were delivered because of safety net criteria for maternal or other fetal indications. TRUFFLE now provides evidence that waiting until late changes occur in DV or abnormal CTG is associated with improved outcome at 2 years of age. Authors recommended that TRUFFLE study should be included in the guidelines.

### **Timing of delivery in late-onset FGR**

Disproportionate Intrauterine growth intervention trial at term randomised 650 women with suspected FGR >36 weeks to induction or expectant management with twice weekly surveillance. There was no difference in primary outcome of severe neonatal morbidity or in Caesarean delivery. Women in expectant treatment arm had 2-fold increase in risk of developing preeclampsia and were more likely to have a baby with birthweight <3rd percentile. The recommendation was to choose induction to prevent possible neonatal morbidity and stillbirth. Further additional data from this study revealed no difference in neonatal morbidity in both the groups, but induction at <38 weeks was associated with increased neonatal admissions. It was recommended that, where possible, delivery should be delayed until 38 weeks with watchful monitoring. From this trial it was concluded that delivery at 38 weeks in FGR at term may be optimal unless there are earlier concerns about fetal well being.

There are no well designed trials to determine the optimal time of delivery

dealing of FGR fetuses between 34-36 weeks. Consensus statement of various bodies suggested two timing strategies when FGR has been diagnosed: 1) delivery at 38-39 6/7 weeks in cases of isolated FGR and 2) delivery at 32 to 37 6/7 weeks in cases of additional risk factors for adverse outcome (e.g oligohydramnios, abnormal UA Doppler velocimetry results, maternal risk factors or comorbidities). Delivery is indicated earlier in case of AREDV Doppler.

Antenatal steroids are given if delivery is anticipated before 34 weeks. For cases in which delivery occurs before 32 weeks Magnesium sulfate should be considered for fetal and neonatal neuroprotection as per standard protocol.

### **Mode of delivery**

The FGR fetus with umbilical artery AREDV delivery by caesarean section is recommended.

In the SGA fetus with normal umbilical artery Doppler or with abnormal umbilical artery PI but end-diastolic velocities present, induction of labour can be offered but rates of emergency caesarean section are increased and continuous fetal heart rate monitoring is recommended from the onset of uterine contractions.

**Stage wise management** proposed by Barcelona Centre of fetal medicine holds good for the management of FGR.

**Stage 1** Fetal growth restriction (severe smallness or mild placental insufficiency) either Uterine A, UA, or MCA Doppler or the CPR are abnormal. In absence of the other abnormalities, evidence suggests a low risk of fetal deterioration before term. Labour induction beyond 37 weeks is acceptable, but the risk of intrapartum hypoxia is increased. Cervical ripening with foleys is recommended. Weekly monitoring is reasonable.

**Stage II** Fetal growth restriction (severe placental insufficiency). This stage is defined by absent end diastolic flow in UA (AEDV) or reverse aortic isthmus flow. Delivery should be recommended after 34 weeks. Twice a week monitoring is recommended. The risk of Caesarean section at labour induction exceeds 50%, and, therefore elective Caesarean section is a reasonable option.

**Stage III** Fetal growth restriction (Advanced fetal deterioration, low-suspicion signs of fetal acidosis) The stage is defined by reverse absent diastolic velocity (REDV) or



DV PI  $\geq$  95th centile. There is an association of higher risk of stillbirth and poorer neurological outcome. Monitoring every 24-48 hrs is recommended. Caesarean section after 30 weeks is recommended to reduce the possible effect of extreme prematurity.

**Stage IV FGR** (High suspicion of fetal acidosis and fetal death) There are spontaneous decelerations, reduced STV ( $<3\text{ms}$ ) in the cCTG or reverse atrial flow in DV Doppler. These changes are associated with very high risks of still births within the next 3-7 days. Monitoring every 12-24 hours is required. Delivery is recommended after 26 weeks by caesarean section under steroids cover. Counselling of parents by multidisciplinary team is essential as intact survival exceeds 50% only after 26-28 weeks.

### **Suggested reading**

1. ACOG Practice Bulletin No. 204: Fetal Growth Restriction. Obstet Gynecol 2019 Feb; 133(2):e97-e109.
2. Figueras F. · Gratacós E. Update on the Diagnosis and Classification of Fetal Growth Restriction and Proposal of a Stage-Based Management Protocol. Fetal Diagn Ther 2014;36:86-98.
3. Lesley M. McCowan, Francesc Figueras, Ngaire H. Anderson. Evidence-based national guidelines for the management of suspected fetal growth restriction: comparison, consensus, and controversy. Am J Obstet Gynecol Feb 2018;S855-866.

## **Baby coming too soon: How to Manage?**

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The early Signs and symptoms of labor are imprecise. It may comprise of menstrual like cramping, mild irregular contractions, low back ache, pressure sensation in the vagina, oozing of vaginal discharge, which can be clear, pink or slightly bloody.

The diagnosis of Pre-term labour relies on clinical criteria of regular painful uterine contractions along with Cervical dilatation and/ or effacement. We use the following specific criteria: Uterine contractions ( $\geq 4$  in 20 minutes or  $\geq 8$  in 60 minutes) and Cervical dilation  $\geq 3\text{cm}$  or Cervical length  $< 20\text{mm}$  on transvaginal ultrasound or Cervical length 20 to  $< 30\text{ mm}$  on transvaginal ultrasound

and positive fetal fibronectin (fFN)

The threshold at which the perinatal morbidity and mortality are too low to validate the potential maternal and fetal complications is 34 to 35 weeks of gestation.

**For Pregnancies  $\geq$  34 weeks of Gestation:**

After an Observation period of 4-6 hours, women without any progressive cervical dilation and effacement may be discharged home as long as fetal well-being is defined (eg- reactive Non-Stress test). Obstetric complications attributed with pre-term labor such as abruption placenta, chorioamionitis and pre-term rupture of membranes need to be excluded.

**For Pregnancies  $<$  34 weeks of Gestation and cervical dilation  $<$  3cm:**

Transvaginal Ultrasonography for measurement of cervical length and laboratory analysis of cervico-vaginal fetal- fibronectin levels aids in supporting or excluding the diagnosis of pre-term labor. For cases, diagnosed in preterm labor, tocolytic drugs are administered upto 48 hours, antibiotics for group B streptococcal chemoprophylaxis as if when required. Antenatal betamethasone is given, Magnesium sulphate is administered for Neuro-protection in the period of 24 to 32 weeks of gestation.

**For Pregnancies  $<$  34 weeks of Gestation and cervical dilation  $\geq$  3cm:**

Tocolytic drugs are administered for upto 48 hours.

## Peripartum Cardiomyopathy

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Peripartum cardiomyopathy is a weakness of the heart muscle that by definition begins sometime during the final month of pregnancy through about five months after delivery, without any other known cause. Most commonly, it occurs right after delivery. It is a rare condition that can carry mild or severe symptoms.

**Pathomechanisms of peripartum cardiomyopathy**

Among potential factors leading to PPCM, low selenium levels, various viral infections, stress-activated cytokines, inflammation, autoimmune reaction, a pathological

response to haemodynamic stress, and unbalanced oxidative stress have been mentioned. A novel finding is the discovery that oxidative stress-mediated cleavage of the nursing hormone prolactin into a smaller biologically active subfragment, 16-kDa prolactin, may be a major factor initiating and driving PPCM. Along this line, multiple anti-angiogenic factors such as 16-kDa prolactin and sFlt1 disturb the angiogenic balance in the peripartum phase thereby causing vascular impairment and subsequently heart failure.

### **Symptoms of the condition include**

Fatigue, feeling of heart racing or skipping beats (palpitations), increased nighttime urination (nocturia), shortness of breath with activity and when lying flat, swelling of the ankles, swollen neck veins and low blood pressure, or it may drop when standing up.

### **Diagnostic challenge in peripartum cardiomyopathy**

Establishing the diagnosis of PPCM relies on a high index of suspicion as it can present dramatically with acute heart failure necessitating intensive care or it may develop subtly over several weeks. Therefore, the choice and value of diagnostic tools is critical. PPCM is diagnosed when the following three criteria are met- Heart failure develops in the last month of pregnancy or within 5 months of delivery; an ejection fraction (EF) less than 45% measured by an echocardiogram; and no other cause for heart failure with reduced EF can be found

Laboratory blood tests are a standard part of the evaluation. This includes tests to assess kidney, liver and thyroid function; tests to assess electrolytes, including sodium and potassium; and a complete blood count to look for anemia or evidence of infection. In addition, markers of cardiac injury and stress can be used to assess level of risk.

*Electrocardiogram:* Specific electrocardiogram (ECG) patterns are not known for PPCM, in a small minority of patients, intraventricular conductance abnormalities, such as a left bundle branch block, have been reported. However, an ECG should be performed to rule out or point to pulmonary embolism or an acute ischaemic event. *Echocardiography:* Transthoracic echocardiography is the most important tool for diagnostic confirmation or exclusion of PPCM and should be

performed in every suspected case. *Chest X-ray*: Chest X-ray at the acute presentation may depict signs of decompensated heart failure with pulmonary congestion or oedema that may be complicated by pneumonia and pleural effusion. *Cardiac magnetic resonance*: provides valuable information about myocardial structure and right-ventricular function and should be considered in more severe forms of PPCM. *Cardiac catheterization/myocardial biopsies*: in some rare cases to obtain information on an ischaemic cause of heart failure or infection.

The severity of symptoms in patients with PPCM can be classified by the New York Heart Association system as class I-IV

### **Maternal and foetal complications**

*Maternal complications* may include: hypoxia, thromboembolism, progressive cardiac failure, arrhythmias, inadequate treatment or testing because of exaggerated concern about the effect on the foetus, and misdiagnosis of preeclampsia. Misinterpretation of hemodynamic data obtained from right-heart catheterization as a result of failure to consider the normal physiologic alterations of pregnancy.

*Foetal complications* may include: distress due to maternal hypoxia and distress due to placental hypo perfusion as a result of poor cardiac output or maternal hypovolemia due to excessive diuresis, or hypotension from aggressive afterload reduction.

### **Route of delivery**

Delivering the foetus decreases the metabolic demands on the mother, but afterload increases due to the loss of the low-resistance placental bed. Vaginal deliveries are preferred because of much lower rates of complications. Vaginal deliveries are not associated with the postoperative third-spacing of fluid that occurs after cesarean deliveries. This third-spaced fluid reverses after approximately 48 hours, leading to intravascular volume overload and possible maternal decompensation. Unless the mother is decompensating, managing her medically and waiting for a spontaneous vaginal delivery is reasonable. If she is not responding to medical therapy or if the foetus must be delivered for obstetric reasons, the best plan is to induce labour with the goal of a vaginal delivery.

### **Drug therapy for heart failure in peripartum cardiomyopathy**

$\beta$ -Blockers and ACE-inhibitor- are essential

for all patients. Up-titration should be done to standard or maximally tolerated dosages. *ARB*- limited data is available for safety in lactation, should be avoided during lactation and is recommended for patients who cannot tolerate *ACE*-inhibition. *Mineralocorticoid receptor antagonists*- limited data is available for safety in lactation, should be avoided during lactation but is recommended for all patients with LVEF < 40%. *Ivabradine*-limited data is available for safety in lactation, can be given to patients with heart rate >75/min, when  $\beta$ -blocker up-titration is not possible. Should be tapered when  $\beta$ -blocker up-titration is possible and/or heart rate is < 60/min. *Diuretics*-Thiazides are the best-studied diuretics during lactation and well tolerated. They may decrease milk production. Very limited data is available on furosemide and torasemide during lactation. Diuretics should be given only when oedema/congestion is present.

### **Prospects for future pregnancy**

Before a subsequent pregnancy, women should undergo echocardiography and, if findings are normal, dobutamine stress echocardiography. Pregnancy should not be recommended to women with persistent left ventricular dysfunction, Patients with normal findings upon echocardiography but decreased contractile reserve should be warned that they might not tolerate the increased hemodynamic stresses of pregnancy. Patients with full recovery should be told that although a chance of recurrence exists, the mortality is low and the majority of such women have normal pregnancies. The use of an intrauterine device is recommended for PPCM patients since hormonal contraceptives may interact with heart failure medication.

## **Acute Respiratory Distress Syndrome in Pregnancy**

### **Jyotsna Suri**

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Acute respiratory distress syndrome (ARDS) is an acute, diffuse, inflammatory lung injury, characterized by increased

pulmonary vascular permeability, increased lung weight, and loss of aerated tissue. In 1967, Ashbaugh et al became the first to describe the syndrome which they referred to as adult respiratory distress syndrome in 12 patients, now known as Acute Respiratory Distress Syndrome.

*The diagnosis according to the Berlin criteria*, requires the presence of all of the following: respiratory symptoms within a week of clinical insult; bilateral opacities consistent with pulmonary edema in X-Ray chest or CT Scan; cardiac failure and fluid overload to be ruled out; and moderate to severe impairment of oxygenation defined as ratio of arterial O<sub>2</sub> tension to fraction of inspired air (PaO<sub>2</sub>/FiO<sub>2</sub>)- Moderate <200; Severe <100).

### **Pathophysiology of lung injury**

There may be a direct or indirect insult leading to ARDS. Both mechanisms stimulate the cellular and humoral immune cascades ultimately resulting in production of immune mediators- cytokines, oxidases, proteases and lipid mediators resulting in damage of pulmonary epithelium and endothelium resulting in leakage of fluid into the alveoli.

The etiology of ARDS in pregnancy may be classified into 3 categories: *Unaffected by pregnancy*- *Direct/ pulmonary causes*- Bacterial pneumonia, Ventilator associated lung injury (VALI), inhalational injury, chemical pneumonitis, near drowning, pulmonary contusion, fat embolism; *Indirect /extra-pulmonary causes*- sepsis, trauma, burns, acute pancreatitis, transfusion-related acute lung injury (TRALI). *Modified by pregnancy*- can be due to either direct causes like aspiration of gastric contents, viral pneumonitis (H1N1), blastomycosis, coccidiomycosis, listeriosis, and venous air embolism, or due to indirect causes due to pyelonephritis, malaria and dengue fever; and *Unique to pregnancy*: Direct- tocolytic associated pulmonary edema, amniotic fluid embolism, trophoblastic embolism or Indirect- preeclampsia-eclampsia, HELLP, AFLP, chorioamnionitis, endometritis

*Predisposing factors for ARDS* include drugs and alcohol, genetic determinants, cigarette smoking, obesity, blood Group A and thoracic surgery.

### **Prevalence of ARDS**

It has been reported as 1.5-75/100,000 in general population and 16-70/100,000 in pregnant women.

## **Clinical features**

Normally appear within 6 to 72 hours of an inciting event, with rapid deterioration. The presenting features are typically, dyspnea, cyanosis (ie, hypoxemia), and diffuse crackles. There is evidence of respiratory distress, with presence of tachypnea, tachycardia, diaphoresis and accessory muscles use. Cough and chest pain may be present. Clinical findings related to the precipitant may be present for example in a case of puerperal sepsis there may be high grade fever and foul smelling purulent lochia.

## **Investigations**

For diagnosis of ARDS the investigations which are required are arterial blood gas analysis- hypoxemia, often accompanied by acute respiratory alkalosis and an elevated alveolar-arterial oxygen gradient may be seen. The initial chest radiograph typically has bilateral alveolar infiltrates without cardiomegaly and computed tomography may show widespread patchy or coalescent airspace opacities, more in dependent lung zones.

## **Management**

The principles of management include supportive care; identify the cause of ARDS; treat the cause and formulate a plan for fetal monitoring/delivery. The physiological haemodynamic changes during pregnancy make the management of ARDS in pregnancy more challenging. Other important factors are that pregnant women have decreased functional residual capacity, chronic compensated respiratory alkalosis, difficult airway management and requirement of PaO<sub>2</sub> of 70mmHg and SpO<sub>2</sub> of 95% as compared to 55mmHg and 88% in non pregnant women.

## **Ventilatory strategies**

*Non Invasive Positive Pressure Ventilation (NIPPV)* can be given in the women who are haemodynamically stable with mild ARDS; in patients with no risk of aspiration; and in whom respiratory drive is present.

*Indications for intubation* are increased work of breathing; alteration in mental status; hemodynamic instability; inability to protect airway; inability to maintain Pa O<sub>2</sub> of 70 mmHg and Sa O<sub>2</sub> of 95% with conservative therapy.

*Lung protective Conventional Ventilation (ARDS Network lung protective strategy)*- the advantage is protection from Ventilator Associated Lung Injury (VALI). The basic

components include: lower tidal volumes and lower pressures. Tidal volume of  $\leq 6\text{ml/kg}$  predicted body weight and targeted inspiratory plateau pressure of  $\leq 30\text{ cm H}_2\text{O}$  are the cornerstones to prevent VALI (Table 2).

*The ventilatory parameters recommended by NIH-ARDS network protocol are:* Tidal volume of  $\leq 6\text{ml/kg}$ ; plateau pressure of  $\leq 30\text{ cm H}_2\text{O}$ ; ventilation set rate/ pH goal of 6-35/ min to achieve  $\text{pH} \geq 7.30$ ; oxygenation goal of  $\text{PaO}_2 \geq 70\text{mmHg}$ ,  $\text{SpO}_2 \geq 95\%$ ;  $\text{FiO}_2/\text{PEEP}$ - 0.3/5, 0.4/5-8, 0.5/8-10, 0.6/10, 0.7/10-14, 0.8/14, 0.9/14-18, 1/18-24; and weaning to be done when  $\text{FiO}_2/\text{PEEP}$  is 0.4/8 with PSV.

*Strategies for patients failing conventional Mechanical Ventilation are:* Airway Pressure Release Ventilation (APRV); High Frequency Oscillatory Ventilation (HFOV); lung recruitment maneuvers; prone positioning; and inhaled nitric oxide are the various strategies which can be practiced.

### **Fetal monitoring and decisions related to delivery**

Twice-weekly antepartum testing starting at about 26 wks for high-risk conditions and for any significant deterioration in fetal status is recommended. After the mother is stabilized the decision to expedite delivery is taken depending on the maternal and fetal condition. It has been suggested by some that delivery improves the maternal outcome in ventilated patients. However others have found no benefit. Hence the decision to deliver should be led by the obstetric factors along with the maternal and fetal condition.

### **Conclusion**

Early assessment of fetal wellbeing and multidisciplinary consultation to develop a delivery plan are unique to managing ARDS in pregnancy and are essential to optimizing both maternal and fetal outcomes.

### **Suggested Reading**

1. The ARDS Definition Task Force. Acute Respiratory Distress Syndrome: The Berlin Definition. JAMA 2012;307(23):2526-33.
2. Cole DE, Taylor TL, McCullough DM, et al. Acute respiratory distress syndrome in pregnancy. Crit Care Med 2005; 33:S269.



# Revisiting Induction of Labour: Old methods- Doing it right?

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Induction of labor is the artificial stimulation of labor before its spontaneous onset to promptly achieve vaginal delivery. It is a commonly performed procedure, with approximately 1 in 5 gravid women undergoing induction of labor in both the United States and Canada in recent years. It may be less efficient and is usually more painful than spontaneous labour, and epidural analgesia and assisted delivery are more likely to be required. When labor is induced 22% patient will end up in caesarean section and 15% will end up in instrument delivery.

The modern techniques of labor induction can be divided into the following 2 broad categories depending on the status of the cervix before induction of labor. *Cervical ripening agents for the unfavorable cervix:* This category includes the local administration of medication, which softens and opens the cervix (prostaglandins) as well as mechanical methods, including insertion of catheters or dilators directly into the cervix. *Induction methods for the favorable cervix:* Administration of systemic medications that stimulate uterine contractions (ie, synthetic oxytocin) and mechanical methods such as amniotomy.

Before starting induction of labour, favourability of cervix should be assessed by calculating Bishop's score. Transvaginal ultrasound imaging is also used to assess cervical favorability and predict the likelihood of vaginal delivery with induction of labor. An unfavourable Bishop's has been defined as less than 6. Prior to formal induction of labour, women should be offered a vaginal examination for membrane sweeping. Stripping membrane increases the likelihood of spontaneous labor within 48 hours and reduces the incidence of induction of labor with other methods.

## **Pharmacological method**

**Prostaglandin E<sub>2</sub>** Intracervical gel is available in syringe form, 2.5 ml with 0.5 mg of dinoprostone is commonly used. It is placed

intracervically just below internal os. Patient should remain recline and the dosage can be repeated every 6 hours if needed, such 3 dosage can be given according to ACOG. Oxytocin administration should be delayed 6 to 12 hours after the final dose to avoid overstimulating the uterus. RCOG does not recommend intracervical gel. *Dinoprostone vaginal insert* 10 mg is a controlled release pessary which releases 0.3 mg/hr dose. The insert is kept in post fornices and can be left for 24 hours but should be removed if active labor begins. Oxytocin infusion can begin starting at 30 minutes after removal of the insert.

According to one systemic review efficacy of both dinoprostone preparation is same. The intracervical gel 0.5 mg has 1% rate of tachysystole as compared to 10 mg vaginal insert which has 5% rate of tachysystole. Removing the vaginal insert will reverse tachysystole. Irrigation of cervix and vagina is not beneficial.

**Prostaglandin E1–** *Misoprostol intravaginally* is as efficacious or superior to dinoprostone gel, 25 mcg of misoprostol vaginally should be initial dose according to ACOG guidelines. Frequency of administration should not be more than every 3-6 hours. WHO recommends 25 mcg every 2 hourly orally, such 6 doses. *Oral misoprostol* administration is associated with fewer abnormal FHR changes as compared to vaginal route. Before 28 weeks vaginal misoprostol appears to be most efficacious method of induction of labour irrespective of Bishops score. Misoprostol is recommended by ACOG but not by RCOG. *Misoprostol Vaginal Insert* is a single-application, removable, controlled-release vaginal delivery system and is made from a non-biodegradable hydrogel polymer with the active ingredient, misoprostol, dispersed throughout this polymer matrix. This polymer is then placed within an inert, woven retrieval tape. The reservoir of 200 µg of misoprostol is released at a mean rate of approximately 7 µg/hour. While the insert remains in place, allowing constant dosing over a 24-hour period with the benefit of rapid and easy removal if needed. Not available in India.

**Foleys catheter-** It is reasonable and effective alternative for cervical ripening and inducing labor specially in patient with previous caesarean section.

**Oxytocin-** 2 regimens can be given,

low dose and high dose. The high-dose regimen may decrease time to delivery, it is also associated with higher rates of tachysystole (albeit without an increase in maternal and perinatal complications). High dose regimen is also associated with less incidence of chorioamninitis. The plasma half-life of oxytocin is short, with a uterine response in 3 to 6 minutes and a steady concentration of oxytocin in plasma is achieved by 40 minutes with continuous infusion. This allows for relatively quick titration to achieve adequate uterine stimulation and also enables the clinician to abruptly discontinue uterine stimulation if tachysystole or an abnormal fetal heart rate pattern develop.

In conclusion no method is superior and one has to individualise treatment accorded to patient condition and operators familiarity with method.

## **Hepatitis B: New dimensions in MTCT**

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Mother to child vertical transmission of Hepatitis B contributes to about half of the global burden of chronic Hepatitis B infection. Hence the importance of preventive strategies in the form of universal screening of all pregnant women for HBV infection and immunization of neonates born to Hepatitis B positive mothers. The transmission can occur from a pregnant woman contracting acute hepatitis B infection during pregnancy or from mothers with chronic hepatitis B infection.

With acute hepatitis infection to a pregnant woman during pregnancy, the risk of mother to foetus transmission ranges from 10 to 60% depending upon the gestation at which mother contracts infection. It is higher as the gestation advances. However acute infection in mother in first trimester is not associated with increased risk of anomalies in the fetus and does not warrant termination of pregnancy. However, the disease clearance or progression should be monitored in the mother throughout pregnancy and antiviral therapy should be considered in last trimester if the disease

is persistent and viral load is high. The newborn is also administered additional immunoglobulins along with Hepatitis B vaccination if mother is a carrier at the time of delivery. Acute infection in pregnancy has been linked with prematurity and low birth weight babies.

The risk of MTCT in pregnant women with Chronic Hepatitis B infection in pregnancy is 90 percent in the absence of active and passive immunization of the neonate after delivery. The transmission can occur during pregnancy, at the time of delivery and after delivery. The risk is maximum at the time of delivery due to contact of the baby with infected blood and vaginal secretions of the mother. The risk of MTCT is higher in women with a high viral load  $> 10^6$  copies/ml, raised aminotransferases and who are HBe Ag positive. Thus, all women positive for Hepatitis B surface antigen should be subjected to these investigations at their first antenatal visit and offered a repeat testing at 26-28 weeks. If the viral load is  $> 10^6$  copies/ml they should be referred to a hepatologist for initiation of antiviral treatment and offered active and passive immunization of newborn within 12 hrs of birth. Otherwise only neonatal immunization with both immunoglobulins and vaccination are indicated within 12 hrs of birth to prevent MTCT. Tenofovir disoproxil fumarate is the antiviral drug of choice. Lamivudine is a good cost effective alternative but is associated with drug resistance. It can be given if the drug is to be administered for a short duration that is  $\leq 3$  months. The antiviral therapy can be stopped after delivery as the risk of MTCT through breast feeding is unlikely in immunized babies.

## Chronic Renal Disorders in Pregnancy

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Chronic kidney disease (CKD) affects up to 6% of women of childbearing age in high income countries, and is estimated to affect 3% of pregnant women. Advanced renal dysfunction, proteinuria, hypertension, and poorly controlled underlying primary renal disease are all significant risks for adverse maternal, fetal, and renal outcomes. In order

to achieve the best outcomes, it is therefore of paramount importance that these pregnancies are planned, where possible, to allow the opportunity to counsel women and their partner so as to optimize these risks. These pregnancies are high risk and require close antenatal monitoring from an expert multidisciplinary team.

Women with CKD are at increased risk for adverse perinatal events, including preeclampsia, preterm delivery, low birth weight, and an increase in overall mortality. Women with advanced CKD may also have deterioration in kidney function.

### **Maternal adverse events**

The maternal adverse events include deterioration in kidney function, flare of underlying disease, preeclampsia, HELLP syndrome, complications from immunosuppression and preterm delivery.

### **Fetal adverse events**

The fetal adverse events are miscarriages, stillbirths, neonatal death, preterm births, small for gestational age infants and low birth weight babies.

### **Management**

The primary management during pregnancy are control of maternal HT, regular assessment of GFR, monitoring with serum creatinine & proteinuria assessment of fetal well being. Women with renal insufficiency should receive low dose aspirin for prevention of preeclampsia and should receive subcutaneous heparin if nephrotic syndrome develops.

Patients with kidney transplant should be counselled to avoid pregnancy in the first post transplant year. Immunosuppressive therapy needs modification before conception. Specialized care should be given by multidisciplinary team comprising of obstetrician, transplantologist, neonatologist, nephrologist & anaesthetist. Vaginal delivery is preferred and caesarean section should be performed for obstetrical indications.

### **Prognosis**

Women with milder CKD (S. creatinine < 1.4 mg/dL) may expect to have good maternal and fetal outcomes, whereas women with advanced disease (S. cr, 1.4-2.9 mg/dL) are at high risk for pregnancy complications. Women with S. cr values  $\geq$  3.0 mg/dL may permanently lose kidney function with pregnancy. The underlying disease, such as DM or lupus nephritis, may impose additional disease-specific risks.

# Pharmacotherapy in Gestational Diabetes Mellitus

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## Introduction

Hyperglycemia in pregnancy can be grouped into 3 categories: Gestational Diabetes Mellitus- Occurrence of Impaired Glucose Tolerance (IGT) with its onset during pregnancy. In most cases this condition appears in the second or third trimester and resolve after the birth of the baby. GDM may increase the risks of pre-eclampsia, placental abruption, premature birth, neonatal hypoglycemia and perinatal death. Type 1 Diabetes- Also known as insulin dependent diabetes, may increase the risks of birth defects, pre-eclampsia, cesarean section, preterm birth, miscarriage or stillbirth and congenital malformations. Type 2 Diabetes- Also known as adult onset diabetes, women with T2D have much higher risks of pre-eclampsia, cesarean delivery, shoulder dystocia, pre-term delivery, and large-for-gestational-age-infant, fetal anomaly.

## Treatment of diabetes in pregnancy

It is aimed at maintaining the maternal glucose levels to the closest possible value of normal glucose levels. Majority of women with GDM can be managed on medical nutrition therapy with adjustments but few of them may require pharmacotherapy. All national and international authorities strongly recommend insulin as the gold standard for managing hyperglycemic pregnancy. The Pregnancy and Lactation Labeling Rule (PLLR) came into effect from June 30, 2015. It quoted that all prescription drugs should remove pregnancy letter categories gradually by June 2020. This nullification of the letter-based classification of drugs by United States Food and Drug Administration (USFDA) and has augmented the responsibilities of the prescribers to tightly ensure (near) normal glycemic control in diabetic pregnant females and also avoid hypoglycemia. Insulin regimens, thus, require to be continuously reviewed to assess their safety for use in pregnancy.

**Glycemic targets in pregnancy are as follows:** Fasting:  $\leq 95$  mg/dl; 1-h postmeal:  $\leq 140$  mg/dl or 2-h postmeal:  $\leq 120$  mg/dl; Intrapartum - 70 -110 mg/dl (FIGO 2015, ACOG 2017, ADA 2019) and HbA1c -6-6.5% (if possible  $< 6\%$ ) ADA;  $< 6\%$  (NICE)

**Indications for initiating insulin therapy for women with GDM:** If diet and exercise fail to achieve blood glucose targets within 2 weeks; FBS  $> 110$  mg/dl; 1 hr PP  $> 140$  mg/dl; POG  $< 20$  wks or  $> 30$  wks; and Fetal macrosomia (FIGO 2015); USG: AC  $> 75$ th percentile at 29-33wks (ACOG 2016).

Insulin therapy in pregnancy-Conventionally, intermediate insulin like Neutral Protamine Hagedorn (NPH) was administered before breakfast and dinner. A mixed regimen (NPH with an insulin analog) given twice daily can also help achieve the targeted glycemic control. Short acting insulin is given 30 minutes before meal while rapid acting insulin is administered right before meals. Nowadays, a bolus regime thrice a day before the meals to control post prandial glycaemia along with a shot of basal or intermediate insulin to normalize the fasting glucose are recommended. In special conditions where control of diabetes is difficult, a continuous subcutaneous insulin infusion (CSII) pump can be used.

**Available Insulin preparations** Human Insulin: Regular Insulin-It is a drug with low risk for the mother as well as the fetus. However, there are chances of occurrence of hypoglycemic events. NPH insulin-Neutral Protamines Hagedorn (NPH) has a pronounced peak effect. It has duration of action of 16-18 hours. However, it is incapable to provide once-daily basal insulin. Moreover, the uncontrollable pharmacokinetics may sometimes make glycemic control difficult.

**Rapid Acting Analogs:** Rapid acting analogs of insulin have a rapid onset of action and are helpful in reducing the post prandial hyperglycemia. The efficiency of these analogs in reducing the post prandial hyperglycemia is due to their faster actions immediately after administration. Lispro and Aspart belong to category "B" and have demonstrated clinical effectiveness. Lispro-Produced by recombinant DNA technology, it has an onset of about 10-15 minutes and requires 30-60 minutes to reach the peak concentration. Its can produce its actions for up to 3-4 hours. The shortened onset,

allows more flexibility than regular insulin. Aspart- It is a recombinant, rapid-acting analog with an onset of 10-20 minutes. Moreover, it takes 40-50 minutes to reach its peak concentration and has duration of action of 3-5 hours. Insulin aspart has not shown any significantly different adverse effects from that of regular insulin and is therefore considered to be reasonably safe for administration in pregnancy. Glulisine- Recombinant insulin analog produced in a laboratory strain of E.coli, glulisine takes about 20 minutes to initiate its action and about 55 minutes to reach the peak concentration. This analog does not have any remarkable toxic effects on the fetus. However, no significant clinical data is available for using insulin glulisine in pregnancy.

**Long Acting Analogs:** Among the long acting analogs, insulin glargine has been assigned category “C” while insulin Detemir has been shifted to category “B”. Glargine: It is a long acting basal insulin analogue with onset of action after 60-120 minutes. The maximum duration of action is 24 hours. Pharmacokinetically, insulin glargine has a steady action and usually does not cross the placenta. Current clinical data shows comparable fetal outcomes between regular insulin and glargine. However, to further justify its safety and efficacy in pregnancy large randomized trials are required to be conducted. Detemir: Long-acting human insulin analogue for maintaining basal level of insulin. It has its onset in 60-120 minutes after administration. The maximum duration of action is 20 hours. Degludec: It is an ultra long-acting basal insulin analogue with its onset 30-90 minutes after administration. The duration of action is reported to be more than 24 hours. There is no significant clinical data available to justify the use and safety of insulin Degludec in pregnancy. Thus, it is not yet recommended to be used in pregnancy.

### **Oral Antidiabetic Agents (OAD) in Pregnancy**

The FDA has not approved any oral anti-diabetic drug for use in pregnancy. Metformin serves as a second line approach and may be used as an alternative to insulin during pregnancy in women who are not willing for insulin injections and are not able to monitor their plasma glucose levels. Its use in pregnant patients alone or with insulin supplements is not associated with



increased perinatal complications. The advantages of Metformin use in pregnancy are- low cost, ease of administration, requires less stringent monitoring, decreased weight gain during pregnancy and has a comparable efficacy to insulin for achieving normoglycaemia. However, its administration should still be accompanied with counseling about chances of preterm birth, placental transfer of the drug, and lack of approval from regulatory authorities in absence of long term data in exposed offspring. About 30-40% women require to be shifted to Insulin due to failure of Metformin in normalizing plasma glucose levels. Glibenclamide should not be used if insulin or Metformin can be administered to the patient. Although it has comparable effects as that of metformin, glyburide treatment is associated with increased risks of neonatal hypoglycemia, high maternal weight gain, and macrosomia. It has a failure rate of 16-20%. Dose- 2.5 to 20 mg/day.

### **Conclusion**

Maintenance of euglycemia with supervised, multidisciplinary care and lifestyle modifications and pharmacotherapy will help in preventing short and long term complications for the mother as well as fetus.

## **Interpretation of CTG**

### **Rinku Sen Gupta Dhar**

Senior Consultant, Sitaram Bhartia Institute of Science & Research

EFM (Electronic fetal monitoring) was introduced in the late 1960s. It was initially introduced to prevent brain injury secondary to intrapartum fetal hypoxia. Unfortunately, the rates of cerebral palsy have remained stable over the last 50 years. Moreover, the rates of caesarean section and instrumental deliveries have been continuously increasing over the last 40 years.

CTG not only has a 60% false-positive rate, but also has high intra-observer variability. Therefore, a good understanding of fetal physiology is essential to adequately interpret and manage the findings on the CTG). It is paramount to analyse the CTG trace in the context of the existing and evolving clinical picture during labour and not in isolation. Risk factors

such as prematurity, intrauterine growth restriction (IUGR), infection or the presence of meconium-stained liquor, the use of oxytocin for failure to the progress of labour and the presence of a uterine scar need to be considered whilst interpreting the CTG trace.

The overall management needs to be modified in the presence of an 'a priori' reassuring CTG. In addition, a critical analysis of the CTG trace needs to be made to differentiate a fetus that is compensating well with the ongoing hypoxic and/or mechanical stress from a fetus that is unable to compensate or has begun the process of decompensation, based on the features observed on the CTG trace. Failure to understand the fetal physiology and pathophysiology during labour and to correlate the CTG patterns with the clinical picture may result in an increase in unnecessary operative interventions and/or an increase in the risk of intrapartum hypoxic injury leading to hypoxic ischaemic encephalopathy (HIE), and possible long-term neurological sequelae (cerebral palsy) or perinatal death.

Interpretation of CTG requires intensive onsite individual and multidisciplinary training as only judicious use of CTG can optimize perinatal care.

### **Suggested reading**

1. Khangura T, Chandraharan E. Electronic fetal heart rate monitoring: the future. *Curr Wom Health Rev* 2013;9:169e74.
2. Chandraharan E, Arulkumaran S. Electronic fetal heart rate monitoring in current and future practice. *J Obstet Gynecol* 2008;58(2):121e30.
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## **Dying Art of ECV**

**Kanwal Gujral<sup>1</sup>, Sakshi Nayar<sup>2</sup>**

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The art of ECV is dying, especially after the publication of 'Term Breech Trial' which indicated better outcomes for the breech fetus with planned Caesarean section and a similar safety for the mother as compared to vaginal delivery. Large body of evidence

has established effectiveness, success and safety of ECV- A reduced risk of non-cephalic presentation by 60% and Caesarean section by 40%. Success rate ranges from 49-58% with a very low complication rate.

Nulliparity, placenta anterior, lateral or cornual, decreased amniotic fluid volume, posteriorly placed fetal spine, low birth weight, breech descent into pelvis, tense uterus and firm maternal abdominal muscles *decrease the success rates* whereas non-longitudinal lie, unengaged presenting part, posterior placental location, complete breech position & amniotic fluid index >10, increase the success rates.

*Absolute contraindications* for performing ECV are- severe oligoamnios, nonreassuring CTG, hyperextended fetal head, significant fetal/uterine anomaly, placenta abruption, ruptured membranes and active labor with fetal descent. Maternal hypertension, obesity, fetal growth restriction, previous non-classical caesarean delivery and nuchal cord are some of the relative contraindications.

ECV should be carried out by a trained obstetrician / trainee under supervision, from 37+0 weeks gestational age onwards at a place where facilities for monitoring & surgical delivery exist. A detailed pre-test counseling and consent is mandatory. Standard pre-operative preparation for CS is not recommended. Pre and post procedure ultrasound is recommended.

*Methodology* of ECV involves converting the fetus from breech to cephalic either by a 'forward' or 'backward' somersault. No more than 4 attempts at one sitting should be undertaken. Post-procedure, it is mandatory to evaluate fetal well-being by CTG until the fetal heart is stable. FHR tracings can be non-reactive for a period of 20-40 minutes after ECV. Transient fetal bradycardia less than 3 minutes can occur, however if it lasts for more than 6 minutes, immediate caesarean delivery should be undertaken. Feto-maternal hemorrhage is seen in 2.4% cases which is usually less than 1 ml; almost always less than 30 ml, anti-D 300mcg usually suffices. If a primary attempt of ECV is unsuccessful, one or two re-trials in one or more days can be undertaken, never after 2 unsuccessful attempts on separate days. After a successful ECV routine antenatal care rather than immediate induction of labor is recommended.

Several ancillary aids namely use of powder

or gel, use of tocolytics, neuraxial anesthesia can improve upon the success rates.

To conclude, ECV is a safe and an extremely efficient tool to reduce the primary caesarean section rate in order to reduce the risks associated with a previous caesarean section. The uptake of ECV can best be increased by timely identification of breech pregnancy and providing evidence based information to the patient regarding its advantages. Most importantly obstetricians need to change their attitude towards ECV, trained themselves and impart training to youngsters.

### **Suggested reading**

1. External Cephalic Version and Reducing the Incidence of Term Breech Presentation (Green top Guideline No. 20a 2017)
2. G Justus Hofmeyr. External cephalic version. <https://www.uptodate.com>. Last Accessed on 30 January, 2019.

## **Meconium Stained Liquor**

### **Mala Srivastava**

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Meconium staining of amniotic fluid (MSAF) complicates delivery in approximately 8% to 25% of livebirths, of which nearly 5% of the neonates born through MSAF develop meconium aspiration syndrome (MAS) and about 50% of these MAS neonates require mechanical ventilation. MSAF is found to be associated with many maternal and neonatal risk factors, and it is one of the indicators of fetal distress. Hence meconium for long has been considered to be a bad predictor of fetal outcome leading to higher neonatal morbidity and mortality.

Narang et al defined Meconium aspiration syndrome (MAS) as development of respiratory distress soon after birth in a neonate born through meconium stained amniotic fluid (MSAF) with characteristic radiological changes and whose symptoms cannot be otherwise explained. Cleary and Wiswell have proposed a severity criterion to define MAS based on percentage and duration of oxygen requirement:

- Mild MAS is a disease that requires less than 40% oxygen for less than 48 hours,
- Moderate MAS is a disease that requires

more than 40% oxygen for more than 48 hours with no air leak,

- Severe MAS is a disease that requires assisted ventilation for more than 48 hours and is often associated with PPHN.

Since MSAF is known to be associated with several maternal and neonatal risk factors, the knowledge of these factors to health care personnel provides early prediction of adverse outcomes in neonates who can be timely managed and intervened to prevent meconium aspiration syndrome and its complications.

## Placenta Accreta Management: Retrograde hysterectomy

**Abha Sharma**

Medical Superintendent (MCH) & Sr Specialist,  
Obstetrics & Gynaecology, GTB Hospital, Delhi

Placenta accreta is considered a severe complication of pregnancy and may be associated with massive and potentially life-threatening intrapartum and postpartum haemorrhage. With increasing caesarean section rates, the incidence of placenta previa and accreta / percreta has shown a significant increase.

The bladder is most frequently involved extrauterine organ in placenta percreta, more so in previous LSCS with anterior placenta previa and is associated with substantial morbidity and mortality. Almost all women with placenta accreta require blood transfusion and it remains the leading indication for caesarean hysterectomy, which should be performed in a safe and expeditious manner. Traditional surgical approaches are associated with a risk of major haemorrhage; therefore, a retrograde hysterectomy was proposed from the pouch of Douglas which allows control of the bleeding and maximum separation of the bladder from the uterus before any excisional procedure begins.

**The major factors in reducing morbidity/mortality** from placenta accrete during surgery are early diagnosis of placenta praevia and accrete; referral to a center well equipped to tackle these cases with availability of urosurgeons, blood bank, nursery and experienced obstetric

surgeons; elective operation with high risk consent for hysterectomy, bladder resection, ureteroneocystostomy and intensive care requirement; placental mapping should be done to plan incision of uterus; prior arrangement of blood and blood products; and placement of uterine artery balloon catheters if available.

### **Summary of retrograde hysterectomy procedure**

The woman is placed in the semi-lithotomy position and abdomen is opened by vertical incision extending well above umbilicus, so as to reach upper segment of uterus. The caesarean is performed by fundal hysterotomy away from the placenta. The ligated umbilical cord and attached placenta are left within the uterus and the hysterotomy is closed with a continuous suture (for haemostasis). The uterus is exteriorised and kept under upward traction so that uterine vascular constriction can diminish blood loss. Direct handling or dissection at the placental site is avoided. The round ligaments are divided and ligated, and the broad ligaments are incised laterally and parallel to the infundibulo-pelvic ligaments to expose the retroperitoneum. The loose areolar tissue encountered in this space is carefully dissected parallel to the ureters and the pelvic sidewall vessels. Next, the utero-ovarian ligaments and tubes are divided and ligated. Ligation of the anterior divisions of the internal iliac arteries is done. This greatly reduces the pulse pressure and transforms the pelvic arterial system into a venous-like system, with slow and sluggish blood flow. If the surgeon is not experienced with this procedure, it may add time and morbidity. The posterior approach could be used without performing internal iliac artery ligation. The posterior vaginal fornix is exposed by placement of a sponge stick into the vagina and opening vagina transversely over the sponge, 1–2 cm below the cervicovaginal junction. Hysterectomy clamps are used to circumscribe the vagina, sequentially dividing and securing each pedicle (uterosacral and posterior vagina), always keeping the ureters carefully identified, dissected and preserved through the anterior bladder pillar in order to keep them out of the field of dissection. The anterior lip of cervix is held by Allis forceps and pulled up posteriorly and uterus is pulled upwards and to one side. This exposes the remaining cardinal ligament

attachments (with uterine vessels) medial to the ureters and bladder pillars, which are sequentially divided by clamps and secured with suture ligatures. The vesicouterine space is developed cephalad by blunt dissection until the bladder is completely detached from the anterior aspect of the uterus or the lowermost extent of bladder invasion (usually above the trigone level) has been reached. If the bladder is involved, cephalad blunt dissection of the bladder is stopped. Cystotomy is particularly helpful for defining the dissection planes and determining whether resection of the posterior bladder wall is required. The extent and type of reconstruction may require simple closure of the bladder defect or ureteroneocystostomy followed by bladder repair. Vaginal cuff is closed. Haemostasis secured, drains put in and abdomen closed in usual manner.

### **Discussion**

In the presence of anterior placenta praevia/accreta the lower uterine segment is commonly enlarged and hypervascularised, with the distorted anatomy and oedema of the surrounding structures making the cervicovaginal junction difficult to identify. Using retrograde approach, the posterior vaginal fornix at the pouch of Douglas is opened by placement of a sponge stick into the vagina and the bladder is dissected well below the space where it is likely to be adherent or invaded (specially at previous scar site). Therefore, the most vascular area of bladder invasion is not touched till all vascular supply is closed consequently blood loss is rapidly diminished. This technique provides safer surgery for women with anterior placenta praevia/accreta.

### **Suggested Reading**

1. Silver RM, Landon MB, Rouse DJ, Leveno KJ, Spong CY, Thom EA, et al. Maternal morbidity associated with multiple repeat cesarean deliveries. National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. *Obstet Gynecol* 2006;107:1226–32.
2. Selman AE (2016) Caesarean hysterectomy for placenta praevia/accreta using an approach via the pouch of Douglas. *BJOG* 123(5): 815-819.
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# Placenta Accreta Management: Intervention radiology

**Shivanand Gamangatti**

Professor, Department of Radiology All India  
Institute of Medical Sciences, Delhi

Interventional radiology has been in use for more than 35 years when it was initially used for postpartum hemorrhage. Reduction in pelvic blood flow is accomplished endovascularly initially with the use of occlusion balloons placed in the common iliac arteries, the internal iliac arteries, the anterior divisions of the internal iliac arteries or the aorta. Each approach has its advantages and disadvantages. The anesthesiologist should be aware that when the patient comes to the operating room (OR) after placement of the catheters, she should NOT be positioned for regional anesthesia. This has led to catheter dislodgement and subsequent massive hemorrhage. An epidural catheter inserted prior to this procedure makes the procedure comfortable and can also be utilized for cystoscopy and ureteric stenting which may be necessary in percreta with bladder invasion. Occlusion balloons are inflated from the point of cord clamping (after delivery of the baby) to eliminate the risk of placental ischemia before fetal delivery. The common objective among these techniques is to achieve selective occlusion of the arterial supply to the uterus while trying to minimize the risk of ischemic complications to the rest of the pelvic organs and the lower limbs. It may spare the patient a hysterectomy and thus preserve fertility. High-risk CS are sometimes performed in interventional radiology suites ('hybrid ORs') in an attempt to increase the success of the arterial occlusion by avoiding delay and decreasing likelihood of migration of the angiographic balloon catheters.

## **Internal iliac artery balloon occlusion**

Internal iliac artery balloon occlusion (IIABO) is the most common technique in patients with placenta accreta. A major advantage of this technique over uterine artery balloon insertion is a significant reduction in the exposure of both the patient and the fetus to ionizing radiation. The mean fluoroscopic time for UAE may amount to almost 22 minutes compared to 2-3 minutes for IIABO. IIABO may not provide complete



hemostasis as rich collateral feeding vessels arising from cervico-vaginal branches of the uterine arteries, superior vesical, inferior epigastric, or femoral and deep circumflex iliac arteries supply the abnormal placenta.

### **Common iliac artery balloon occlusion**

IIABO may not always reduce bleeding to a satisfactory degree, since arterial supply from external iliac artery to the placental tissue may be missed due to selective cannulation of only internal iliac artery segment. Common iliac artery (CIA) occlusion has been used in patients who required hysterectomy after delivery. Duration of balloon occlusion ranged from 60-70 minutes. BC occlusion of the CIA may provide good bleeding control by reducing blood supply not only from uterine arteries but also from a number of collaterals.

### **Aortic occlusion**

Intraoperative aortic balloon occlusion has been described as a relatively safe method for treating placenta previa and/or placenta accreta during scheduled and emergency CS. Prophylactic occlusion of the infrarenal aorta may provide a higher degree of pelvic devascularization than occlusion of the internal iliac or uterine artery by simultaneously occluding the collateral circulation, which might be more extensive in the late gestational period. This approach might provide surgeons good control of bleeding during manual removal of the placenta. Technically, aortic occlusion may be a less difficult procedure than the occlusion of smaller arteries such as the internal iliac/uterine arteries. The balloon can be easily placed and verified by the operating team. This technique is useful in the emergency setting and also reduces radiation dosage to mother and fetus.

Controversy still exists about the safety and efficacy of endovascular interventions. Such procedures may also be associated with significant complications. Complications reported have been catheter migration, iliac artery rupture resulting in massive hemorrhage and transfusion, iliac thrombosis, inadvertent embolization of the external iliac arteries, uterine necrosis, leg ischemia and necrosis of the buttocks.

### **Technique of procedure**

The procedure is performed as an elective procedure under limited fluoroscopic exposure. The technique involved bilateral femoral arterial punctures and insertion of 7-French vascular sheaths under local

anesthesia. Seldinger technique is used to introduce the catheter into the vascular system, by making bilateral punctures of femoral arteries, followed by internal iliac artery catheterization via contra-lateral approach. (i.e. left internal iliac artery was accessed through right femoral artery and right internal iliac artery through left femoral approach) Once both balloon catheters were correctly positioned, a test volume of dilute water-soluble contrast material is injected to inflate the occlusion balloons to the optimal size. Heparin (1ml equivalent to 500IU of heparin) is administered to prevent thrombosis within the vascular sheath.

Once positioning was satisfactory, the patient is shifted to operating theatre (OT) for the caesarian section. In the OT room, the occlusion balloons are inflated at the time immediately after the baby is delivered, and the umbilical cord is clamped so as to minimize the risk of fetal ischemia.

Once, balloons are inflated on either side, surgeon proceeds for the hysterectomy. However, if there is continued bleeding even after balloon inflation, gelfoam embolising agent (temporary embolising agent) is injected under fluoroscopy. Occasionally this can be sandwiched by embolization coils in case of continued bleeding. In those who underwent hysterectomy or had the placentas delivered, the balloons are deflated just before skin closure after ensuring that hemostasis within the pelvic cavity is secured.

In some cases, where there is deep invasion of adjacent structures by the placental tissue, placenta is retained and hysterectomy is planned later. In these cases, patient is shifted back to angio-lab with balloon catheters in situ for definitive embolization procedure.

The vascular sheaths are removed after achieving the hemostasis, usually after 1-2 hours after the procedure in recovery room. After removal of the sheaths, firm manual compression over the insertion site is performed for at least 20 min in all cases. No closure devices were used.

In cases, where there is risk of postpartum hemorrhage in post operative period, the vascular sheaths can be left in situ for 24 h after surgery, with a view for emergency embolization in the event of severe postpartum hemorrhage. In such cases, slow continuous normal saline infusion (10

mL/h) through the sheaths should be used to maintain patency of the sheaths without the use of heparin or anticoagulants.

## Awareness Programs and Health Camps









## NARCHI Activities December to February 2019



Thalassemia Awareness Walkathon



Thalassaemia Awareness Walkathon



CME on Cerrvical Breast Cancer



Health Camp at Shastri Nagar



CME at Milan Fertility Center



Awareness Program on Endometriosis



Cancer Awareness Activities  
at Sardar Vallabh Bhai Patel Hospital



Lecture at North Delhi Modern School





Free Infertility Camp

## CMEs Organised under aegis of NARCHI







NARCHI Delhi Team Shining at National Level

**In** Pregnancy Related Complications

Putting  
Safety First

**Argipreg**  **Sachet**

L-Arginine 3 gm + Proanthocyanidin 75 mg

**In** PCOS

Right Combination, Right Ratio

Rx

**Ovabless<sup>®</sup> - MYO**

Myo-Inositol 550 mg + D-Chiro Inositol 13.8 mg +  
Chromium 33 mcg (As Chromium Picolinate) + Vitamin D, 400 IU

Tablets

**Oral Paper  
&  
Poster  
Presentation**

# Oral Paper Presentation

Day 1: February 23<sup>rd</sup>, 2019

**Time:** 08:30- 09:30 hrs

## **Cerebroplacental Pulsatility Index Ratio (CPR) as a Predictor of Perinatal Outcome in IUGR**

**Swati Kumari, Indu Chawla, Pooja  
Gupta**

Dr Ram Manohar Lohia Hospital & Post  
Graduate Institute of Medical Education  
and Research

**Objectives:** To estimate Cerebroplacental Pulsatility Index Ratio (CPR) between 32 and 37 weeks of pregnancy in fetuses with late onset Intrauterine Growth Restriction (IUGR) and study the association of CPR with perinatal outcome.

**Materials and Methods:** This was a prospective study on 50 patients during a period from 1st November 2016 to 31st March 2018. Patients in their third trimesters (confirmed by early dating scans) with clinical suspicion of IUGR and ultrasound confirmed were enrolled for the study. Those with fetal congenital malformation, preterm PROM and Multiple pregnancy were excluded from the study. All the study subjects had fortnightly clinical examination and serial dopplers at 32-34 and 37 weeks of gestation. On Doppler, the ratio of the MCA PI to the UA PI (the CPR ratio) was calculated. Pregnancies were followed-up and the final perinatal outcome of each case was noted.

**Results:** There was significant association between low Cerebroplacental ratio ( $<1.08$ ) and cord blood pH  $<7$ , NICU admission, NICU stay  $>1$  day, neonatal complications. CPR has a high sensitivity, specificity, positive predictive value, negative predictive value and diagnostic accuracy (78.57%, 86.11%, 68.80%, 91.20% and 84%) in predicting adverse perinatal outcome as compared to UA PI (71.43%, 86.11%, 66.70%, 88.60% and 82%) or MCA PI (57.14%, 66.67%, 40%, 80% and 64%) individually. Both CPR and UA PI remained significantly associated with adverse perinatal outcome. Sensitivity of CPR (78.57%) was more than UA PI (71.43%) and MCA PI (57.14%). Specificity of CPR (86.11%) was more than MCA PI (66.67%), ( $p < 0.01$ ).

**Conclusion:** CPR is a useful predictor of perinatal outcome in IUGR as compared to UA PI and MCA PI alone. Potential limitations in our study were small sample size and the fact that the results of the ultrasound and Doppler assessment were not blinded. Further prospective large randomized controlled, multicenter studies are required to establish this novel observation.



# Critical Analysis of High Caesarean Section Rates using Robson's Ten Group Classification System in a Rural Tertiary Institute in Western UP

**Priya Sharma, Shikha Seth**

UP Rural Institute of Medical Sciences & Research Saifai, Etawah

**Objectives:** To classify all the women delivered by caesarean section using Robson's ten group classification system and to identify the leading patient categories contributing to our institution's high caesarean rate.

**Material & Methods:** This study was a cross-sectional study of all women delivered in the Department of Obstetrics and Gynecology, UP Rural Institute of Medical Sciences & Research, Saifai, Etawah in one year from Feb 2017 to Jan 2018. The following data was recorded: parity, singleton/multiple pregnancy, previous CS, mode of labor onset, fetal presentation and gestational age at delivery. By using the method presented by Michael Robson, all deliveries were stratified prospectively into ten subgroups.

**Results:** The rate of caesarean section was 32.82%. Group 5 (previous CS group) made the greatest contribution to the total CS rate i.e. 34.51%, followed by group 1 and then group 2; high percentage of caesarean in group 5 (85.96%) suggest low VBAC rate. High rate of caesarean in group 6 (72.89%) and group 9 (94.28%) is self evident.

**Conclusion:** Robson 10 group Caesarean section classification system is a simple and standard tool that can be used to identify groups making the most significant contribution to the overall rate of CS. The Robson TGCS demonstrates the need to focus on the case of women in group 5, 1, 2, & 3 particularly if the section rate needs to be reduced.

## Assessment of the Effectiveness of Interventions Regarding Breast Feeding Technique on Knowledge and Practices of Primipara Mothers in PGIMS, Rohtak, Haryana

**Deepika Rani**

PGIMS, Rohtak, Haryana

**Objectives:** To assess the effectiveness of

intervention on knowledge and practices regarding breast feeding technique.

**Materials & Method:** Quantitative approach and pre-experimental research design was used to assess 50 primipara mothers admitted in PGIMS, Rohtak. Non probability convenient sampling technique was used. Structured questionnaire for Knowledge Domain and checklist for Practice Domain was used to assess the study samples. The data obtained were analyzed using descriptive and inferential statistics.

**Result:** The finding of the study were 64% primipara mothers had inadequate knowledge, and 72% had poor practice but after intervention post test score were 88% primipara mothers had adequate knowledge and 90% had excellent practice regarding breast feeding technique. The knowledge mean score and SD value increased from 10.18 & 2.46 to 21.64 & 1.63 respectively. Similarly, the mean pretest practice score and SD value was 5.2 & 0.69 which increased to 11.24 & 0.68 respectively. Effectiveness of intervention was improved; hence the knowledge of primipara mothers was increased and also changes the faulty practice of mothers regarding breast feeding technique.

**Conclusion:** It conclude that intervention was found to be effective in enhancing the knowledge and practice of the mothers regarding breast feeding technique.

## **Identification of Factors which Determine The Initiation of Breastfeeding in Postnatal Women in a Tertiary Care Centre: Observational study**

**Manisha Gupta**

Santosh Medical College, Ghaziabad, Uttar Pradesh

**Objectives:** To find the prevalence of delay in initiation of breast feeding, to identify various factors which determine the initiation of breastfeeding and to correlate their association with delayed onset of breast feeding.

**Materials & Method:** Hundred and thirty six women who delivered in Santosh Medical College & Hospital, Ghaziabad, were recruited in the study. They were interviewed after their informed consent using a pretested structured questionnaire. Socio-demographic variables, Obstetric and neonatal factors were compared between subjects who initiated breast feeding in less than and more than 6 hrs. Statistical Analysis Frequencies were calculated for different

variables and data was statistically analyzed. Chi square test was used and p –value of <0.05 was taken significant.

**Results:** The prevalence of delay in initiation of breast feeding in our study was found to be 88.9%. The mean time of initiation of breast feeding was 18.43 hours. Significant association ( $P < 0.05$ ) was found in age, parity, education of both the subject and her mother in law, occupation, type of family and residence. Many obstetric factors related to antenatal supervision and counselling, intranatal and postnatal factors were found to be significant.

**Conclusion:** The practice of prelacteal feeding should be discouraged. Identifying mothers at risk of delayed breastfeeding initiation should be the target for breastfeeding promotion during prenatal, antenatal as well as postnatal care.

## **Analysis of Risk Factor and Perinatal Outcome in Preterm Delivery in a Tertiary Centre in Rural Haryana**

**Sunaina Singla, Banashree Das**

SGT Medical College and Hospital  
Budhera, Gurugram, Haryana

**Objective:** To identify risk factors and to assess neonatal mortality and morbidity associated with preterm delivery in patient attending a tertiary care centre in rural Haryana.

**Materials and Method:** This Retrospective cohort study was conducted in SGT Medical College and Hospital over a period of one year (Jan 18 to Dec 18). All preterm deliveries were included in the study. They were followed up from admission till delivery and till discharge from hospital. Various parameters like maternal age, associated medical disorder, obstetric complications, gestational age, neonatal mortality, need of neonatal intensive care and condition of baby at discharge were analyzed.

**Results:** 16.1% women had preterm deliveries during that period. Although the risk factors included many, the most common occurring were preterm premature rupture of membrane 17.1% followed by IUGR with oligohydramnios 10.5%, Hypertensive disorders during pregnancy 5.9%, antepartum haemorrhage 4.6%, associated with thyroid disorders 3.9%, vaginal infections 1.31% and idiopathic 56.5%. Out of total 159 preterm births 3 were still born. Total NICU admissions were 60 out of which 60% of babies were discharged from the NICU within 72 hours. 7 died during NICU stay.

**Conclusions:** Incidence of preterm delivery were similar to studies reported from



different part of country. Preterm premature rupture of membranes is the most common risk factor for preterm birth. Antepartum haemorrhage, Hypertensive disorders during pregnancy & Vaginal infections were found to be significantly less in our study as compared to other reported studies.

## **Efficacy and Safety of Intravenous Versus Oral Iron Therapy in Treatment of Postpartum Anemia**

**Neelima Agarwal**

Santosh Medical College, Ghaziabad, Uttar Pradesh

**Objective:** Postpartum iron deficiency anaemia (IDA) is common in women particularly in resource-poor countries, and is a major cause of maternal morbidity and mortality. Most women are treated with either oral iron supplementation or blood transfusion. Hence, the aim of our study was to compare the effect of treatment with either oral ferrous sulphate or intravenous ferrous sucrose on postpartum IDA.

**Materials & Method:** 100 postpartum women with proven iron deficiency anaemia with hemoglobin <9gm/dl and serum ferritin <15 µgm/l were included in the study. They were randomized to receive either oral ferrous sulphate 200 mg twice daily for 6 weeks (group 1) or intravenous ferrous sucrose 200 mg, two to three doses given on alternate days (group 2). Total iron deficit was calculated using a standard formula. Target hemoglobin was 11 gm/dl. Results were analysed by the students t-test and chi –square test. Main outcome measures: Hemoglobin, hematocrit, red cell indices and ferritin were measured on day 2-3, 1-2 weeks and 6 weeks postpartum.

**Results:** By 1-2 weeks, hemoglobin level in women treated with intravenous iron had risen from  $7.81 \pm 0.849$  to  $9.88 \pm 0.760$  gm/dl which was more than those treated with oral iron ( $p < 0.01$ ); although by 6 weeks, there was no significant difference between the two groups. Ferritin levels rose rapidly in those treated with intravenous iron and remained significantly higher than in those treated with oral iron ( $p < 0.01$ ).

**Conclusion:** Intravenous iron sucrose increases the hemoglobin level more rapidly than oral ferrous sulphate in women with postpartum IDA. It also replenishes iron stores more rapidly.

Of all the rights of women, the greatest is to be a mother.

**Time: 09:30 - 10:30 hrs**

## **Maternal Pregnancy Associated Plasma Protein - A (PAPP-A) levels in late first trimester as a predictor of miscarriage**

**Alpana Singh, Nivedita Sinha,  
B D Banerjee, Rachna Agrawal,  
Himshweta Sriwastava**

University College of Medical Sciences  
& Guru Teg Bahadur Hospital, Delhi

**Objectives:** To determine whether maternal PAPP-A levels estimation in asymptomatic women in late first trimester (10-13 weeks) with viable fetus predict subsequent miscarriage.

**Materials and Methods:** Participant (N=500) with singleton pregnancy were recruited from antenatal clinic after confirmation of fetal viability. Blood sample was collected and serum PAPP-A levels were assayed.

**Results:** Out of total study population (N=491), 32 (6.5%) miscarried. PAPP-A levels were significantly decreased in miscarriage group compared to ongoing pregnancy group with median MOM 0.116 (0.080-0.17) & 1.25 (0.665-3.249) respectively (p-value <0.001). At PAPP-A MOM value of  $\leq 10$ th percentile sensitivity & specificity of detection of miscarriage was 81.25% & 94.98% and at  $\leq 5$ th percentile sensitivity and specificity was 40.62% & 97.82% respectively. Lower the percentile cutoff higher specificity of prediction of miscarriage. By applying logistic regression we found that if PAPP-A MoM decreases by 1 unit there was 1.2 times chance of being abortion. 63.2% of cases could be explained by this model (Nagelkerke R Square= 0.632). For prediction of pregnancies likely to miscarry, the area under Receiver operator characteristic curve (95%CI) was 0.969 (0.955-0.983).

**Conclusion:** Low serum PAPP-A levels from asymptomatic women in late 1st trimester is a good predictive marker of miscarriage.

## **Is Cesarean Section a Barrier in the Early Initiation of Breast Feeding?**

**Shubham Bidhuri, Vijay Zutshi,  
Supriya Dankher, Vaishnavi Seshan**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Objectives:** To study the impact of caesarean

section on successful early initiation of breastfeeding and to study if pre-caesarean section counselling helps in initiation of early breastfeeding.

**Materials & Method:** This questionnaire based cross sectional analytical study was carried out in department of Obstetrics and Gynaecology at VMMC and Safdarjung Hospital. The study population included a total of 300 booked primigravidas with singleton pregnancy, which were divided into three groups of 100 each. The study groups included women with caesarean delivery without prenatal counselling as group A, with counselling as group B and a control group of women with vaginal delivery as group C. In the ward, at postnatal day zero, after obtaining informed consent a validated questionnaire form was filled by interviewing the mothers and data obtained was statistically analysed.

**Results:** Out of 100 patients of the study group A, 48% started started breastfeeding in less than 1 hour and 52% started it after more than 1 hour. Whereas in the group B where prenatal counselling was done, it was found that 74% started breastfeeding within 1 hour and 26% started it after more than one hour. The delay in breastfeeding occurred even after prenatal counselling as baby was handed over late to the mothers. In the control group C, 68% started the breastfeeding within less than 1 hour and 32% started it after more than one hour. Major reason for delay in this group was myths regarding colostrum. The main source of information for women in the study was hospital staff in 100% followed by family and media in 96% and 33% respectively.

**Conclusion:** The delay in handing over baby to the mothers after LSCS acted as a deterrent to initiate timely breastfeeding. Duration of initiation of breastfeeding improves if prenatal counselling is done.

## Acute Gastroenteritis in Pregnancy - A cause for concern

**Ankita Jain, Jyotsna Suri**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Background:** Acute gastroenteritis(AGE) in pregnancy is known to cause adverse pregnancy outcomes. We studied the incidence, the maternal and fetal outcomes in patients with AGE requiring critical care.

**Materials and Methods:** A retrospective analysis was done on the patients admitted with AGE in Obstetric critical care unit(CCU) in June 2017 to December 2018 in Safdarjung Hospital, Delhi.

**Results:** Out of 3624 admissions in obstetric CCU, 0.8% (30) were due to AGE. All were severely dehydrated and were resuscitated with fluids and given antibiotics. Renal failure was seen in 50% (15) with 46.6% (14) requiring electrolyte correction and 22.2% (8) needing dialysis. While all mothers were transferred to the ward in a stable condition but intrauterine fetal death was seen in 66.7% (20).

**Conclusion:** Early institution of treatment with rapid fluid resuscitation and antibiotics is the key to reducing maternal morbidity and fetal mortality.

## **Fetal Middle Cerebral Artery Doppler in Late-term Pregnancy: A predicting factor for failed induction of labor**

**Shalini S P, Harsha S Gaikwad**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Objectives:** To study the role of fetal middle cerebral artery (MCA) Doppler evaluated prior to induction of labor in late-term pregnancies and to build an ultrasound-based predictive model for failed induction of labour.

**Materials & Methods:** It is a prospective cohort study on nulliparous women carrying singleton late-term pregnancies. Prior to induction, each patient underwent to an ultrasound evaluation for foetal MCA Doppler. Additional ultrasound parameters such as cervical length (CL), membrane thickness, amniotic fluid index, placental location and estimated foetal weight (EFW) were collected. According to type of response, women were divided into three groups: (A) responders within 24hrs; (B) responders after 24hrs, and (C) no responders.

**Results:** Women who failed to enter active labor showed significantly higher fetal MCA pulsatility index (PI), longer CL & higher EFW.

**Conclusion:** In late-term pregnancies, an ultrasound-based model including cervical length, MCA PI, and EFW achieved a good accuracy in predicting those women who are likely to fail induction of labor.

The way a culture treats women  
in birth is a good indicator  
of how well women and their  
contributions to society are  
valued and honoured

**- Ina May Gaskin**

# Sonographic Umbilical Cord Parameters as Predictors of Fetal Macrosomia

**Suvrata Garg, Pratima Mittal, Divya Pandey**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Objectives:** To study sonographic correlation of umbilical cord thickness and cross sectional area with fetal macrosomia in antenatal women with gestation diabetes mellitus more than 34 weeks of gestation.

**Method:** The study was conducted on 40 antenatal women with Gestational diabetes mellitus with more than 34 weeks meeting inclusion criteria constituting group 1. Group 2 consisted of another 40 antenatal women without gestational diabetes mellitus and any other comorbidities as control. Ultrasonographic assessment of cord thickness and cross sectional area was done for both cases and control. Cord is considered large if it is more than 90th percentile of collected data. Fetal outcomes were noted in terms of birth weight, APGAR score, meconium staining and NICU status. Correlation and statistical analysis done thereafter.

**Results:** There was a significant positive correlation between umbilical cord area, umbilical cord diameter and fetal weight estimation. The proportion of cases with a large umbilical cord was significantly higher in the group of GDM compared with non GDM (59.7% vs. 8.7%,  $P < 0.0001$ ). Hence, if umbilical cord thickness is more than 90th percentile, the chance of macrosomia is more.

**Conclusion:** Umbilical cord parameters measured in third trimester of pregnancy in Gestational diabetes mellitus patients can be useful for predicting macrosomia.

# Most Comfortable Posture at First Postnatal Day in Women with Episiotomy

**Sarita Singh, Saima, Saraswati, Achla Batra**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Objective:** To assess pain score on first postnatal day of patient in daily activities and during breast feeding.

**Materials & Method:** Seventy three patients who were admitted in obstetrics and gynecology department of Safdarjung hospital

fulfilling the inclusion criteria were included in the study. All those fulfilling the inclusion criteria were assessed for episiotomy pain during daily activities and during breast feeding using VAS score at postnatal day one. Most comfortable posture identified according to least pain score. Repeated measure one way ANOVA was used to compare pain score during Breast feeding and other activities between different positions. Qualitative variables were correlated using Chi-Square test. A p value = 0.05 was considered statistically significant. The data was entered in MS EXCEL spreadsheet and analysis was done using Statistical Package for Social Sciences (SPSS) version 21.0.

**Results:** Highest mean pain score was  $74.82 \pm 28.33$  seen in crossed leg position and least mean pain score was  $14.51 \pm 11.65$  seen in left lateral position during breast feeding while highest mean pain score during other activities was seen in sitting with leg down that was  $56.52 \pm 21.23$  and least in left lateral position that was  $21.25 \pm 13.95$  at  $p = 0.0001$  and  $p = 0.0001$  respectively which was statistically significant. Episiotomy pain increased as the birthweight and the duration of second stage increased but the difference in the pain scores were not statistically significant. As the common belief, results also suggested cross legged is the most uncomfortable position for the peripara.

**Conclusion:** The lying supine position may be a preferred position for kangaroo care as it is least painful and most commonly assumed position. Left Lateral position was the least painful for breast feeding. Western style toilets were preferred over Indian style.

**Time:** 14:30- 15:15 Hrs

## **Robson Classification System based Analysis of Cesarean Deliveries at a Tertiary Centre: Current tendencies and future trends**

**Divya Pandey, Pratima Mittal**

**Jyotsna Suri, Rekha Bharti**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Background:** To examine Caesarean delivery rate at a tertiary care centre according to Robson's Ten Group Classification System(TGCS) over three year period (2015-2017) and to extract valuable information for institutional policy making in order to control Caesarean Section (CS) rates.

**Materials and Method:** All deliveries (vaginal

and caesarean sections) at an Indian tertiary teaching institute over three year duration from January 2015 to December 2017 were included in the analysis. The data compilation was done according to Robson's Ten Group Classification system. The CS rate was calculated, trend analysis done and trend over three years studied. Future trend prediction was also done based on these three years observations.

**Results:** The TGCS was applied on a huge database of 81,874 vaginal deliveries and 19,448 caesarean deliveries over the study period. The year wise CS rate was 22.4%, 23.5% and 25.5% respectively showing a rising trend in last three years. The largest contribution was done by Group 5 followed by group 2 and group 1. The Trend Analysis showed a rising trend with an annual rise in CS rate by 0.905%.

**Conclusion:** There was an increasing trend of the CS rate at our centre over last three years. The Robson TGCS helped to identify the main contributor group. It indicates that we need to focus on group 5, 2 and 1 which contributed to 63.8% of overall CS.

## **Preovulatory Serum Progesterone Threshold for Ovulation in Women with Anovulatory Infertility Undergoing Ovulation Induction**

**Apurwa Bardhan, Ratna Biswas**

Lady Hardinge Medical College  
& Safdarjung Hospital, Delhi

**Objective:** To estimate the threshold level of preovulatory serum progesterone predictive of ovulation failure in women undergoing ovulation induction with clomiphene citrate.

**Materials & Method:** 60 women with anovulatory infertility underwent ovulation induction with clomiphene citrate followed by serial ultrasonographic monitoring, from day 8 of the cycle, ovulation was triggered by intramuscular injection of 5000 IU of human chorionic gonadotropin. Ovulation was documented ultrasonographically. Women who did not ovulate/conceive in the first cycle were given a second cycle of clomiphene citrate. Serum progesterone concentration was measured on the day of hCG trigger (day 12-14) and between day 20-22 of the cycle.

**Results:** The mean Preovulatory serum progesterone was  $2.05 \pm 2.04$  ng/ml and the mean Midluteal serum progesterone was  $2.71 \pm 1.27$  ng/ml. The preovulatory serum progesterone on the day of hCG trigger was significantly higher in women with anovulatory

cycles as compared to ovulatory cycles. Using ROC curve a threshold value of 1.7ng/ml was derived with a sensitivity and specificity of 93.94% and 92.59% respectively with 93.94% for predicting failure of ovulation. Out of the 52 anovulatory cycles analysed, 82.69% had serum progesterone above 1.7ng/ml while the remaining 17.30% were below the threshold level of preovulatory serum progesterone. On the other hand 93.85% of the ovulatory cycles had a preovulatory serum progesterone <1.7ng/ml. 80% women who conceived had preovulatory serum progesterone levels below the threshold value of 1.7ng/ml.

**Conclusion:** High level of preovulatory serum progesterone in cycles induced with clomiphene is associated with lower rates of ovulation. A threshold value of 1.7ng/ml can be used to predict failure of ovulation in ovarian stimulation cycles and thus prove beneficial in early detection of anovulation.

## Determinants of Stillbirth Among Women Delivering in a Tertiary Care Hospital

**Divya, Pratima Mittal, Harsha Gaikwad**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Objective:** To determine the stillbirth rate and its determinant in Safdarjung hospital.

**Material & Methods:** This was a prospective observational study. The study used still birth registry data of WHO collected from 1st august 2015 to 31 august 2018 at Safdarjung Hospital.

**Results:** During this period there were 84787 deliveries occurred out of which 2335 were still births. The still birth rate was 28 per thousand birth. Thirty seven percent women were of the age group of 25-29 years. Primi and parity 2-4 were both associated with increased stillbirth risk. Women with no antenatal visit had higher rate of still birth than women with antenatal visits. The major obstetrics determinants of still birth were APH, Hypertensive disorders of pregnancy, FGR, cord prolapse, rupture uterus and obstructed labour. Intrapartum complications included foetal distress, malpresentation, obstructed labour and prolonged labour.

**Conclusions:** We need to give more attention to the risk factors and treating the causes of stillbirths.

For every complex problem there is an answer that is clear, simple and wrong.

- H L Mencken



# A Prospective Analysis of Complications of Copper T in Postplacental, Postabortal and Interval Period

**Banashree Nath, Kashika, Harsha  
Gaikwad Kavita Aggarwal**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Background:** With increasing number of patients accepting copper T as contraceptive method and non-compliance with regular follow up, several early and late complications have surfaced. The rise in reporting of complications at our tertiary centre motivated us to conduct a prospective analysis of its severity and pattern of distribution in patients who had insertion in postplacental, postabortal and interval period.

**Materials & Methods:** This Prospective Observational study was conducted in the Department of Obstetrics and Gynaecology, VMMC and Safdarjung hospital where all married women in reproductive age group (15 to 49) coming to family planning clinic for follow up or with complaints related to copper T inserted in either of post-placental, post-abortal or interval period were recruited. Data which included age at insertion, duration of insertion, education, occupation, parity, family income and clinical data were retrieved from the records. At each visit the volunteers were interviewed and examined by family planning clinician and various complications related to copper T insertion were diagnosed via pelvic examination, ultrasound and laboratory tests.

**Results:** Excessive menstrual bleeding, vaginal discharge, spontaneous expulsion, missing thread and pregnancy with copper T in situ were observed to occur highest in patients with insertion in postplacental period. However complaint of pain was found highest in patients with insertion in interval period.

**Conclusions:** All complications were seen to be higher in patients with Postplacental IUD insertion at varying period of OPD attendance when compared with insertion in Postabortal and Interval period.

You cannot have maternal health  
without reproductive health  
and reproductive health includes  
contraception  
and family planning and access to  
legal, safe abortion

- Hillary Clinton

# Feto Maternal Outcome in Early Pregnancy Bleeding

Shikha Bharti, Ashu Bhardwaj

Sarita Singh Achla Batra

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Objective:** To determine the perinatal outcome and pregnancy complications (preterm labor, preterm prelabor rupture of membrane, placental abruption, hypertensive disorders of pregnancy and low birth weight women who presented with vaginal bleeding before 20 weeks of pregnancy.

**Material & Methods:** This prospective cohort study was performed at obstetrics and gynaecology department of Vardhman Mahavir medical college and Safdarjung hospital. Pregnant women with vaginal bleeding before 20 weeks and controls of matched gestational age were enrolled. The sample size was 150, out of which 50 were women with early pregnancy bleeding and 100 were controls. All women were evaluated with history, examination and USG and then were followed up till delivery for the maternal and fetal outcome including hypertensive disorder of pregnancy, preterm labor, preterm prelabor rupture of membranes, placenta previa, abruption, low birth weight and fetal growth restriction, mode of delivery and NICU admissions. Data were analysed using SPSS-11.

**Results:** The overall adverse pregnancy outcome was significantly higher in studied compared to the control group. Preterm delivery, premature rupture of membranes were significantly higher in cases as compared to control group (OR=18.86  $p < 0.0001$ ), (OR=5.5789  $p=0.0009$ ). There was higher incidence of abruption (OR=6.6818  $p=0.023$ ), PPH (OR=5.2636  $p=0.02$ ), Low birth weight (OR=3.907  $p=0.037$ ) and NICU admissions (OR=3.44  $p=0.037$ ) in study group. There were no significant differences in hypertensive disorders of pregnancy and placenta previa.

**Conclusion:** Bleeding in early pregnancy is associated with increased incidence of adverse pregnancy outcome. The risk is specially increased in premature rupture of membranes and preterm delivery.

## Poster Presentation

Day 1: February 23<sup>rd</sup>, 2019

**Time:** 10:15- 11:00 hrs

### **Management of Antenatal Case of Placental Chorioangioma**

**Harshad Virani, Kanwal Gujral**

Sir Ganga Ram Hospital, Delhi

**Objective:** To discuss effect of placental chorioangioma on pregnancy outcome.

**Case:** A 33 yr primigravida with 39+3 weeks POG with placental chorioangioma diagnosed at the time of anomaly scan and referred to Sir Gangaram hospital for further management from private sector. Serial USG Doppler was done for MCA PSV to rule out hydropic changes in fetus. Patient was taken up for elective LSCS in view of good size baby with inadequate pelvis. Placenta sent for HPE.

### **Herlyn Werner Wunderlich Syndrome: A case of obstructed hemivagina with ipsilateral renal agenesis and uterine didelphys (Ohvira Syndrome)**

**Ashu Bhardwaj, Shikha Bharti**

**Sarita Singh, Achla Batra**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Background:** Uterine didelphys with obstructed hemivagina and ipsilateral renal anomaly, also known as Herlyn-Werner- Wunderlich syndrome is a congenital urogenital anomaly.

**Case:** We report a case of 13 year old female presented with lower abdominal pain and pelvic mass. Ultrasound showed complex right adnexal cyst with non-visualisation of right kidney. Further diagnosis was made by MRI which showed uterine didelphys with right sided vagina distended with hematocolpos and absent right kidney. Transvaginal resection of vaginal septum was done and complete recovery achieved in one week. Because of rarity of this syndrome it is frequently misdiagnosed.

# Caesarean Scar: A cause of adherent products of conception

**Megha Mittal, Jyotsna Suri, Rekha Bharti**

**Monali Khergade, Pratima Mittal**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

**Introduction:** With rising caesarean rates, acute and chronic complications of caesarean section are a big concern. Previously scarred uterus can lead to abnormal implantation and adhesiveness of decidua which can lead to acute hemorrhage post medical termination of pregnancy.

**Materials and Method:** Here we discuss a case series of 4 patients presented with life threatening uterine bleeding leading to anaemia post medical termination of pregnancy. All four of them were subjected to transvaginal ultrasound and hysteroscopy.

**Results:** Three out of four had visible residual product of conception on hysteroscopy. Two were managed surgically and another two medically.

**Conclusions:** Though there is no standard treatment for these defects but precise counselling and customized treatment may enable us to deal with complications in the future.

# Pregnancy in Ruptured Accessory Horn: A rare entity

**Manisha Singhal, Pragati Aggarwal  
Modhusmita Chetia**

St Stephens Hospital, Tis Hazari, Delhi

**Background:** Unicornuate uterus with accessory horn is rare entity with incidence of 0.4%. Incidence of pregnancy in accessory horn is 1 in 100000 to 1,40,000. This ectopic pregnancy increases chance spontaneous abortion, preterm, fetal growth restriction, intraperitoneal hemorrhage and uterine rupture. Rate of uterine rupture is high in first and second trimester leading to hemoperitoneum. This results in increased risk of maternal and perinatal morbidity and mortality.

**Case:** Our case is a 33 year, G2P1L1, 22 weeks 1 day, presented in shock with feature of acute abdomen. Previous pregnancy was full term LSCS 13 years back in view of breech presentation. On examination patient was semiconscious having tachycardia and low blood pressure with pallor. Uterine contour was normal, USG showed 22

weeks 3 days single live intrauterine fetus with gross hemoperitonium. Emergency laparotomy was done, intraoperative findings showed live baby in ruptured accessory horn sealed with omentum and bowel. Excision of right horn was done. Postoperative recovery was uneventful.

**Conclusion:** This case highlights need for high clinical suspicion of this rare entity.

## Unusual Presentation of Broad Ligament Fibroid Uterus: A case report

**Aman Sainky**

Sir Ganga Ram Hospital, Delhi

**Background:** Leiomyoma is the most common tumor of the uterus. A broad ligament is the most common extrauterine site for the occurrence of leiomyoma. Other extrauterine sites are the round ligament, ovarian ligament and the ovaries. These benign tumors in the broad ligament are usually asymptomatic, but if neglected, it reaches enormous size and present with pressure symptoms or pelvic pain, bladder and bowel dysfunction. We report a rare incidence of broad ligament leiomyoma and the difficulty in its operative management.

**Case:** Mrs X, 30 years old female was admitted with complaint of abdominal distension since 3 months and weight loss. She also complains of constipation on and off, generalized weakness, decreased appetite and heaviness in lower abdomen. Her menstrual cycles were regular. Abdominal examination revealed a large mass upto 34 weeks palpable, firm, no tender. P/S: Cervix, vagina normal, P/V: Large mass upto 34 weeks, fornices full, Cervix felt normal. In view of huge myoma mimicking malignancy, decision for laparotomy and proceed was taken, after written and informed consent. A vertical midline incision of 15 cm, extending 4 cm above umbilicus was given. A large mass arising from the pelvis noted, occupying whole of the abdomen and extending upto xiphisternum, uterus was pulled up. Right tube and ovary were normal. Large irregular, multiloculated myoma arising from left broad ligament approx. 30 x 30 cm, uterus was sitting on the fibroid. Myoma removed and sent for HPE. Ureteric and bladder integrity ensured.

**Conclusion:** Broad ligament fibroids can displace the uterus and distort the anatomy, therefore surgical expertise is required to avoid injury to surrounding organs like ureteric. Plane of dissection should be intracapsular for successful outcome.

# True Broad Ligament Fibroid Mimicking Ovarian Mass

in a Postmenopausal  
Woman:

## A case report

**Lata Singh, Taru Gupta, Snigdha  
Kumari**

Post Graduate Institute of Medical Sciences  
and Research, Basaidarapur, New Delhi

**Background:** Uterine fibroids are the commonest benign uterine tumours found in women of reproductive age. They are symptomatic in 50% of cases, with the peak incidence of symptoms occurring among women in their 30s and 40s. These leiomyomas are known to regress in size following menopause. Large fibroids are known to arise from the uterus, but occasionally from the broad ligament.

**Case:** Here we report a case of true broad ligament fibroid which is rare and difficult to diagnosis in 57 year old women, postmenopausal since 8 years, P2L2 not ligated, who presented with 6-month history of lower abdominal pain and a large mass of 24 weeks size gravid uterus where ovarian malignancy cannot be ruled out. Intra-operatively, A huge irregular – 15cm x 17cm multilobulated mass arising from left broad ligament was seen. Left round ligament and left fallopian tube was stretched out on the mass. Bilateral ovaries, right round ligament and tube were found to be normal and uterine vessels were medial to the mass. Hence, diagnosis of true broad ligament fibroid was made. Total abdominal hysterectomy with bilateral salpingoopherectomy was done. The specimen weighed 3.57 kilograms. Cut-section of the mass showed whorled appearance suggestive of multiple fibroids. Post operative course was uneventful. Histopathology report was suggestive of leiomyoma. Differential diagnosis for broad ligament fibroids is ovarian mass (both primary neoplasms and metastasis), broad ligament cyst and lymphadenopathy. Transvaginal ultrasound and MRI allows clear visual separation of the uterus and ovaries from the mass and solid pelvic tumors. In our case left ovary was not visible on ultrasound and MRI so it was difficult to rule out possibility of ovarian malignancy.

## Vasa Praevia: A case report

**Anu Handa, Shilpi Nain**

Lady Hardinge Medical College & Smt  
Sucheta Kriplani Hospital, Delhi

**Background:** Vasa Praevia is an uncommon

variant of placental anatomy, which defines as fetal vessels coursing within the membranes between the presenting part and the cervix. This report presents a case that was associated with vessel compression and concomitant adverse effects on fetal hemodynamics.

**Case:** A 23-year-old nulliparous woman at 37+4 weeks' gestation developed variable decelerations and bleeding per vaginum few hours after spontaneous rupture of the membranes, resulting in a decision to perform a cesarean. At cesarean delivery, on examining placenta fetal vessels were noted in the membranes with marginally insertion of cord. The bleeding and decelerations were due to compression of the unprotected umbilical arteries by the fetal head.

**Conclusion:** Vasa praevia is a rare pathology which is likely to occur during pregnancy, may result in heavy bleeding and be particularly threatening to the fetus life. A high index of suspicion is necessary to make the diagnosis and institute proper, timely management. The mode of delivery is the Cesarean section, which tends to reduce the frequency of possible complications.

**Time:** 15:15- 16:15 hrs

## **Thrombocytopenia in Pregnancy: A diagnostic dilemma**

**Sukanya Roy, Monika Gupta**

Vardhman Mahavir Medical College &  
Safdarjung Hospital, Delhi

**Background:** Thrombocytopenia is second to anemia as the most common hematological abnormality encountered during pregnancy. We came across different case scenarios of thrombocytopenia in pregnancy which we are presenting here.

**Cases:** One case of gestational thrombocytopenia where the platelet count was 20,000/cumm was managed conservatively. Diagnosis was made after ruling out all the other causes of thrombocytopenia. Another case of thrombocytopenia with fever was diagnosed as aplastic anemia. All her blood counts were below normal range including platelet counts which were persistently below 50,000. After ruling out all possible causes of fever patient received, 1 unit packed cell and 8 units of PRPs. She was managed on higher antibiotics and delivered vaginally, during labour she received 6 units of PRPs. Patient was later on discharged to get followed up in hematology OPD for further management and bone marrow biopsy.

**Conclusion:** Keeping in mind such varied

manifestations of thrombocytopenia in pregnancy, we should keep a wide lookout for thrombocytopenia per se so that proper treatment can be given and the risk of bleeding in both mother and fetus could be reduced.

## **Comparison of Ferric Carboxymaltose and Iron Sucrose Complex for Treatment of Iron Deficiency Anemia in Pregnancy- Randomised Controlled Trial**

**Ambily Jose, Reeta Mahey, Jai Bhagwan Sharma Neerja Bhatla, Renu Saxena, Mani Kalaivani Alka Kriplani**

All India Institute of Medical Sciences, Delhi

**Objectives:** To compare the change in hemoglobin level after administering Ferric Carboxymaltose (FCM) versus Iron Sucrose Complex (ISC) in pregnant women with iron deficiency anemia.

**Materials & Method:** A randomized clinical trial was conducted from January 2016- August 2017 at a tertiary hospital. Pregnant women diagnosed with moderate to severe iron deficiency anaemia were screened for the study. One hundred patients were randomized to receive either intravenous FCM or ISC. Primary outcome was rise in hemoglobin (Hb) from baseline after 12 weeks. Secondary outcomes were change in RBC indices, serum iron studies, improvement in fatigue scores over 4 time points (baseline, 3, 6, 12 weeks), number of visits and perinatal outcome.

**Results:** Mean rise in Hb at 12 weeks was significantly higher in FCM group (29 g/L vs 22 g/L; p value <0.01). FCM was associated with greater improvement in fatigue scores. Number of visits was significantly less in FCM group. No serious adverse events were noted in either group.

**Conclusion:** Treatment with FCM resulted in rapid replenishment of iron stores in pregnant women with significantly higher Hb rise over a 12 week period. The convenient dosing with lesser number of total doses to complete the treatment will lead to better compliance in community setting.



# Pseudohypoparathyroidism in Pregnancy

**Saunri Hansadah, Indu Chawla,  
Mrinalini**

Dr Ram Manohar Lohia Hospital & Post  
Graduate Institute of Medical Education  
and Research, Delhi

**Background:** Pseudohypoparathyroidism is an extremely rare condition with an estimated overall prevalence of approximately 1 in 1.4 lakhs population and very few cases have been reported in pregnancy till date. It is associated with resistance to the parathyroid hormone (PTH) resulting in low serum calcium and high phosphate level in spite of high serum level of PTH.

**Case:** A 30 years, primigravida, diagnosed case of pseudohypoparathyroidism was referred from endocrinology at 5+5 weeks POG to Obs/Gyn OPD. She was diagnosed at 22 years of age during investigations for recurrent seizure episodes and was on antiepileptic, calcium and vitamin D supplementation. She is of short stature (Height 143 cm) and pre-pregnancy weight 62 kg making her BMI 30.39 kg/m<sup>2</sup>, however no obvious skeletal deformity or depressed IQ were noted. Serial monitoring of serum Calcium, Vitamin D and Phosphate with modification of dose was done. Daily Calcium supplementation was increased from 1gm daily to 3.5 gm daily and vitamin D from 0.5 mg daily to 1 mg daily. During follow up visits in ANC she developed gestational hypothyroidism, GDM, IHCP and gestational hypertension which were controlled and managed efficiently. Her anomaly scan and fetal echo were within normal limit. She underwent an elective cesarean section with PPIUCD insertion at 37+3 weeks POG for transverse lie with CPD. She delivered a female baby of 2.3 kg with Apgar score of 7, 9 at 1 and 5 minutes respectively. Dose of calcium increased to 4 gm daily and vitamin D to 1.5 mg daily postnatally after consulting endocrinologists. She was discharged with advice to continue monitoring of serum calcium, phosphate and Vitamin D lifelong.

**Conclusion:** Clinical suspicion of Pseudohypoparathyroidism should be kept in mind in cases with history of seizure with low serum calcium level. Dose of calcium and vitamin D needs to be increased in pregnancy.

## Silent Scar Dehiscence

**Deepti, Archana Kumari**

Vardhman Mahavir Medical College  
& Safdarjung Hospital, Delhi

# Smooth Muscle Tumor Vulva Case Report and Review of Literature

**Nandhini Rajamani**

Vardhman Mahavir Medical College &  
Safdarjung Hospital, Delhi

**Background:** Smooth muscle tumours are rare in vulva accounting for 0.03% of all gynecologic neoplasms. They are classified into three categories: leiomyomas, atypical leiomyomas, and leiomyosarcomas based on histologic features according to criterion given by Tavassoli in 1979 and later modified by Nielsen et al. in 1996. Here we discuss two cases both presenting with vulvar mass but with different clinical features.

**Case:** The first patient being 26 years primigravida at 18 weeks gestation with vulvar mass in the region of Bartholin's gland. The second patient was 38 years para 3 woman with complaints of pain, ulceration of a gradually growing mass in vulva for the last 8 months. Local excision and wide local excision was done in patient 1 and 2 respectively with good postoperative recovery and no recurrence till date.

**Conclusion:** The aim of reporting these cases is to emphasize the need of having high clinical suspicion of vulvar smooth muscle tumours in any woman presenting with vulvar mass to avoid missing out on malignant ones and provide the best prognosis to patients.

# Congenital Bilateral Microtia in New Born after Inadvertent Exposure to Mycophenolate Mofetil in First Trimester Pregnancy

**Poonam Rani, Ruma Satvik, Vinant  
Bhargava**

Sir Ganga Ram Hospital, Delhi

**Background:** Mycophenolate Mofetil is an immunosuppressive medication used to prevent rejection in organ transplant recipients and to treat various autoimmune disorders. It is considered teratogenic based on observation studies with birth defect rate 14% in early pregnancy exposure.

**Case:** A 30 years primigravida presented in OPD at 11 weeks 4 days pregnancy with inadvertent exposure to Mycophenolate Mofetil. She was on immunosuppressant after renal transplantation on 5th December 2015. Post-transplant regime was Tab Mycophenolate Mofetil 250 mg BD, Cab Tacrolimus 2 mg OD, and Tab Everolimus 0.5 mg OD.

Mycophenolate mofetil was replaced by Tab Azathioprine 50 mg OD. Patient was counselled and informed of risks, options offered, she opted for continuing pregnancy. Level two ultrasound showed two vessel cord. She was suffering from DM-2 and active chronic hepatitis B infection. She developed IHCP at 27 weeks, and pre-eclampsia with progressive urinary proteinuria at 29 weeks, along with IUGR at 31 weeks. Early Caesarean section was planned at 33 weeks after steroid cover. Female baby with birth weight 1450 gm and Apgar score 9/9, with bilateral microtia/ abnormal external auditory meatus. Echocardiography showed large PDA and mild pulmonary arterial hypertension attributable to prematurity. Ultrasound KUB was normal and cranium showed mild degree of Intra ventricular haemorrhage. Parents counselled regarding need for BERA before discharge and bone conduction study at 3 months.

**Conclusion:** Mycophenolate Mofetil is a category D drug with well-known embryopathy. This should be changed to azathioprine > 6 weeks of planning pregnancy or <6 weeks after out weighing the risk to mother and organ transplanted.

## **Repercussion of Treatment of Infertility: Asherman syndrome, a case report**

**Megha Gupta, Bindu Bajaj**

Vardhman Mahavir Medical College & Safdarjung Hospital, Delhi

**Background:** Asherman Syndrome results from intrauterine adhesions that obliterate the uterine cavity. Most women present with menstrual irregularities, recurrent pregnancy loss or secondary infertility. It is found in 1.5% of women evaluated with a hysterosalpingogram, between 5 and 39% of women with recurrent miscarriage.

**Case Study:** A patient of 30 years age P2L0 with previous LSCS came with complaint of hypomenorrhea and secondary infertility for the past 4 years. Her pre-menstrual endometrial biopsy showed inadequate sample and absence of acid fast bacilli on culture. On her HSG uterus was seen opacified with contrast and was irregular and distorted in shape and bilateral fallopian tube were opacified with contrast and normal with free intraperitoneal spill. On hysteroscopy, dense adhesions in endometrial cavity were seen. She underwent hysteroscopic adhesiolysis, and ovulation induction thereafter. However, she conceived spontaneously. She was diagnosed with placenta percreta at 24 wk scan which was confirmed by Ultrasound Doppler and MRI.

At 34 weeks, 2.2 kg baby girl was delivered by caesarean hysterectomy with intraoperative bilateral internal iliac artery balloon occlusion.

**Conclusion:** Pregnancy after adhesiolysis may be complicated by abortion, premature labor, placenta previa and adherent placenta.

## **Ovarian Fibroma in Pregnancy- An incidental finding**

**Anugeet Sethi, Archana Kumari,  
Bindu Bajaj**

Vardhman Mahavir Medical College &  
Safdarjung Hospital, Delhi

**Background:** Fibromas are most common sex cord tumours of ovary occurring mainly in perimenopausal and postmenopausal women. They might present as acute abdomen and torsion. With the expanding use of antenatal USG, incidence of adnexal masses in pregnancy appear to be increasing. We hereby present a case of 30 year old young pregnant female who underwent a lower segment caesarean section in view of placenta previa and incidentally diagnosed with ovarian mass intraoperatively.

**Case:** A 30 year old female presented in the antenatal out patient department with G3P1L1A1 with 35 weeks 6 days with previous 1 LSCS with placenta previa. Patient was admitted for evaluation and observation. Ultrasound doppler was done to rule out placenta accreta. Elective caesarean section was done at 38 weeks. Peroperative findings revealed an enlarged uterus with multiple small fibroids in the posterior wall. Right ovary was enlarged with hard irregular mass of 3X5cm. Hence, right sided salpingoopherectomy was done. Left tube and ovary seemed normal. Right ovarian histopathological report revealed findings suggestive of fibroma.

**Conclusion:** Routine ultrasound during pregnancy may miss adnexal masses unless specifically looked for.

## **Conservative Management for a Haemorrhagic Emergency in a Case of GTN**

**Suchandana Dasgupta  
Jyotsna Suri, Pratima Mittal**

Vardhman Mahavir Medical College &  
Safdarjung Hospital, Delhi

**Introduction:** Gestational trophoblastic disease includes partial and complete hydatiform mole,

invasive mole, choriocarcinoma, placental site trophoblastic tumor and epithelioid trophoblastic tumor. It may present as premalignant lesions, treated with suction and evacuation. It may be cured, may recur or may progress to metastatic disease. In rare instances, it may follow a non molar gestation or can arise as primary. Beta hCG play a crucial role in the management of these women.

**Case:** We came across a case of a nulliparous woman, who had invasive mole following a spontaneous abortion. After suction evacuation, she was started on chemotherapy as her serum beta hCG was rising and USG showed evidence of an invasive mole. She presented with massive bleeding PV after two cycles of chemotherapy and spontaneously expelled the in growing lesion as a cast. Ultrasound showed an empty uterine cavity and no collection in the abdomen or pelvis. On follow up her serum beta hCG decreased dramatically.

**Conclusion:** Haemorrhagic emergency in nulliparous women with invasive mole without perforation can be managed conservatively.



## Society of Fetal Medicine

### Upcoming Events (2018 - 2019)

<b>19<sup>th</sup> December 2018</b> <b>Second Quarterly Meeting (2018-2019)</b> of the Delhi Chapter of Society of Fetal Medicine Agrvillgyn Auditorium, S&R Hospital DhaulaKuan, New Delhi <b>For details contact</b> Col. (Dr.)Reema Bhatt at +91 9205646811 Email: reemabhattn@yahoo.co.in	<b>22nd December 2018</b> <b>Quarterly Meeting (2018-2019)</b> of the Ludhiana Chapter of the Society of Fetal Medicine Christian Medical College & Hospital, Ludhiana <b>For details contact</b> Dr. Naveen Persira at +91 9815100244 (Email: dr.naveenpersira@rediffmail.com)
<b>6<sup>th</sup> January 2019</b> <b>Inaugural CME of the SFM Aurangabad Chapter</b> <b>For details contact</b> Dr. Bimal Sahani at +91 9823550582 Email: sasanen@rediffmail.com	<b>27<sup>th</sup> January 2019</b> <b>SFM North Kerala Chapter Meeting in</b> association with Thrissur Gynec Society, Thrissur, Kerala <b>For details contact</b> Dr. Ambady Ramakrishnan at +919745003767 Email: ambady1990@yahoo.co.in
<b>9<sup>th</sup> -10<sup>th</sup> February 2019</b> <b>Trifecta CME of SFM and Trichy OBOYN Society</b> <b>For details contact</b> Dr. MalathiG Prasad at +91 8220435777 Email: malathi_g_prasad@fatmail.com	<b>23<sup>rd</sup> - 24<sup>th</sup> February 2019</b> <b>SFM Ultrasound Update Hyderabad</b> <b>For details contact</b> Dr. TLN Praveen at +91 9949438959 Email: thpraveen@googlemail.com
<b>9th - 10th March 2019</b> <b>Inaugural Meeting of the SFM Amritsar Chapter</b> Radisson Blu Hotel, Amritsar, Punjab <b>For details contact</b> Dr. Vikram Gulati at +91 9781138888 Dr. Amandeep at +91 9872654954 (Email: vngulati@rediffmail.com)	<b>31st March 2019</b> <b>SFM CME on Fetal Anomalies Evaluation in</b> association with Mirzapur OBOYN Society <b>For details contact - Dr. Meena Vishwakarma</b> Email: drmeena67@gmail.com
<b>21<sup>st</sup> April 2019</b> <b>CME 2019 of Chhattisgarh Chapter</b> of Society of Fetal Medicine, Raipur, Chhattisgarh <b>For details contact</b> Dr. Harshad Rupela at +91 9769612561 Email: drharshadrupela@gmail.com	<b>28th April 2019</b> <b>Third Quarterly Meeting (2018-2019)</b> of the Delhi Chapter of the Society of Fetal Medicine Lecture Theatre, AIIMS, New Delhi <b>For details contact</b> Dr. Kritika Daga at +91 9818824184 Dr. Aparna Sharma at +91 9711824415 (Email: debbskg@yahoo.co.in, kaparnasharma@gmail.com)
<b>12th May 2019</b> <b>SFM CME in association with Bhopal OBOYN Society</b> <b>For details contact</b> Mr. Deepak Dik at +91 7771010049 (Email: deepak_n@lifestell.in)	<b>18th - 19th May 2019</b> <b>Inaugural Meeting of the SFM Jammu Chapter</b> <b>For details contact</b> Dr. Arshad Bhat at +91 9419185948 (Email: arshadbhat14@gmail.com)
<b>1st - 2nd June 2019</b> <b>SFM Shimla Meeting</b> <b>For details contact</b> Dr. Vivek Kashyap at +91 9811116050 Email: drvkashyap@yahoo.com)	<b>26th - 28th July 2019</b> <b>SFM Basic Fetal Intervention and Invasive</b> <b>Procedures Workshop, Hyderabad</b> <b>For details contact</b> Dr. TLN Praveen at +91 9949438959 Email: thpraveen@googlemail.com
<b>23rd - 25th August 2019</b> <b>FetalCardiac2019</b> <b>Annual Fetal Cardiology Conference</b> of the SFM, New Delhi <b>For details contact</b> Vishal Mittal at +91 9312227181 Email: sfmsecretariat2017@gmail.com	<b>8th - 11th September 2019</b> <b>ISPD 2019, 23rd International Conference on</b> <b>Prenatal Diagnosis and Therapy, Singapore</b> <b>For details contact</b> Vishal Mittal at +91 9312227181 Email: sfmsecretariat2017@gmail.com
<b>12th - 16th October 2019</b> <b>ISUOG World Congress, Berlin, Germany</b> <b>For details contact</b> Vishal Mittal at +91 9312227181 Email: sfmsecretariat2017@gmail.com	<b>22nd - 24th November 2019</b> <b>SFM Fetcon 2019 and Mahabaleshwar</b> <b>Retreat, Mahabaleshwar, Maharashtra</b> <b>For details contact</b> Dr. Chandrashekhhar Kenjale at +91 9822238430 Email: ckenjale@gmail.com
<b>21st - 22nd December 2019</b> <b>SFM Madurai and Kanyakumari</b> <b>Fetal Medicine CME, Madurai, Tamil Nadu</b> <b>For details contact</b> Dr. Selvapriya at +91 9443721809 (Email: selvapriya239@gmail.com)	<b>For any query please contact</b> <b>secretariat at +91 9312227181</b> <b>email at sfmsecretariat2017@gmail.com</b> <b>Please visit our website <a href="http://www.societyoffetalmmedicine.org">www.societyoffetalmmedicine.org</a></b> <b>for latest updates.</b>

# Scientific Programme

Day 1

Saturday, 23<sup>rd</sup> February, 2019

Time	Topic	Presenter
8:30 - 9:00	<b>Registration</b>	
9:00 - 10:00	<b>Baby too Small, too Soon: What to do ?</b>	
	<b>Chairpersons:</b> Dr Ratna Biswas, Dr Sangeeta Gupta, Dr Manisha Gupta	
9:00 - 9:15	Diagnosis of Hypoxic Fetus	Dr Narendra Malhotra
9:15 - 9:30	Timing and Mode of Delivery in Fetal Growth Restriction: What is New?	Dr Amita Suneja
9:30 - 9:45	Baby Coming Too Soon: How to manage?	Dr Geeta Mediratta
9:45 - 10:00	<b>Discussion</b>	
10:00 - 11:00	<b>Challenging Situation in Obstetrics</b>	
	<b>Chairpersons:</b> Dr Anjali Tempe Dr Manjula Sharma, Dr Kusum Chopra	
10:00 - 10:15	Peripartum Cardiomyopathy	Dr Sunita Malik
10:15 - 10:30	Altered Sensorium	Dr Asmita Rathore
10:30 - 10:45	ARDS	Dr Jyotsna Suri
10:40 - 10:50	Discussion	
10:50 - 11:00	<b>Tea/Coffee Break</b>	
11:00 - 11:20	<b>Key Note Address</b>	
	<b>Chairpersons:</b> Dr Chitra Raghunandan, Dr Banashree Das, Dr Veena Acharya	
	Difficulties & Dilemma in Management of Endometriosis	Dr K K Roy
11:20 - 12:00	<b>Revisiting Induction of Labour</b>	
	<b>Chairpersons:</b> Dr Reva Tripathi Dr Bani Sarkar, Dr Urvashi Sehgal Dr Kiran Aggrawal	
11:20 - 11:30	What's New in Induction?	Dr A G Radhika
11:30 - 11:40	Dinoprost Pessary: Experience at a tertiary centre	Dr Achla Batra
11:40 - 11:50	Old Methods: Doing it right?	Dr Manju Khemani
11:50 - 12:00	What do Guidelines say	Dr Jyoti Bhaskar
12:00 - 12:30	<b>Lilawati Ghai Oration</b>	
	<b>Chairpersons:</b> Dr S K Ghai Bhandari, Dr Kamal Buckshee, Dr. S N Basu Dr. Sudha Prasad	
	Catering to Maternal & Child Health: Government Initiatives	Dr Abha Singh
12:30 - 13:00	<b>Inauguration</b>	
13:00 - 14:00	<b>Lunch</b>	
14:00 - 14:40	<b>Detection of Fetal Disorders: Let's Talk it Out</b>	
	<b>Chairpersons:</b> Dr Swaraj Batra, Dr Manisha Kumar, Dr Neelima Agarwal	
14:00 - 14:20	HPLC as a Universal Screening Tool for Thalessemia ?	<b>For:</b> Dr Ashutosh Gupta <b>Against:</b> Col. Reema Kr. Bhat

14:20 - 14:40	Can NIPT Replace Prenatal Invasive Testing ?	<b>For:</b> Dr Seema Thakur <b>Against:</b> Dr Vatsala Dadhwal
14:45 - 15:30	<b>Panel Discussion:</b> Dilemmas in managing Polycystic Ovarian Syndrome	
	<b>Moderators:</b> Dr Sonia Malik <b>Panelists:</b> Dr Anupam Kapur Dr Anita Rajoria, Dr Sushma Sinha Dr Upma Saxena, Dr Anjila Aneja Dr Neena Bahl	
15:30 - 16:00	<b>Perinatal Infection Dilemmas</b>	
	<b>Chairpersons:</b> Dr Sunesh Kumar Dr Vijay Zutshi, Dr Reena Yadav	
15:30 - 15:45	Zika Virus: New Menace	Dr Chitra Setya
15:45 - 16:00	Hepatitis B: New Dimensions in MTCT	Dr Manju Puri
16:00 - 16:30	<b>Plight of Kidneys in Obstetrics</b>	
	<b>Chairpersons:</b> Dr Mamta Mittal Dr Indu Lata, Dr Archana Kumari	
16:00 - 16:10	Pregnancy after Renal Transplant	Dr Ragini Agrawal
16:10 - 16:20	Acute Kidney Injury	Dr Shivani Agarwal
16:20 - 16:30	Chronic Renal Disorders in Pregnancy	Dr Taru Gupta
16:30	<b>Tea/Coffee</b>	




# Scientific Programme

Day 2

Sunday, 24<sup>th</sup> February, 2019

Time	Topic	Presenter
8:30 - 9:00	<b>Registration</b>	
9:00 - 9:45	<b>Solving Endocrine Confusions in Pregnancy</b>	
	<b>Chairpersons:</b> Dr Reeta Bakshi Dr Sucheta Bharti, Dr Rajesh Kumari	
9:00 - 9:15	Screening of GDM	Dr S V Madhu
9:15 - 9:30	Pharmacological Management of GDM	Dr Pikee Saxena
9:30 - 9:45	Managing Hypothyroidism in Pregnancy: What's new ?	Dr Deepti Gowsami
9:45 - 10:45	<b>Decreasing CS Rates: Meeting the challenges</b>	
	<b>Chairpersons:</b> Dr Puneeta Mahajan, Dr Anjali Dabral, Dr Birbala Rai	
9:45 - 10:00	Interpretation of CTG	Dr Rinku Sen Gupta
10:00 - 10:15	Dying ART of ECV	Dr Kanwal Gujral
10:15 - 10:30	TOLAC	Dr Jayasree Sundar
10:30 - 10:45	Meconium Staining of liquor	Dr Mala Srivastava
10:45 - 11:30	<b>Panel Discussion:</b> Consultations with Experts: CDH, Hydrocephalus, Congenital Heart Disease, CTEV	
	<b>Moderators:</b> Dr Kiran Guleria Dr Monika Gupta <b>Panelists:</b> Dr Harsha Gaikwad Dr Chandra Mansukhani Dr Suvasini Sharma, Dr Amit Jadhav Dr Shobhna Gupta, Dr Dheeraj Bhatt, Dr Vikas Gupta	
11:30 - 11:50	<b>Key Note Address</b>	
	<b>Chairpersons:</b> Dr Urmil Sharma Dr Shakti Bhan, Dr S S Trivedi	
	Challenges in Caesarean Section: Finding the way	Dr Pratima Mittal
11:50 - 12:20	<b>S K Das Oration</b>	
	<b>Chairpersons:</b> Dr S N Mukherjee Dr Aruna Batra, Dr Shashi Prateek	
	Reaching The Unreached	Dr Sonal Bathla
12:20 - 12:50	<b>Placenta Accreta Management: Newer Techniques</b>	
	<b>Chairpersons:</b> Dr Poonam Goyal Dr Kishore Rajurkar Dr Geeta Kinra	
12:20 - 12:35	Retrograde Hysterectomy	Dr Abha Sharma
12:35 - 12:50	Intervention Radiology	Dr Shivanand Gamangatti
12:50 - 13:15	<b>Valedictory</b>	
13:15 - 14:00	<b>Lunch</b>	






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- 3<sup>rd</sup> Test around 32 - 34 weeks of gestation

Diagnosis (in pregnancy)	2-hour plasma glucose <sup>1</sup>
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Gestational glucose intolerance	120 - 139 mg/dl
Gestational Diabetes Mellitus (GDM)	140 - 199 mg/dl
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