

Safeguarding women and their Doctors

Issue Theme: Quality care in Labour



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AOGD Bulletin Volume 22 • Monthly Issue 5 • September 2022

•	Foreword	05
•	From the office of the AOGD	06
•	From the Editor's Desk	07
•	44th Annual AOGD Conference- First Announcement	08
•	Call for Nominations AOGD President & Vice President Election (2023-24)	09
•	GAME CHANGER: WHO LABOUR CARE GUIDE (LCG)- WHO next-generation partograph & the Usability, acceptability, and feasibility of the LCG Madhavi M Gupta, Reena Rani	13
In	vited Articles	
	Intrapartum Care Divya Pandey, Rekha Bharati	16
	Respectful Maternity Care Shalini Singh	21
	Intrapartum Ultrasound- ROLE & THE FUTURE Reema Bhatt	28
	Understanding the ART Bill and Surrogacy Bill 2021 Surveen Ghumman Sindhu	35
•	Events held in August 2022	43
•	Forthcoming events	43
•	Cross Word Puzzle Nalini Bala Pandey, Dhriti Kapur	44
•	Cross Word Puzzle Reena Rani , Vaishnavi Jayaram	45
•	Proceedings of the AOGD monthly clinical meeting on 26.08.2022	47
•	AOGD Membership Form	52

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Editor

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Foreword



I feel honoured and previleged to write this foreword for the scientific bulletin on Labour by the prestigious AOGD. As an Obstetrician with years of comittment to the pregnant and parturient women, this was a learning experience. Pregnancy and childbirth are life defining moments for women. Our love, concern and respect for the women in labour optimizes this cherished experience. The authors have done justice to various topics related to labour and intrapartum care.

The intrapartum care refers to both the women and their babies. It aims at the safe delivery of pregnant women of healthy babies, at the same time averting intrapartum complications like

prolonged labour, maternal infection, pre eclampsia and haemorrhage. Acute catastrophic events leading to maternal death and serious maternal morbidity can be prevented. Many labour care guidelines are available in different countries. These claim to improve labour experiences for the women and improve their outcome. They are meant not only for healthy pregnant women and their babies but also for those who need extra support and care, because of medical condition or complications in their current or previous pregnancies. It also includes women who have had no antenatal care. It is important to scrutinise their antenatal record for relevant information on special care required during labour.

The bulletin provides the WHO guidelines on labour care which focusess on a global model for intrapartum care. It integrates the complexities and diverse nature of prevailing models of labour care with contemporary practice. It acknowledges the available health resources and services within or in between countries. The bulletin also highlights the importance of Respectful Maternity Care during child birth. The mistreatment of women during child birth is known globally. It includes physical abuse, use of force, physical restrictions, verbal harsh language and threats. Social stigma and discriminations are considered as human rights violations. Respectful maternity care stresses on maintenance of mother's dignity, privacy, confidentiality, freedom from harm and mistreatment. It enables them to have informed choices and receive companionship and support during childbirth. It includes rights for timely and highest attainable level of healthcare.

The latest information on the role of intrapartum ultrasound and ISUOG practice guidelines is welcome. It provides precise information and documentation during pelvic examination. The transperineal sonography in labour is used to assess fetal head station, position and attitude alongwith pelvic outlet measurement. However its impact on maternal and neonatal outcome needs to be ascertained. The digital examination cannot be replaced by US and it is still not mandatory in obstetric practice.

Every obstetrician and gynecologist must be aware of the laws governing OBGYN practice specially the recently passed Lok Sabha bill on ART and surrogacy presented in this bulletin. This will enable them to provide wholesome clinical services to women in need within the current framework of law.

Dr. Chitra Raghunandan Consultant Gynaecologist Former Director Professor & HOD Dept of Obgyn LHMC & SK Hospital New Delhi

From the AOGD Office



Dr. Asmita M. Rathore



Dr. Y. M. Mala



Dr. Deepti Goswami

Dear AOGD members

Warm Greetings!

The AOGD secretariat at MAMC has completed almost half of its tenure for 2022–23. We feel satisfied that we, along with our active subcommittees, have been able to organise a bouquet of academic events—both physical ones and online ones. A summary of these events and events to come is in the bulletin and is also presented before every clinical meeting on the last Friday of each month.

Our effort has been to connect with our fraternity across the city of Delhi and involve as many members as possible, both stalwarts and youngsters, in such academic events. The strength of AOGD lies with its members, and their involvement is imperative for the success of these activities.

The festive season is round the corner, and after two years of pandemic, we all look forward to celebrating it with joy and abandon. As these festivities will fade, we will bring out an "academic fiesta" for you all-The AOGD Annual Conference, which is being organised on November 12th and 13th, 2022 at the elegant premises of the Indian Habitat Centre. We have crafted a scientific programme packed with wide-ranging topics in OBGY in the form of orations, keynote addresses, talks, video sessions, panel discussions, and debates. The competition papers, free papers, and quiz will give the postgraduates and residents an opportunity to showcase their research work in this academic extravaganza. Registration for the conference and paper submission is now open and can be accessed through the AOGD website- www.aogd.org

So mark your calendars for the weekend of November 12th-13th!

We would like to remind the readers that a support group for any colleague in need is in place—the AOGD Risk Management Support (ARMS) Group. When required, an AOGD member can reach out to "ARMS" for advice and support. The details are there inside the bulletin.

As for the content of this month's bulletin, Dr. Madhavi and her editorial team have put together yet another issue with excellent content on the latest developments in our specialty. This issue focuses on labour management. The topics covered are most relevant for day-to-day obstetric practice and would be useful for all.

Enjoy reading!

Dr. Asmita M Rathore, President Dr. Y M Mala, Vice President Dr. Deepti Goswami, Secretary

From the Editor's Desk



Dr. Madhavi M. Gupta Editor







Co-Editors



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Dr. Reena Rani

Greetings to all!

Dear friends

We celebrated the "Teacher's day" on 5th September in honour of Dr Sarvepalli Radhakrishnan. Wishing all teachers who have been silently helping build the future.

The editorial team is pleased to present to you the fifth issue of the AOGD Bulletin for the month of September 2022.

This issue focusses on different aspects of care during labour. Labour management is never complete without a partograph. In the Game Changer section we bring to you the WHO Labour Care Guide (LCG) along with the evolution of partograph. WHO introduced the Labour Care Guide in 2020 bringing the next generation partograph in clinical practice with the aim of improving maternal and fetal outcomes. Having a positive birth experience is very important for all women in labour. Following the WHO LCG in spirit guarantees quality care in labour. WHO LCG requires knowledge and training and the WHO User's manual is a step towards the same. This was the thought behind the theme for our issue.

Intrapartum care requires do's and don'ts and labour monitoring as per the revised definitions of the of first and second stages of labour. The new partograph is without "action" and "alert" lines and stresses upon deciding the plan in consultation with the woman. These aspects have been elaborated well by the authors.

Every woman has the right to the highest attainable standard of health, including the right to dignified, respectful care during pregnancy and childbirth. The article on Respectful Care during childbirth gives an insight into what it actually means and should be. However, contrary to this over the years our behaviour has been normalized and we don't even regard it as disrespect and abuse. The author has extensively covered the seven domains of respectful maternity care.

The use of technology in medicine is increasing with time and what better way to use ultrasound in assessing the progress of labour for an optimal outcome. Ultrasound use in labour for assessment of different aspects has been discussed very well by the author.

"Safeguarding the Doctors" section covers the new ART Bill and Surrogacy Bill 2021. It's a must know for everyone practising reproductive medicine. The author walks us through different sections of the Bill empowering us in the process. Being informed of the Law of the land is mandatory for a safe practice in every field.

I sincerely thank all the authors for their efforts in putting together articles for this bulletin which I am certain everyone will love to read.

In this issue we have two crossword puzzles for our young minds- one dedicated to the WHO LCG and the other covers important aspects of labour. I hope all of you find it interesting.

Hoping to fulfill the expectations of the members from this series of AOGD bulletin and empowering the doctors through the capsules of knowledge we look forward to receiving your feedback to help us bring out a better version next time.

Yours in health

Dr. Madhavi M Gupta Editor



12th & 13th November, 2022 | India Habitat Center, New Delhi Association of Obstetricians and Gynaecologists of Delhi Organized by: Department of Obstetrics & Gynaecology, Maulana Azad Medical College & Lok Nayak Hospital, New Delhi

Quality Care for Women: Sharing Vision, Sharing Solutions

Conference Registration & Paper Submission is NOW OPEN

2 Click here to visit website

Conference Registration

Early Bird Fee Slab (Ends on Oct 15th, 2022) Includes one workshop and 18% GST

AOGD members: Rs. 7000 Non-AOGD members: Rs. 7500 Postgraduate students: Rs. 5500

Pre-Conference Workshops

Conference registration mandatory to attend

10 Pre-Conference workshops On 9th, 10th & 11th November 2022 Registration fee: Rs. 1000 per additional workshop

COMPETITION PAPERS*

Last date for submission of ABSTRACT & FULL TEXT: 10th Oct 2022

FREE COMMUNICATIONS*

(Oral & E-Poster presentation)

Last date for submission of ABSTRACT: 15th October 2022

Theme Topics

•Maternal Fetal Medicine

- ·Benign Gynaecology
- **·Population Stabilization**

·Endoscopy in OBGY ·Gynae Oncology ·Miscellaneous

*Conference Registration & AOGD Membership Mandatory for all submissions

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Call for Nominations

AOGD President & Vice President Election (2023-24) Call for nominations

Nominations are invited from eligible AOGD members for the following posts

- President (2023-24)
- Vice President (2023-24)

Last date for submission of nominations is 18th November 2022

- Applications by desirous candidates should be submitted on the prescribed form available on AOGD website (www.aogd.org) / bulletin / office, with due entry in the office register.
- The nomination shall be proposed by one regular member and seconded by two regular AOGD members.
- The candidate, his/her proposer and seconder should have cleared all their dues towards the membership subscription in full. Noncompliance with this condition shall render the nomination invalid.
- Nominations as per the eligibility criteria should reach AOGD secretariat: Room no. OG -14, 1st Floor, PNW-1, department of Obst. & Gynae, Maulana Azad Medical College & Lok Nayak Hospital, New Delhi- 110002 (Phone no. 9211656757) by 18th November 2022.

Accepted nomination(s) will be displayed on AOGD website by 1st December 2022.

NOTE:

- The new members joining AOGD after the date of call for nominations will not be eligible for voting.
- Associate members are not eligible to vote.

Dr. Deepti Goswami (Secretary AOGD 9968604348)

Eligibility Criteria for PRESIDENT AOGD

- 1. He/she shall be a senior and active member of faculty in a multidisciplinary hospital of Delhi in the public or the private sector, with such hospital having clinical and para-clinical departments and having post graduate courses, duly recognized by the National Medical Commission and/or the National Board of Examination.
- 2. He/she must have held the post of professor/ senior consultant/an equivalent there of with such hospital for more than 10 years.
- 3. He/she must have the experience of having completed at least one tenure as the chairperson of a sub-committee of the AOGD or the experience of having completed at least one tenure as Vice President or Secretary or member of the Executive Committee of the AOGD.
- 4. He/she must be a life member of the AOGD with more than twenty years of experience after post graduation in the specialty of obstetrics and gynaecology.
- 5. He/she should have experience of conducting academic conferences, seminars or workshops.
- 6. A person who has held the post of President of the AOGD in the past shall be ineligible to hold the post of President of the AOGD again.
- 7. Faculty from the institution that fields the President shall be ineligible to apply for election to the post of President for a period of five years from the date of start of the tenure of that President.

Eligibility Criteria for VICE PRESIDENT AOGD

- 1. He/she shall be a senior member of faculty in a multidisciplinary hospital of Delhi in the public or the private sector, with such hospital having clinical and para-clinical departments and having post graduate courses, duly recognized by the National Medical Council / National Board of Examination.
- 2. He/she must have held the post of professor / senior consultant / or an equivalent thereof with such hospital for more than seven years.
- 3. He/she must have the experience of having completed at least one tenure as the chairperson of a sub-committee of the AOGD or the experience of having completed at least one tenure as Secretary or Treasurer or Editor or member of the Executive Committee of the AOGD having attended at least 75% of the meetings of the Executive Committee during his/her tenure as member of the Executive Committee
- 4. He/she must be a life member of the AOGD with more than fifteen years of experience after post graduation in the specialty of obstetrics and gynaecology.
- 5. He/she should preferably, have experience of conducting academic conferences, seminars or workshops.
- 6. A person who has held the post of Vice-President of the AOGD in the past shall be ineligible to hold the post of Vice- President of the AOGD again.

AOGD Subcommittees Chairperson Election (2023-25) Call for nominations

Nominations are invited from eligible AOGD members for the post of chairperson of following subcommittees:

- 1. Endometriosis Sub-Committee
- 2. QI Obst & Gynae Practice Sub-Committee
- 3. Oncology Sub-Committee
- 4. Urogynaecology Sub-Committee
- 5. Adolescent Health Sub-Committee
- 6. Fetal Medicine & Genetics Sub-Committee
- 7. Endoscopy Sub-Committee

Last date for submission of nominations is 18th November 2022

Nominations as per the eligibility criteria should reach AOGD secretariat: Room no. OG -14, 1st Floor, PNW-1, department of Obst. & Gynae, Maulana Azad Medical College & Lok Nayak Hospital, New Delhi- 110002 (Phone no. 9211656757) by 18th November 2022.

Dr. Deepti Goswami (Secretary AOGD)

Eligibility Criteria for AOGD Sub-committee chairperson

- 1. The chairperson of a sub-committee should have been a member of the sub-committee in question for at least one term, with one term being equivalent to two years, prior to his/her appointment as chairperson of that sub-committee.
- 2. He/she should have been a member of the AOGD for fifteen years.
- 3. He/she should have experience in the field related to the subcommittee.
- 4. He/she should have completed at least fifteen years from the date of his/her registration as a medical practitioner. Further, he/she should have held a senior / faculty position for not less than that of associate professor, senior consultant or an equivalent there of in his/her respective organization, for a period of at least five years.
- 5. No person should hold chairperson ship of the same subcommittee for two consecutive terms with each term comprising of two years. Further, a person who has been chairperson of one subcommittee cannot be nominated as chairperson of another subcommittee unless separated by a duration equivalent to two terms of the subcommittee.
- 6. The Executive Committee may lay down additional criteria for the eligibility and pre-requisites for appointment as chairperson of each sub-committee from time to time.
- 7. An eligible member must send an application for nomination as chairperson of a sub-committee stating therein his/her previous experience in the field related to the sub-committee and future vision for furthering the goals of the AOGD through such sub-committee. One person shall not apply for chairpersonship of more than one sub- committee at a time. The application shall be scrutinized by the Executive Committee of AOGD for nomination as chairperson.
- 8. In the event of more than one application being received for appointment as chairperson of a subcommittee, and in the absence of unanimous decision of the Executive committee in this regard, the Executive Committee shall decide the nomination by cast of secret ballot.
- 9. The tenure of the chairperson of subcommittee shall be for a period of two years.

The Association of Obstetricians & Gynaecologists of Delhi

Nomination Form

Name:	
Designation:	
AOGD Membership no:	
Official Address:	
Residential Address:	
Phone:Email:	
Bio Sketch (250words)	
Post Applied for	
President Vice President Chairperson	Name of Subcommittee
2023-24 2023-24 2023-2025	
Proposed by – Name AOGD Membership no.	Signature
1.	
Seconded by 1.	
2.	
Nominations should reach at AOGD Office For any Query please call Mrs. Sarita : 9211656757	

GAME CHANGER: WHO LABOUR CARE GUIDE (LCG)- WHO next-generation partograph & the Usability, acceptability, and feasibility of the LCG

Madhavi M Gupta*, Reena Rani**

*Director Professor, **Assistant Professor, Department of Obstetrics & Gynaecology, MAMC & Lok Nayak Hospital, Delhi

Abstract of the research articles are available free at the journal websites and on Pubmed (http://www.ncbi.nlm.nih.gov/PubMed)

Evolution of Partograph

Based on his clinical observations of women in labour, Friedman in 1954 introduced the partograph, the graphic representation of plotting cervical dilatation against time.¹

The partograph was described in two landmark papers published in 1972 in BJOG.^{2.3} This was a chart designed to providing definite referral criteria for midwives working in the peripheral clinics of Zimbabwe (earlier Rhodesia) who required to refer labouring women to Harare Hospital. The original 'Philpott chart' was the graphical representation of the progress of labour in terms of women's cervical dilatation and descent of the fetal presenting part, against time.

1987- WHO launched the safe motherhood initiative. Three partographs have since been published prior to the Labour Care Guide (LCG), the next generation partograph in 2020.

Though the partograph has been adopted world over, and is used to assess the progress of labour, utilisation (31%) and correct completion rates (3%) are low.

1994- WHO Composite partograph includes latent phase of 8 h and an active phase starting at 3-cm cervical dilatation.⁴

2000- WHO Modified Partograph- latent phase excluded, and the active phase commenced at 4-cm cervical dilatation.⁵

2013- The simplified WHO partograph- color-coded.⁶

Area to the left of the alert line- green – normal progress.

Area to the right of action line- red -dangerously slow progress.

Area between the alert and action line- amber - need for greater vigilance

2020- WHO next-generation partograph

WHO next-generation partograph: revolutionary steps towards individualised labour care

Hofmeyr GJ, Bernitz S, Bonet M, et al BJOG. 2021;128(10):1658-1662. doi:10.1111/1471-0528.16694

Following the update of its global recommendations on intrapartum care in 2018, the WHO initiated a process to revise the partograph in light of recent evidence, including a new understanding of the individual variability of the progress of labours resulting in good perinatal outcomes, and the fact that many women do not experience a labour that conforms to the average rate on which the partograph design was based.

The new WHO recommendations based on the emerging evidence on normal labour progression, as well as recommendations informed by the global shift towards improving experience of childbirth, necessitated the design of a new labour monitoring tool called the WHO Labour Care Guide.

The Labour Care Guide is distinct from previous partograph designs in its approach to labour duration, triggers for clinical interventions and its emphasis on respectful maternity care.

This commentary explores the key concepts that motivated the WHO decision to review and revise the partograph format. It covers what has not changed and what has changed and why? WHO has also published a corresponding user's manual to support healthcare providers on how to successfully use the new tool.⁷

 $\ensuremath{\textbf{Table 1.}}$ Similarities and differences between the partograph and the Labour Care Guide

Modified WHO partograph	WHO Labour Care Guide
Similarities	
Graphical representation of the p women's cervical dilatation and part, against time	rogress of labour in terms of descent of the fetal presenting
Formal regular recording of import the wellbeing of the woman and	rtant clinical parameters describing I baby
Differences	
Active phase defined as starting from 4 cm of cervical dilatation	Active phase defined as starting from 5 cm of cervical dilatation
Fixed 1 cm/hour 'alert' line and 'action' lines	Evidence-based time limits at each centimetre of cervical dilatation
No second-stage section	Intensified monitoring in second stage
No recording of supportive care interventions	Explicit recording of labour companionship, pain relief, oral fluid intake and posture
Records strength, duration and frequency of uterine contractions	Records duration and frequency of uterine contractions
No explicit requirement to respond to deviations from expected observations of any labour parameter, other than cervical dilatation alert and action lines	Requires deviations to be highlighted and the corresponding response to be recorded by the provider

Adapted from Hofmeyr GJ, Bernitz S, Bonet M, et al BJOG. 2021;128(10):1658-166

Usability, acceptability, and feasibility of the World Health Organization Labour Care Guide: A mixed-methods, multicountry evaluation.

Birth. 2021 Mar;48(1):66-75. doi: 10.1111/ birt.12511. Epub 2020 Nov 22

Vogel JP, Comrie-Thomson L, Pingray V, Gadama L, et al.

This study was conducted with the aim of evaluating the LCG's usability, feasibility, and acceptability among maternity care practitioners in clinical settings.

It was a three-phased, mixed-methods project conducted in 12 hospitals across six countries (Argentina, India, Kenya, Malawi, Nigeria, and Tanzania), where skilled health personnel (ie, doctors, midwives, or nurses) were trained in how to use the LCG (Phase 1), applied the LCG in managing the labour of low-risk women and rated experiences, satisfaction and usability (Phase 2), and participated in focus group discussions to share their experiences and perception of the LCG (Phase 3). Participating hospitals were those with more than 1000 births per year, with a minimum of 25 skilled health personnel working in labour ward, and who were able to provide at least basic emergency obstetric and neonatal care.

One hundred and thirty-six practitioners applied the LCG in managing labour and birth of 1,226 low-risk women. The majority of women had a spontaneous vaginal birth (91.6%); two cases had intrapartum stillbirths (1.63 per 1000 births). Practitioner satisfaction with the LCG was high, and median usability score was 67.5%. Practitioners described the LCG as supporting precise and meticulous monitoring during labour, encouraging critical thinking in labour management, and improving the provision of woman-centered care.

The authors concluded that the LCG is feasible and acceptable to use across different clinical settings and can promote woman-centered care. But it should be accompanied by training and supportive supervision, and strategies to promote an enabling environment (like updated policies on supportive care interventions, and ensuring essential equipment is available).

The development of the WHO Labour Care Guide: an international survey of maternity care providers.

Reprod Health. 2021 Mar 22; 18(1): 66. doi: 10.1186/s12978-021-01074-2. PMID: 33752712; PMCID: PMC7986022.

Pingray V, Bonet M, Berrueta M, Mazzoni A, et al.

The partograph is the most commonly used labour monitoring tool in the world. However, the correct and consistent use is missing in many settings. In 2018, a WHO expert group reviewed and revised the design of the partograph in light of emerging evidence, and they developed the first version of the Labour Care Guide (LCG).

The objective of this study was to explore opinions of skilled health personnel on the first version of the WHO Labour Care Guide.

This was a questionnaire based multicentric

study involving skilled health personnel (including obstetricians, midwives and general practitioners) from Africa, Asia, Europe and Latin America. A total of 110 mid-level and senior skilled health personnel who had worked in labour wards anytime in the last 5 years from 23 countries completed the survey between December 2018 and January 2019. It was a selfadministered, anonymous, structured, online questionnaire including closed and openended questions designed to assess the clarity, relevance, appropriateness of the frequency of recording, and the completeness of the sections and variables on the Labour Care Guide (LCG).

The authors concluded that future end-users of WHO Labour Care Guide considered the variables to be clear, relevant and appropriate, and, with minor improvements, to have the potential to positively impact clinical decisionmaking and respectful maternity care.

The WHO next-generation partogram, the LCG is a woman-centered alternative tool to the existing partogram, to provide a positive birth experience to the mother.

Vogel et al. have also raised a few negative points in their qualitative findings. These include added workload, lack of a pictorial overview which leads to consuming more energy to interpret, tiny space to write, lack of staff and being reluctant to accommodate a labour companion of choice, etc.

The transition to the LCG should be phased with adequate training of the staff and regular audits and "Quality Improvement" cycles for optimal results.

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Intrapartum Care

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Introduction

Intrapartum care refers to the care provided to an antenatal woman during labour, i.e. from start of labour pains till the end of fourth stage of labour. More than a third of maternal mortality, half of intrauterine fetal deaths and a quarter of neonatal mortality result from complications during labour.¹ Therefore, intrapartum care plays critical role in preventing adverse birth outcomes²

Women wish to receive continuous emotional support during labour. They also want their labour to be physiological and in case medical interventions are required, they wish to be the part of decision making.

There have been extensive changes over the last few decades in variety of labour practices like induction, augmentation, and monitoring of labour. These practices aim to improve the maternal and fetal outcomes and are based on the studies conducted more than 50 years back. However, these practices may not be appropriate as individualised clinical decision-making is not taken into consideration. Based on the newer studies in labour management, WHO (2018) has given a comprehensive and consolidated guideline on essential intrapartum care. These are evidence-based guidelines which can be applied in all levels of health care setting.³

There is an emergence of the concept of *Obstetrics triaging* where after initial assessment, women are allotted to Emergency, Priority, Further assessment and Non-urgent categories. Women in "emergency" and "priority" groups can be attended on priority or transferred to an appropriate facility equipped to provide required level of specialized care. This triaging avoids delayed delivery of necessary care which remains one of the major reasons, behind fetomaternal morbidity and mortality.

Also, enough evidence is available to redefine latent phase, active phase, and duration of different stages of labour.

Progress of labour: The terms abnormal labour,

dystocia, and failure to progress, have been substituted by protraction disorders (i.e., slower than normal progress) and arrest disorders (i.e., complete cessation of progress of labour).

Labour Progression: The standard Friedman partograph, defines 4 cm cervical dilatation as transition from latent to active phase of labour and is based on a 1955 study done on 100 labouring women.⁴ However, based on a multicentric retrospective study done at 19 centres of US involving 62,415 parturients, Zhang et al challenged the above concept of labour progression.⁵ According to their observations, labour may take over 6 hours to progress from 4 to 5 cm and over 3 hours to progress from 5 to 6 cm of cervical dilatation. They also reported that progress of labour in nulliparas and multiparas had similar pace before 6 cm cervical dilatation. However, after 6 cm, labour accelerates much faster in multiparas than in nulliparas. Based on these findings of slower rate of progress of cervical dilatation from 4 to 6 cm in most of the women, ACOG 2014 guidelines adopted 6 cm as start of active phase of labour. Later, in 2018, WHO adopted 5 cm cervical dilatation as cut off for the end of the latent phase of labour.

Duration of First Stage: According to Friedman, the cervical dilatation during active labour in nulliparous and multiparous women occurs at >1.2 cm/hr and >1.5 cm/hr, respectively. However, the recent data shows that rate of cervical change during active phase in normal labour can be as slow as less than 0.5 cm/hr. However, the duration of active first stage of labour in the first and subsequent pregnancies is not found to extend beyond 12 hours and 10 hours, respectively.

As long as maternal and fetal conditions are reassuring, no medical or surgical interventions are recommended in latent phase. Hence, upper limit for duration of latent phase along with alert and action line has been dropped from labour monitoring.⁴

Duration of Second Stage: The duration of the

second stage varies from one woman to another. No intervention is recommended till 3 hours in primigravidas and 2 hours in subsequent labours, provided cephalopelvic disproportion has been ruled out and feto-maternal condition is reassuring.

Women in the expulsive phase of the second stage of labour are encouraged and supported to follow their own urge to push. Also, instead of routine episiotomy, perineal massage, warm compresses and a "hands on" guarding of the perineum are recommended. Fundal pressure is not recommended.

Procedures to be avoided in labour rooms

Induction or augmentation of labour without any justified indication; Verbal or physical abuse to the labouring women; admission CTG or continuous CTG in normal labour in low risk women; conventional lithotomy position for delivery; Fundal pressure; routine use of episiotomy; immediate cord clamping; and separation of the baby from the mother.

There is no role of perineal shaving, vaginal cleansing with chlorhexidine, enemas, intravenous fluids and routine amniotomy.

Assessment of Fetal well being: Auscultation using a Doppler ultrasound device or Pinard fetal stethoscope is recommended for the assessment of fetal wellbeing. Recommendations for on admission and subsequent monitoring of fetal wellbeing are by intermittent auscultation. The **interval should be** every 15–30 minutes in active first stage of labour and every 5 minutes in second stage of labour. Each auscultation should last for at least 1 minute, 30 seconds during a uterine contraction and for at least 30 seconds thereafter. Baseline fetal heart rate is recorded as a single counted number in beats per minute along with acceleration and deceleration.

Pain Relief and Position: Parenteral opioids, are recommended options for healthy pregnant women requesting pain relief during labour, depending on a woman's preferences. Women are encouraged to ambulate and given the freedom to have posture of their choice during labour and delivery. Supine position during labour is avoided.

Anti-spamodics: The use of antispasmodic

agents for prevention of delay in labour is not recommended.

Method of Pushing: Women in the expulsive phase of the second stage of labour are supported to follow their own urge to push. For women with epidural analgesia in the second stage of labour, delaying pushing for one to two hours after full dilatation or until the woman regains the sensory urge to bear down is recommended. This recommendation is in the context where resources are available for longer stay in second stage and perinatal hypoxia can be adequately assessed and managed.

Active Management of 3rd Stage of labour (**AMTSL**): Comprises of administration of uterotonic agents, controlled cord traction and delayed cord clamping (not earlier than 1 minute after birth). Sustained uterine massage is not recommended. Oxytocin (10 IU IM) is recommended as uterotonic drug for the prevention of PPH. If oxytocin is not available, the use of other injectable uterotonics (if appropriate, ergometrine/ methylergometrine, or the fixed drug combination of oxytocin and ergometrine) or oral misoprostol (600 μg) is recommended.

Neonatal Care: In neonates with clear amniotic fluid who start breathing on their own, suctioning of nose and mouth should not be done. Uncomplicated neonates should be given skin-to-skin contact with their mothers during the first hour after birth to prevent hypothermia. Breastfeeding is initiated as early as possible.

Respectful Maternity Care (RMC) with Positive Pregnancy Outcome and Experience: RMC is the most important addition in the positive childbirth recommendations. For effective application of these new definitions and recommendations, there was a need of a new partograph design. Thus **WHO LABOUR CARE GUIDE (LCG) was introduced** in December 2020.⁶

Aims of LCG are: (a) to guide the monitoring and documentation of mother and foetus along with labour progress; (b) guide skilled health personnel to offer supportive care throughout labour; (c) to help in quick identification and addressal of emerging labour complications, by providing alert thresholds for labour observations that are intended to trigger reflection and specific action(s) in case an abnormal observation is noted; (d) to prevent unnecessary use of interventions in labour; (e) support audit and quality improvement of labour management.

Main Features: As per the LCG, active phase starts at 5 cm. There is addition of a very important part i.e. the second stage of labour monitoring, which was missing in previous partograph designs. There is no action or alert line. LCG has 7 **sections**, which are adapted from the previous partograph design: (figure1)

Section 1: Identifying information and labour characteristics at admission

Section 2: Supportive care

Section 3: Care of the baby

Section 4: Care of the woman

Section 5: Labour progress

Section 6: Medication

Section 7: Shared decision-making.

These sections contain a list of labour observations and for every observation an alert parameter has been defined. If the observation corresponds to any alert parameter, there is a need to take action accordingly after a "shared decision making". Thus, the main emphasis is on **Action Oriented Labour** which includes:

Assessing observation,

Recording the observation,

Checking the values with alert column values, and

Deciding the plan along with the woman.

Applicability: LCG is essential for the **care of all pregnant women**, **regardless of their risk status**. High-risk women many require additional and specialized monitoring and care. As per the WHO manual, LCG can be modified as per the need of local institute.

When to Initiate LCG: Documentation on the LCG should be started when the woman enters the active phase of the first stage of labour (5 cm or more cervical dilatation), regardless of her parity and membranes status. Once initiated, it will support continuous monitoring throughout the first and second stage of labour. Record all observations with admission of woman to labour ward. Rest is completed following

subsequent assessments throughout labour.

For all observations, horizontal time axis and a vertical reference values axis is provided for determination of any deviation from normal observations (ALERT thresholds). It also provides a second-stage section to continue the observations made during the first stage of labour.

Section Wise Entry in LCG: Supportive care is provided in form of labour companion and adequate pain relief, both by nonpharmacological and pharmacological methods. Non pharmacological methods include music, aromatherapy, acupuncture and acupressure, breathing and relaxation exercises, whereas in pharmacological methods epidural analgesia is preferred. PCA (patient controlled analgesia) and opioids can also be given depending on demand and availability. For all the low risk women oral fluids and food intake is recommended during labour and mobility should be encouraged in low risk women however supine position should be avoided. Fetal assessment is done every 30 minutes and baseline heart rate, type of deceleration, colour of liquor, fetal position, presence or absence of caput and moulding is noted and compared with alert parameters.

Maternal vitals are taken every 4 hours and include blood pressure, temperature, pulse rate and urine for protein and ketones (if indicated). Number and duration and contractions should be monitored every 30 minutes in first stage and every 5 minutes in second stage. Any abnormal or alert finding needs to be verified for next 10 minutes and any alert parameter warrants action. After assessing maternal and fetal well-being, internal examination, is done under aseptic technique to examine the cervix. In the active first stage of labour, "X" is plotted in the cell that matches the time and the cervical dilatation. In the second stage "P" is used to indicate when pushing begins. Vaginal examination should be done every 4 hours unless otherwise indicated. Descent is assessed abdominally and "O" is plotted in the cell that matches the time and the level of descent. 5/5, 4/5, 3/5, 2/5, 1/5 and 0/5 are used to describe the fetal station. It should be done before vaginal examination and is repeated 4 hourly. Based on the findings and after informing the women, plan should be made by shared decision making. In case of

Figure 1: WHO Labour Care Guide

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duration of active phase exceeding 12 hours, Summary another LCG can be added.

Active Phase Arrest: Based on LCG, active phase arrest can be defined as cervical dilation ≥ 5 cm with ruptured membranes with no cervical change as per LCG despite adequate contractions or ≥ 6 hours of oxytocin administration without adequate contractions and no cervical change.

Second stage arrest: If materno-fetal condition permits, allow at least 2 hours of pushing in multiparous women and at least 3 hours of pushing in nulliparous women.

Strategies of LCG implementation in labour wards: The implementation of new labour care guide involves Critical Review, Adaptation and Training of the health care providers for its use. Team work is of principal importance for its target universal implementation and handing over of the LCG in between shifts. Monitoring and evaluation should also be undertaken by regular evaluation of indicators like neonatal outcomes or caesarean rates.

Our experience of LCG Application ⁷

In an open label randomised controlled trial done on 280 low risk women in spontaneous labour, there was a significant reduction in Cesarean deliveries in the study group where labour monitoring was done by Labour Care Guide compared to the control group where labour monitoring was done by WHO modified partograph. The cesarean delivery rate was 1.5% in the study group versus 17.8% in the control group (P=0.0001). There was no significant difference in materno-fetal complications and duration of hospital stay.

The new labour care guidelines emphasise on respectful maternal care along with supportive intrapartum care with aim to provide a positive childbirth experience. There is no upper limit to duration of latent phase as long as mother and fetal condition is reassuring. The active phase starts from 5 cm cervical dilatation. Labour care guide has the potential to substitute WHO partograph after modifications as per respective institutional set up. The observations are recorded and checked with the values given in alert column. The intervention if required is planned after shared decision making with the woman.

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Respectful Maternity Care

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Introduction/Background:

Giving birth is an event of joy for the expectant mother and celebration time for their families. At the same time the process of labour or childbirth is surrounded by anxiety and concerns for the well-being of the mother and the newborn. Traditionally, women gave birth in their own homes and in familiar circumstances. Their needs for pain relief, nutrition, hydration etc. were taken care of by traditional birth attendants and their relatives. However, in case of complications, women had to be rushed to a hospital setting often causing high maternal and perinatal morbidity and mortality.¹ Therefore, the concept of institutional birthing was encouraged and governments started giving incentives for deliveries in hospital setting.²

In India, various schemes such as free provision of drugs, diagnostics and drop-back facilities for pregnant women and mothers, financial incentives and creating a linkage among the public and health system through a link worker have been rolled out by the Central and State Governments to increase institutional deliveries.³ As a result, institutional births have increased from 79%⁴ to 88%⁵ in India.

Increase in institutional births necessitates a corresponding increase in the infrastructure, trained manpower, supplies etc. which often does not match the increased demand of numbers of women admitted for institutional births. Evidence suggests that women often encounter disrespect and abuse in facility-based maternity care which is a powerful deterrent for institutional birth than commonly cited reasons such as high out of pocket expenditure or long distance from home to facility.^{6,7}

A systematic review by Bohren et al describes a range of disrespect and abuse encountered by women during childbirth in health institutions. It consists of physical abuse (beating, slapping, and pinching), undignified care (yelling, chiding, and humiliating comments), abandonment (leaving alone during different phases of delivery), and discrimination based on the cultural group, social status, age, or restriction of facilities for nonfulfillment of fees.

Conceptualization of RMC:

The focus on mistreatment and abuse of birthing women in health care facilities was brought about by a landmark report published by Bowser and Hill out of a USAID-funded Translating Research into Action Project (TRAction) reported various kinds of disrespect and abuse birthing women face in healthcare facilities and described them in seven categories.8 These seven categories of disrespect are: physical abuse, non-consented clinical care, nonconfidential care, non-dignified care (including verbal abuse), discrimination based on specific patient attributes, abandonment of care, and detention in facilities. The report emphasizes that the categories are not necessarily mutually exclusive and the disrespectful behaviours can fall into more than one category. The report also describes the various contributors to Disrespect and Abuse (D & A) such as attitude of individuals. community and healthcare providers, emphasis on ethics and human rights, etc. This work led to the development of the Respectful Maternity Care Charter: Universal Rights of Mothers and Newborns.9

The RMC charter lays emphasis on the fulfilment of the choices and preferences of the women and the newborn, and is based on principles of ethics and respect for human rights.⁹ It describes the various categories of disrespect and abuse in the light of the corresponding rights being violated (Table 1).

Table 1: Tackling Disrespect and Abuse: Seven Rights of Childbearing Wome	n8
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	CATEGORY OF DISRESPECT AND ABUSE	CORRESPONDING RIGHT
1.	Physical abuse	Freedom from harm and ill treatment
2.	Non-consented care	Right to information, informed consent and refusal, and respect for choices and preferences, including the right to companionship of choice wherever possible
З.	Non-confidential care	Confidentiality, privacy
4.	Non-dignified care (including verbal abuse)	Dignity, respect
5.	Discrimination based on specific attributes	Equality, freedom from discrimination, equitable care
6.	Abandonment or denial of care	Right to timely health care and to the highest attainable level of health
7.	Detention in facilities	Liberty, autonomy, self-determination, and freedom from coercion

The women should be made aware of the rights to Respectful Maternity Care and understand

how these rights protect them and their newborn from harm, disrespect and abuse. A brief description of the RMC rights is given below:

Right to freedom from harm and ill-treatment implies that no one is allowed to physically hurt the woman or her baby. Both the mother and the baby should both be taken care of in a gentle and compassionate way and receive assistance when experiencing pain or discomfort.

Right to information and informed consent ensures that no medical procedure is performed forcefully on the mother or her newborn without her knowledge or consent. The women, parent or guardian have the right to receive information, including patient records and discharge summary, and provide informed consent in the language and terms that they understand. Every parent or guardian has the right to refusal for their newborn's care, in the newborn's best interests, unless otherwise provided by law.

Right to a companion of their choice and preference during maternity care ensures that no one can refuse the woman to be accompanied by a birth companion during maternity care. Every newborn has a right to be with a parent or guardian during their stay in a facility.

Right to privacy & confidentiality allows that no one shares the personal or medical information, including all records and images, of the woman or her newborn without the woman's consent. The privacy of the woman and her newborn must be protected, and only information which is necessary for continuity of care shall be conveyed to healthcare providers.

Right to be treated with dignity & respect implies that no one is allowed to humiliate, verbally abuse, speak about or touch the woman or her newborn in a degrading or disrespectful manner.

Right to equality, freedom from discrimination & equitable care ensures that no one is allowed to discriminate against the woman or her newborn because of their own bias or thought process. Every woman should have the right to make decisions about what happens to their body. **Right to healthcare & to the highest attainable level of health** ensures that no one may prevent, deny or withhold the care needed by the woman or her newborn and they are provided care which is non-discriminatory, affordable, highest quality care, provided in a timely manner, in a clean and safe environment, by providers who are trained in current best practices.

Right to liberty, autonomy, selfdetermination, freedom from arbitrary detention and to refuse informal payments protects the woman and her newborn against detention in facility even if the woman cannot pay for services received in a public health facility. The woman, parent or guardian has the right to refuse informal payments for services provided free in public health facilities.

Right to be with their parents or guardians ensures that the newborn is not separated from the mother without consent. This right guarantees that even if the newborn is born small, premature or with medical conditions that require extra care, the facility ensures togetherness of the mother-baby dyad.

Right to an identity & nationality from birth guarantees registration of the newborn at birth as per legal entitlement.

Right to adequate nutrition & clean water ensures access to adequate nutrition, clean drinking water, access to clean toilets and healthy environment for the mother and newborn.

Right to timely and effective grievance redressal implies that no one is allowed to prevent the mother from seeking redressal for grievances in a timely manner without fear of reprisal or retribution.

In 2014, WHO released a statement calling for the prevention and elimination of disrespect and abuse during childbirth, stating that "every woman has the right to the highest attainable standard of health, including the right to dignified, respectful care during pregnancy and childbirth.¹⁰ This statement was endorsed by over 90 organizations.

The Ministry of Health & Family Welfare, Government of India launched the Labour room & Quality Improvement Initiative *"LaQshya"* programme in December 2017 with the objectives of reducing maternal and newborn morbidity and mortality, improving quality of care during delivery and immediate postpartum period and enhancing satisfaction of beneficiaries through positive birthing experience. Provision of Respectful Maternity Care (RMC) to all pregnant women attending public health facilities is an integral part of the programme.

In 2018 the WHO updated its two-decade old guidelines on Normal Birth¹¹ with recommendations which should be provided to all pregnant women and their babies irrespective of socioeconomic setting. These recommendations lay emphasis on womancentered care through a holistic, human rightsbased approach making the experience of birthing a positive one for every birth.¹²

What is RMC:

There is no clear-cut definition of RMC, it is usually regarded as woman-centered care which is free from violence and disrespect for the woman's ethical, psychological, social, and cultural practices and perspectives. However, mere absence of abuse should not be understood as RMC and facilities should ensure that the care provided to women and their newborns is acceptable to them and is of high standards.

Reis et al describe the RMC approach as centered on the individual and based on principles of ethics and respect for human rights.¹³ The White Ribbon Alliance and RMC partners developed RMC Charter which is based on a framework of human rights and is a response to the growing body of evidence documenting disrespect and abuse of childbearing women.¹⁴ The charter has been updated in 2019 to include three additional rights: the right of newborns to stay with their parent or guardian, the right to have their national identity recognized from birth, and the right to adequate nutrition, and water, sanitation and hygiene (WASH) in facilities.

Respectful maternity care is also a fundamental human right that includes respecting women's beliefs, independence, emotions, dignity, and preferences to reserve their right of having a companion during labour or performing their

cultural rituals around birthing^{15,16}

RMC approach predominantly focuses on the elimination of ill and abusive behaviour by health care providers and associated staffs along with a sensitive and encouraging working environment to make a woman feel satisfied during her childbirth experience.¹⁷

Further, in 2018 the WHO published the recommendations for Intrapartum care for a positive childbirth experience. It defines "a positive childbirth experience as one that fulfils or exceeds a woman's prior personal and sociocultural beliefs and expectations, including giving birth to a healthy baby in a clinically and psychologically safe environment with continuity of practical and emotional support from a birth companion(s) and kind, technically competent clinical staff".¹²

A qualitative study among Iranian midwives laid emphasis on providing supportive care through friendly interaction for respectful maternity care. Provision of safe and evidence-based care and involving women in their care decisions and providing an appropriate environment for women, families and caregivers are also important components of respectful care.¹⁸

How to measure RMC?

The concept of RMC emerged from the need to eliminate the disrespect and abuse experienced by women during childbirth in facilities. Some studies have measured the prevalence of D & A while other have used gualitative methods or mixed methods studies to understand the typology of D & A. The type of methodology used also depends upon the study setting participants enrolled. The different and methodologies used to study D&A include direct observational studies by trained providers.^{19,20} questionnaire-based exit surveys either selfadministered²¹ or interviewer administered^{22,23} online surveys.²⁴ or phone-based surveys in the postpartum period.²⁵ Qualitative studies seeking opinion and perspectives of mothers and providers have also been conducted.^{26,27}

One of the drawbacks of direct observational studies by trained providers is normalization of D & A which leads to under-reporting. One study has also compared the prevalence of D & A during childbirth as measured by trained nurses through direct observation and by the self-report upon discharge of the same women who had been observed.²⁸ The study results self-reported by women were lower than those reported by observers which indicated that D & A is both internalized and normalized by users and providers alike. Sando et al 2017 in their systematic review of literature have made a comparative analysis of methods used to quantify the prevalence of D&A during childbirth.²⁹ They pointed out that the lack of standardized definitions, instruments, and data collection methods introduce systematic error in reported prevalence estimates, and affected their generalizability and comparability. There are also variations in health systems, sociocultural attitudes, knowledge and training of providers which contribute to differences in reporting and recording of D & A.³⁰

Prevalence of D & A

Most studies measure the experience of D & A in a facility during childbirth as a reflection of the lack of Respectful Maternity care, rather than measure the extent of respectful care provided to the birthing woman. D & A has been reported globally, however, the extent of D & A and the type of abuse varies in different settings and countries and much depends on the definition used, the study population, and the health system.

A systematic review and meta-analysis³⁰ revealed the pooled prevalence of disrespect and abuse of women during childbirth at health facilities was 44.09% in Sub-Saharan Africa. The highest prevalence was 98.9% in Ethiopia³¹ and 98.0% at a health facility in Nigeria³² and while Malawi reported the lowest at 1.91percent.³³

A systematic review and meta-analysis of Indian studies indicated that the overall pooled prevalence of disrespectful maternity care was 71.31% (95% CI 39.84–102.78) while the individual study prevalence ranged from 20.9% to 100%.³⁴ Also, the community-based studies reported higher prevalence of (77.32%) (95% CI 56.71–97.93), as compared to studies conducted in health facilities (65.38%) (95% CI 15.76–115.01).

Studies from Pakistan and Peru have reported a very high prevalence (>97%) of abuse during childbirth while a study from Brazil reported only 18.3% prevalence of abuse.^{27,35,36}

The different forms of mistreatment reported are not obtaining prior consent, use of abusive language and threats, physical abuse including hitting and pinching, discrimination on various parameters such as low education level, multiparity etc, lack of privacy, non-provision of basic infrastructure, hygiene, and sanitation. Other forms of abuse reported are lack of dignity, delivery by unqualified personnel, and demand for informal payments, overcrowding of facilities forcing sharing of beds and other infrastructural constraints.

A review article by Grilo Diniz et al describes the trend of "aggressive management" of labour as dehumanised care or obstetric violence.³⁷ This includes over-medicalization of birth in Brazil and the use of interventions such as near universal use of episiotomy, unnecessary augmentation of labour, high caesarean section rates, lack of privacy and choices, food restriction, prohibition of companionship, racial discrimination etc. and the need for humanizing childbirth articulation by social activists since the 1980s.

There are not many studies available regarding D & A in high income countries, indicating lower prevalence of such incidences in these countries. A study from Netherlands reports 36.3% of women surveyed experienced at least one situation of D & A.²⁴ A systematic review based on 65 studies across all geographical and income-level settings from 34 countries also highlights the presence of verbal abuse in the form of harsh language, threats, blaming and objectification of women in high income countries.³⁸ However, lowand middleincome countries are found to be leading with prevalence of D & A in the other domains.

How to prevent D & A and promote RMC

Prevention of D & A and promotion of RMC involves involving all the stakeholders engaged in the care of the birthing women. These include the woman herself, her partner and family, the community, the healthcare providers engaged in maternity care, the hospital administration or the health system and the policy makers. All the stakeholders have different but important roles to play.

A review of qualitative studies done in low and middle-income countries reported two main themes as enablers and barriers to respectful maternity care: interpersonal relationship and support, and privacy and confidential care.³⁹ They also outlined health education to pregnant women on care expected during labour, good communication between maternity staff and women, capacity building of staff on RMC and staff motivation as the key strategies to promote RMC.

A systematic scoping review focused on literature describing RMC in the affirmative by describing objective provider-level behaviours rather than mistreatment experienced by women during childbirth.⁴⁰ The authors point out that though the key principles of prevention of D & A align with the right to RMC as shown in Table 1, the rights-based description will facilitate comparative assessment of RMC across studies and its implementation in facilities.

A study from Nepal measured the perceptions of women on four main dimensions of RMC, i.e., friendly care, abuse-free care, timely care, and discrimination-free care in face-to-face interview immediately before discharge from hospital.

Grilo Diniz et al describe the social movements which started in 1990s in Brazil to stop violence against birthing women mainly through change in public policies, laws and regulations, and provider training rooted in ethics, gender and human rights.³⁷ The National Guidelines for Normal Childbirth of Brazil were formulated and of which, RMC was an integral part.⁴¹

In India, under the umbrella of the National Health Mission, Ministry of Health & Family Welfare, 'LaQshya' initiative was launched in 2017 to improve quality of care in Labour rooms and Maternity operation theatres with special emphasis to respectful maternity care.⁴² The implementation of these guidelines is monitored by a project management unit at National and State levels.

One of the most potent and cost-effective interventions to prevent D & A and promote respectful care is to make available the continuous presence of a companion during

labour and childbirth. A Cochrane review⁴³ indicated that women who received continuous support during labour were more likely to undergo 'spontaneous normal' delivery, require less pain relief medications, have shorter labours and their babies were less likely to have lower Apgar scores. Continuous support could be provided by anyone including a person of the woman's choice, the hospital staff or 'doulas' who provided care but are neither known to the woman nor hospital employees but trained for providing service. A direct observational study in 18 tertiary health care facilities of India found that the presence of birth companions was critically negatively associated with occurrences of D&A among birthing women.¹⁹ Both providers and women appreciated the role of birth companions but cited reasons such as lack of hospital policy, space constraints, overcrowding and privacy concerns for other patients for not allowing birth companions in the labour rooms.

Conclusion

Pregnancy and childbirth are momentous events in a woman's life. Labour is a natural physiological process which should be monitored but not interfered with unless there is threat to the life of mother and baby. However, over the last few decades several unnecessary interventions have been practiced in facility-based deliveries such as induction and augmentation of labour, episiotomy, enema, bathing the new-born soon after delivery etc. which have led to over-medicalization of childbirth and women losing autonomy over their bodies. Further, emphasis on institutional births without upgradation of infrastructure and trained manpower leads to a deficiency in service, miscommunication etc. and adversely affects provider behaviour with the users. Respectful maternity care is an initiative across the world to improve women's experience of facility-based care during pregnancy and delivery. Birth companionship during labour is an effective way of reducing disrespect and abuse and has been mandated to be followed in all facilities in India. Positive experience of birthing women not only influence decision to seek care but also improves long term maternal and neonatal outcomes and the health system.

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Calendar of Virtual Monthly Clinical Meetings 2022-23

30 th September, 2022	Deen Dayal Upadhyay Hospital
28 th October, 2022	PGIMSR & ESI Hospital
12 th & 13 th November, 2022	44 th Annual AOGD Conference (Physical)
25 th November, 2022	VMMC & Safdarjung Hospital
30 th December, 2022	Sir Ganga Ram Hospital
27 th January, 2023	ABVIMS & Dr Ram Manohar Lohia Hospital
24 th February, 2023	UCMS & Guru Teg Bahadur Hospital
31 st March, 2023	MAMC & Lok Nayak Hospital
28 th April, 2023	LHMC & Smt. Sucheta Kriplani Hospital
26 th May, 2023	Sitaram Bhartia Hospital

Intrapartum Ultrasound- ROLE & THE FUTURE

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The progress of labour has been determined for hundreds of years based purely on digital vaginal examination. The accuracy of digital palpation is correct in occipito-anterior in 85 % cases and only in 55% in occipito-posterior position which certainly needs improvement. There is a paradigm change in thinking of replacing conventional partogram with Sonopartogram.

Clinical findings¹⁻³ are traditionally used to examine a woman in labour and determine how best to treat her. The clinical examination of cervical dilatation and fetal head station and position is primarily used to diagnose labour arrest and make judgments about the time or kind of intervention⁴⁻⁸, the accuracy of clinical examination being diminished by caput succedaneum.⁹⁻¹⁰ The rate of clinical error is significantly higher in occipito posterior positions and transverse head locations.

It has been suggested that ultrasound technology be used to help with labour management. According to a number of studies, ultrasound examination fares better than clinical examination when it comes to fetal head position and station diagnosis.¹¹⁻¹³ and labour arrest prediction.¹⁴⁻¹⁶ To a certain extent, ultrasound examination can identify between women who will give birth naturally by vaginal birth and those who will undergo surgical delivery.¹⁷⁻¹⁹ Furthermore, there is mounting proof that using ultrasound throughout labour may help forecast how an assisted vaginal birth will go.¹⁹⁻²⁰

A transabdominal technique can be used to perform ultrasound in labour, mostly to measure head and spine position²¹, or a transperineal method can help to predict head station and position at low stations. To evaluate head station, a number of quantitative sonographic criteria have been proposed^{13,22} It is crucial to be fully aware of the fetal occiput position during labour. Occipital-posterior position that persists is linked to an increased risk of surgical delivery ²³ and maternal and neonatal morbidity.²⁴ Prior to delivery of an instrumental, accurate head position determination is essential. A mistake in head position assessment could lead to improper vacuum or forceps deployment, increasing the risk of fetal harm and the procedure's failure rate.²⁵ A longer time between the decision to deliver and the subsequent caesarean section, as well as a higher risk of trauma to the mother, the foetus, and both, are associated with unsuccessful instrumental deliveries. The fetal head station in the birth canal is objectively and precisely documented by ultrasound examination.^{13,19,26}

Fetal head station can be found out by some sonographic measures; strong intra- and interobserver agreement has been shown for these parameters.²⁷

1. Evaluation of head station

The head station of fetus is objectively and precisely documented by ultrasound examination.^{13,19,26}

2. Evaluation of head descent (progression)

Few observational studies^{14,16,28}, have found that frequent ultrasound exams to compute the change in head station as labour progresses (also known as "progression") out perform digital exams in capturing fetal head descent and showing sluggish labour.

3. Evaluation of fetal head attitude

Ultrasound has been effective in the unprejudiced recognition of fetal head malpresentation in labour^{29,30} and in the visual assessment of fetal head attitude.³¹

Techniques

Ultrasound assessment in labour may be performed using a transabdominal or transperineal method for assessment of position and station, depending on the merit of each case.

Evaluation of fetal head position

The best method for sonographic evaluation of fetal head position is in transabdominal axial

and sagittal planes.³² The fetal spine's location can then be identified after placing the probe and taking the axial view of fetal trunk at the upper level of fetal abdomen and trunk. The maternal suprapubic area is then visualised by lowering the ultrasound transducer until it reaches it.

The occiput posterior position is shown by two fetal orbits, the occiput transverse position is shown by midline cerebral echo, and the occiput-anterior position is shown by occipit itself and the cervical spine³² (Figures 1 and 2). In establishing the position of the embryonic head, the occiput, can be useful in establishing the position of embryonic head.¹⁹



Figure 1: Transabdominal ultrasound imaging (sagittal plane) in fetus with occiput-anterior position. Taken from ISUOG Practice Guidelines: intrapartum ultrasound .Ultrasound ObstetGynecol2018; 52: 128–139 (Reproduced from Youssef et al.)



Figure 2: Transabdominal ultrasound imaging (transverse plane) in fetus with occiput-posterior position. Taken from ISUOG Practice Guidelines: intrapartum ultrasound .Ultrasound ObstetGynecol2018; 52: 128–139(Reproduced from Youssef et al..)

A circle that resembles a clock can be used to represent position (Figure 3).

Evaluation of the fetal head station

The midsagittal or axial plane in transperineal ultrasound is the best method for sonographic evaluation of the fetal head station. Between the two labia the probe is positioned, the three parameters that directly indicate head station is indicated by the progression distance (PD)³³, head station determined by transperineal

Ultrasound³⁴ and the angle of progression (Aop), often known as "angle of decline,". Others give an indirect indication that change with descent like the head-symphysis distance (HSD) ²², and the head direction, which defines the direction of the fetal head's longest visible oriented axis relative to the pubic symphysis' long axis.³⁵



Figure 3: Classification of fetal occiput position based on positions of hour hand on a clock face: positions ≥ 02.30 h and ≤ 03.30 h should be recorded as left occiput transverse (LOT) and positions ≥ 08.30 h and ≤ 09.30 h as right occiput transverse (ROT). Positions > 03.30 h and < 08.30 h are occiput posterior (OP) and positions > 09.30 h and < 02.30 h are occiput anterior (OA)[46].Taken from ISUOG Practice Guidelines: intrapartum ultrasound .Ultrasound ObstetGynecol2018; 52: 128–139

The head-perineum distance (HPD)³⁶, provides a clue for head station, and the midline angle (MLA)³⁷, which assesses head rotation, can both be evaluated and quantified in the axial plane that results from a simple clockwise rotation of the transducer by 90 degrees.



Figure 4: Measurement of angle of progression, showing placement of transducer and how angle is measured (images courtesy of A. Youssef, E. A. Torkildsen and T.M. Eggebø). Taken from ISUOG Practice Guidelines: intrapartum ultrasound .Ultrasound ObstetGynecol2018; 52: 128–139

Angle of progression (AoP) and descending angle- The AoP is the angle formed by a line drawn tangential to the deepest bony portion of the fetal skull and a line drawn from the lowest edge of the pubis (Figure 4). It has since been demonstrated^{38,39} to be a reliable and accurate metric for assessing fetal head descent. 34,38,39,40

Fetal Head Direction - The angle between the longest discernible fetal head axis and the long axis of the pubic symphysis, assessed in a midsagittal transperineal view, was initially described as head direction by Henrich et al.³⁵ (Figure 5).



Figure 5: Fetal head direction: horizontal (left) and head up (right). Taken from ISUOG Practice Guidelines: intrapartum ultrasound .Ultrasound ObstetGynecol2018; 52: 128–139

Sonographic head station- The distance between the infrapubic plane, which is 3 cm above the ischial plane, and the deepest presenting bony section along the line of head direction (Figure 6).



Figure 6: Transperineal ultrasound head station should be measured along line of head direction. Angle of progression (AoP), head – symphysis distance (HSD), and, as reference planes, measurable infrapubic plane and inferred ischial plane, are also shown (modified from Tutscheket al.). Taken from ISUOG Practice Guidelines: intrapartum ultrasound .Ultrasound ObstetGynecol2018; 52: 128–139

Head-to-perineum separation (HPD). Eggeb et al 's ³⁶ description of HPD was the first.(Figure 7). The ultrasound beam should be perpendicular to the fetal skull by positioning the transducer such that the contour of the skull is as visible as feasible. A frontal transperineal scan's HPD is calculated as the shortest distance between the fetal skull's outer bony limit and the perineum. The portion of the birth canal that the foetus has not yet traversed is represented by this distance. Women do not experience discomfort from this soft tissue compression.⁴¹ HPD does not follow the curve of the delivery canal, hence it cannot be directly compared to the clinical evaluation of fetal head station (from-5 to +5).³⁶ Interobserver measurement variation limits of agreement were reported as -8.5 to +12.3mm.³⁶



Figure 7: Measurement of head–perineum distance (HPD), showing placement of transducer and how distance is measured (images courtesy of S. Benediktsdottir, I. Frøysa and J. K. Iversen). Taken from ISUOG Practice Guidelines: intrapartum ultrasound .Ultrasound ObstetGynecol2018; 52: 128–139

Midline angle (MLA). The way that MLA uses the angle of head rotation as a measure of birth progress sets it apart from the other parameters. Using a transperineal technique it is observed in the axial plane, as first described by Ghi et al.³⁷, between the two cerebral hemispheres the echogenic line is detected, and MLA is the angle between maternal pelvis' anteroposterior axis and this line (Figure 8).



Figure 8: Measurement of midline angle, showing placement of transducer and how angle is measured. Taken from ISUOG Practice Guidelines: intrapartum ultrasound .Ultrasound ObstetGynecol2018; 52: 128–139

Extra criteria to evaluate the fetal head station,

Progression distance (PD) and head-symphysis distance are two additional measures that have been proposed to measure the fetal head position during labour (HSD). They haven't been used as frequently in research investigations, though, and their clinical applicability is less wellproven than that of the other characteristics.

Dietz and Lanzarone³³ were the first to define PD as an objective assessment of fetal head engagement made prior to the start of labour. The 'infrapubic line' is the furthest point on the hyperechogenic curve that represents the fetal skull, and the 'presenting part' is the minimal distance between those two points (Figure 9). AoP should be chosen as the primary method for determining head station since it is simpler to measure than PD and takes into consideration the birth canal's curvature, whereas PD does not.



Figure 9: Measurement of progression distance. Taken from ISUOG Practice Guidelines: intrapartum ultrasound Ultrasound Obstet Gynecol 2018; 52: 128–139.

HSD is the distance along the infrapubic line between the fetal skull and the bottom edge of the mother's symphysis pubis (Figure 10). The HSD as a surrogate marker for fetal head descent has been introduced by Youssef et al²² and is frequently used in clinical practise as a substitute for fetal head station.



Figure 10: Measurement of head–symphysis distance (HSD), showing placement of transducer and how distance is measured. (Reproduced from Youssef et al.)Taken from ISUOG Practice Guidelines: intrapartum ultrasound .Ultrasound ObstetGynecol2018; 52: 128–139

Ultrasound in labour can be performed in certain cases like tardy progress or arrest of labour in the first stage, tardy progress or arrest of labour in the second stage, knowing the position and station of the foetus before taking a decision for instrumental vaginal delivery and knowing more accurately the fetal head malpresentation. In contrast to digital inspection, intrapartum ultrasonography provides for a more accurate evaluation of position and station and is more acceptable to women.⁴² Under the ensuing conditions, its usage as a supplement to clinical evaluation may be encouraged.

Slow progress of Labour

When predicting vaginal birth in nulliparous women with a prolonged first stage of labour, some related research have found that HPD and AoP are more reliable than digital examination. ^{36,34}

Tardy progress or arrest of labour in the second stage

There aren't many studies that directly address the use of ultrasound in predicting the possibility of spontaneous vaginal delivery in patients with protracted second stage, as opposed to the likelihood of abdominal delivery or operative vaginal delivery (OVD). Spontaneous vaginal delivery occurred in the majority (16/20; 80%) of cases in 62 women with prolonged second stage examined by transperineal ultrasound with favourable head direction (head Up), in contrast to downward (4/20; 20%) or horizontal (9/22; 41%) head direction as studied by Masturoet al group.²⁸

In instrumental vaginal delivery resort to fetal head position and station by Ultrasound

In a randomised controlled trial¹², it was demonstrated that the diagnosis of the fetal head position by ultrasound assessment as an adjunct to digital examination prior to instrumental vaginal delivery is significantly more accurate than the diagnosis using digital examination alone (ultrasound diagnosis incorrect in 1.6% of cases, compared with 20.2% in the digital examination group).The outcome of instrumental vaginal delivery is predicted by head direction.⁴² The head-up sign is a successful predictor when assessed before vacuum extraction in prolonged labour.

In 41 fetuses in occiput-anterior position, AoP was examined as a potential predictor of successful vacuum delivery. 90% of the time, a vacuum extraction that is simple and successful can be predicted by a cut-off value of 120.⁴³

A problematic extraction was considerably more likely to occur when HPD was below 40 mm (odds ratio, 2.38; 95% confidence interval, 1.53–3.74; P=0.0002). Problematic OVD was better predicted by Perineum -skull distance than digital vaginal examination.

Visual confirmation of fetal head malpresentation

According to estimates, asynclitism, or deflexed cephalic presentation, accounts for up to 40% of obstructed labour.⁴⁴ for arrest of labour in one-third of Cesarean deliveries.^{2,4,5,6} Although using ultrasonography to corroborate the clinical diagnosis has been described recently^{29,30} in labour digital examination is usually relied upon in this condition for detection.^{45,46}

Summary

Despite studies showing that ultrasound in active labour is more accurate and repeatable than clinical examination, it is still not routinely used. The use of ultrasound enables accurate measurement and documentation of the examination's results. Several sonographic characteristics can be utilised to evaluate the head station and position, primarily, during labour ,and also in planning operative vaginal deliveries. In the era of patient centered medicine ,USG in labour will make us more competent obstericians, however, here is currently no agreement on when an ultrasound should be conducted during labour, which parameters should be gathered, or how the sonographic results can be incorporated into clinical practise to better patient management. Therefore the need of hour is more research to bring this valuable tool into useful clinical practise.

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Understanding the ART Bill and Surrogacy Bill 2021

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The ability of IVF Techniques to sustain human embryos in the laboratory for 5 days has opened up huge potentials in terms of what could be done with sperm, eggs, and the early human embryo. This technology raises questions about our responsibilities as doctors to not only the infertile couple, donors and surrogates but also to these gametes and early embryos, both medically and ethically. The ART and Surrogacy Act which were implemented on 25th December 2021 attempts to ensure that these responsibilities are outlined and followed. This was a much needed step in India.

Understanding regulatory bodies of the ART Bill

There are four main bodies at national and state level

- The National Assisted Reproductive Technology and Surrogacy Board
- The National assisted reproductive technology and surrogacy registry and the appropriate assisted reproductive technology and surrogacy authority
- State Assisted Reproductive Technology and Surrogacy Board
- State appropriate assisted reproductive technology and surrogacy authorities

Figure 1 show the roles of these bodies and how they are linked



Fig 1: Roles of the Government bodies in the ART Act

State Board shall

- follow the policies and plans laid by the National Board for clinics and banks in the State.
- co-ordinate the enforcement and implementation of the policies and guidelines for assisted reproduction
- Form the state Appropriate Authority

The appropriate authority consist of

- *Chairperson*: An officer of or above the rank of the Joint Secretary of the Health and Family Welfare Department
- Vice Chairperson: An officer of or above the rank of the Joint Director of the Health and Family Welfare Department
- *Member*: An eminent woman representing women's organization
- *Member*: An officer of Law Department of the State or the Union territory not below the rank of a Deputy Secretary
- *Member*: An eminent registered medical practitioner

Which is the immediate authority who will deal with ART Clinics?

The Appropriate authority is the immediate regulatory authority. It has the following functions

- To grant, suspend or cancel registration of a clinic or bank and maintain details.
- To enforce the standards to be fulfilled by the clinic or bank.
- To investigate complaints of breach of the provisions of this Act and initiate independent investigations in such matter summoning of any person and searching the place
- To supervise the implementation of the provisions of this Act
- To recommend to the National Board and State Boards about the modifications required

in the rules and regulations in accordance with changes in technology or social conditions.

Whose word is Final in case of a dispute at Central and State level?

- If any dispute arises between the Central Government and the National Board as to whether a question is or is not a question of policy, the decision of the Central Government shall be final.
- If any dispute arises between the State Government and the State Board the decision of the State Government shall be final.

On 7th June 2021 the government brought out ART and Surrogacy Rules to facilitate implementation of bill by detailing the process and the do's and don't's.

Categorization of Banks and Clinics

Level 1 ART Clinics: Clinic where only intrauterine insemination (IUI) procedure is carried out

Level 2 ART clinics: Clinics where the procedures/ techniques, that attempt to obtain a pregnancy shall be carried out by surgical retrieval of gametes, handling the oocyte/ sperms outside the human body for fertilization, transfer of the embryo into the uterus, storage of gametes or embryos. They may also undertake research

Surrogacy Clinic: Surrogacy Clinic would be an ART level2 clinic where in addition surrogacy is performed

ART banks: ART Banks shall be responsible for screening, collection and registration of the semen donor, cryopreservation of sperms, perform screening and registration of oocyte donor, operate as semen banks or oocyte banks or both

Implication: All doctors doing IUI/IVF without registration need to send their names through clinics.

Query: Every doctor performing IUI must be registered in a clinic to perform IUI. However a level 2 clinic which provides IUI facilities to a general gynaecologist (in addition to IVF) has only a column for IVF registered doctors and no separate column in registration for general gynaecologists performing IUI.

Names of all doctors and staff working in these clinics and banks have to be sent in the registration form

Registration of clinics

No ART procedure should be performed without registration.

Registration application to be made to the National Registry through the appropriate authority.

Registration fee is non-refundable and varies with type of clinic

- Rupees 50,000 for Level 1 ART clinic;
- Rupees 2,00,000 for Level 2 ART clinic;
- Rupees 50,000 for ART bank
- Rupees 2,00,000 for Surrogacy Clinics

Registration will be granted only after the State Board has inspected the premises of the applicant and will be valid for 5 years.

Rejection of Registration: If application is rejected reason has to be stated and the owner can appeal and is given a chance to explain. In case of rejection and reapplication no additional fee shall be charged.

One copy of the certificate of registration shall be displayed by the registered ART clinic or ART bank at a conspicuous place.

In many states the appropriate authority has not been formed and ART and Surrogacy procedures cannot be conducted. There is an order issued on 25th July by the govt of India under Removal of difficulties where 17 states have been allowed to conduct ART and Surrogacy procedures till 24th oct 2022. However, Delhi is not listed in these.

Grievance cell: All clinics must have a Grievance Cell which patients can approach for their complaints. They can also complain to appropriate authority.

What happens if there is a complaint against an ART clinic?(Figure 2)

PROTOCOL FOR DEALING WITH COMPLAINTS



Fig 2: Protocol for dealing with complaints to appropriate authority

Understanding The Penalties under the bill

Whoever contravenes the provisions of subsection shall be punishable with

Imprisonment for a term of 5 to 10 years

and/or

Fine of 10 to 25 lakh rupees

Subsequent contravention, shall be punishable with

- Imprisonment 3-8 years
- Fine 10-20 lakhs

No court inferior to that of a Metropolitan Magistrate or a Judicial Magistrate of the first class shall try any offence punishable under this Act. All the offences under this Act shall be *cognizable and bailable*.

Suggestion : Punishments need to be defined for various forms of negligence. Not filling a form properly (clerical error) or missing records should not come under imprisonment for 10 years whereas sale of gametes or non- compensation of donor or surrogate in case of medical complications are more serious offences as they have a basis of negligence and unethical practice. There should be a grading in the punishment according to the seriousness of negligence and its consequences.

In case of a complaint - Who Will Be Deemed Guilty in a Center?

- *Executive Head*: Executive head of clinic or bank shall be deemed to be guilty and liable to be proceeded against unless he proves that the offence was committed without his knowledge or that he had exercised all due diligence to prevent the commission of such offence.
- Other Officers: Other officer is deemed guilty if it is proved that the offence has been committed because of neglect on his/her part.

Minimum Staff Requirements

ART Level 1 clinic:

- Minimum one gynecologist
- Qualification: The gynecologist shall be a medical post-graduate

Suggestion: In level one clinic an ART technician is essential to prepare semen. Only a gynecologist has been listed.

ART Level 2 Clinic: shall have a minimum of

- one gynecologist,
- one anesthetist,
- one embryologist
- one counselor.
- Director may be designated
- Andrologist may be employed.

What are the clinical qualifications required to practice ART ?

For those starting ART Practice after ART Act is Implemented:

- 1. The post-graduate in gynaecology must have both the following
 - Should have performed 50 ovum pickup procedures
 - Three years of working experience in an ART clinic under supervision of an ART specialist.
- 2. Super specialist Doctorate of Medicine or fellowship in reproductive medicine
- with experience of three years of working in an ART clinic under supervision.

Those already practicing ART before commencement of the Act : Must have all the following

- Post graduate degree in gynecology
- At least three year experience in ART
- Record of 50 ovum pickup procedures.

Andrologist: The Andrologist must be a Mch or DNB in Urology with special training in Male infertility. The length of training was not defined.

Suggestion: Many IVF specialist and general surgeons are trained for andrology procedures like testicular sperm extraction, specially in centers which are located in smaller cities where Mch Urology doctors may not be available. It may be considered that an ART specialist or general surgeon with documented experience in sperm extraction procedures is acceptable for this role especially till there is non availability of urologists

Embryologist

For Embryologist qualifying after implementation of the Act

• MSc full time program in clinical embryology from a recognized University with additional three years of human ART laboratory experiences.

- Ph.D. holder in subject related to Clinical Embryology or ART from a recognized university with an additional one year of human ART laboratory experience in handling human gametes and embryos.
- Medical graduate (MBBS) or Veterinary graduate (BVSc) with a post-graduate fulltime program degree in Clinical Embryology from a recognized University with additional two years of ART laboratory experience.
- Post-graduate in life sciences or Biotechnology with a minimum of one year of on-site, fulltime clinical embryology certified training in addition to four years experience in handling human gametes and embryos in a registered ART level 2 clinic.

Embryologists working in ART clinics before the commencement of the Act: may be allowed to continue as an embryologist if they have Graduate in Life Sciences or Biotechnology or Reproductive Biology/ Veterinary Science with at least five years experience of working in a registered ART or IVF clinic, who have performed at least 500 IVF lab procedures.

Suggestion: Till now very few centers were running MSc embryology programs in India. It is suggested that conditions be relaxed for 5 years as qualified embryologists with Msc (2 years) and additional 3 years experience in the lab would take upto 5 years to come into ART practice. There would be extreme shortage of embryologists for next 5 years impacting patient care services in ART.

Counsellor: A person who is a graduate in Psychology or Clinical Psychology or Nursing or Life Sciences.

Director: The director shall have a postgraduate degree in Medical or Life Sciences or Management Sciences.

Note: Director can be from management services and need not be a medical person

ART Banks

• A minimum of one Registered Medical Practioner trained in the handling, preparation and storage of Semen samples.

Suggestions: It is essential to have an ART technician available for freezing semen and doing a semenanalysis

Minimum Equipment Requirement

ART Clinic Level: Microscope, Centrifuge, Refrigerator

ART Level 2 Clinics: Microscope, Incubator (minimum 02 in number), Laminar Airflow, Sperm counting Chambers, Centrifuge, Refrigerator, Equipment for cryopreservation, Ovum Aspiration Pump, USG machine with transvaginal probe and needle guard, Test tube warmer and anesthesia resuscitation trolley.

ART Bank: Centrifuge machine, Incubator, Microscope, Laminar Air Flow.

Suggestions: Facilities for freezing like cryocans must be mandatory

What Is Not Allowed in terms of Sourcing Gametes And Embryos

- Not allowed to use any intermediates to obtain gamete donors or purchase gamete donors
- Semen bank is allowed to get donors and is responsible for
 - a. Screening, collection and registration of the semen donor and cryopreservation of sperms
 - b. Maintaining the data of all the donors
 - c. Regularly updating the National Registry with data

Can gametes be transferred from one center to another or to another country?: The sale, transfer or use of gametes, zygotes and embryos, within or outside India is prohibited except in the case of transfer of own gametes and embryos for *personal use* with the *permission of the National Board*.

Suggestion: Many couples who want to change centers as their place of residence has changed are not able to shift their embryos. A procedure may be defined for it

Discharge Certificate

All clinics must issue to the commissioning couple a discharge certificate stating details of the assisted reproductive technology procedure performed on the commissioning couple or woman

How many embryos to be transferred?

Not more than three embryos may be placed in the uterus of a woman during the treatment cycle

Age of Couple availing ART

A woman must be between 21-50 years and a man 21-55 years

Suggestion: In case a woman is 35 years and married to a 56 year old man she cannot avail ART because the husband is overage. However if this woman was single she would be allowed. There should be a provision of a combined age of the couple to avoid this scenario. Also the age limits must be uniform over a population.

Responsibility of clinics and banks in donor cycles

- Both banks and clinics have to ensure that the couple and donors are eligible to avail ART services.
- A bank shall not supply the sperm or oocyte of a single donor to more than one commissioning couple. All unused oocytes shall be preserved for use on the same recipient, or given for research to an organisation registered under this Act after seeking written consent from the commissioning couple.
- An oocyte donor shall donate oocytes only once in her life and not more than seven oocyte shall be retrieved from the oocyte donor or.

Suggestion: It is difficult to control the exact number of oocytes being retrieved as the exogenous FSH being administered will go to all follicles and selection is not possible. It has also been specified that oocytes upto 9 are a poor prognosis as per latest Poseidon classification (1a and 2a) of poor responder. We should ensure donors do not fall into this category.

The ART Bank has to ensure age of donors for males is between 21 to 55 years of age, and women (single or married) 23-35 years **both inclusive**

SCREENING examine the donors for

- Human immunodeficiency virus (HIV), types 1 and 2;
- Hepatitis B virus (HBV);
- Hepatitis C virus (HCV);
- Treponema pallidum (syphilis) through VDRL.

A bank shall obtain all necessary information in respect of a sperm or oocyte donor, including the

- Name,
- Aadhaar number
- Medical and genetic history
- Shall undertake in writing from such donor about the confidentiality of such information.

Insurance for Donor: An insurance coverage of such amount as may be prescribed for twelve months in favour of the oocyte donor to be done by the commissioning couple from an insurance company or an agent recognized by the Insurance Regulatory and Development Authority. The intending couple shall sign an affidavit to be sworn before Metropolitan Magistrate or a Judicial Magistrate of first class giving guarantee and taking responsibility for compensating donor for medical expenses.

Suggestions

- 1. Amount of insurance should be defined.
- 2. The period defined as 12 months although any complication occurring because of oocyte retrieval occurs within one month.
- 3. When the couple does an insurance for the donor they would get to know the identity of the donor through the papers processed Are we moving towards known donors and the cultural and legal complications associated with it like donor trying to meet the child, the child getting to know the donor, the couple having a known third parent for their child etc. This may lead to complex psychological and cultural problems given the traditions still followed in India. This must be given some thought.
- 4. Currently some difficulty is being faced in getting the signature of magistrate. However processes will be streamlined. The government should ensure that waiting period for this signature is minimized.

Regarding keeping Frozen semen/ oocytes

- 1. Donor semen to be kept only in bank
- 2. Semen/oocytes cannot be used for Research/ training without consent
- 3. A clinic shall never mix semen/oocytes from two individuals
- 4. All unused gametes shall be preserved by the clinic/bank with couple consent for use on the same recipient and shall not be used for any other couple

Note: No frozen oocytes/ sperms or embryos should be kept in the clinic without consent of patient. Many clinics have previously frozen embryos in which renewal has not been done for years as patients have not come back. A process for informing and subsequently discarding needs to be outline. Clinics need to now ensure that on the date that period of freezing ends if patient does not come for renewal they should discard the embryos after informing patient.

How long can gametes and embryos be frozen?

The gamete or embryos shall be stored for

maximum ten years and at the end of such period such gamete or embryo shall be allowed to perish or be donated to a registered research organization with the consent of the commissioning couple.

gametes be frozen When for lonaer: Cryopreservation of oocytes, sperms for oncofertility patients undergoing treatment and for other such conditions, for duration longer than ten years with the permission from the National Board.

Rights of Child

The child born through assisted reproductive technology shall be deemed to be a biological child of the commissioning couple and the said child shall be entitled to all the rights and privileges like inheritance etc. which are available to a natural child.

Rights of Donor

A donor shall relinguish all parental rights over the child born from his or her gamete.

Responsibilities of Clinic

- Each clinic must have a professional counsellor who informs commissioning couple and woman about all the implications and chances of success of ART procedures in the clinic,
- Must inform them of advantages, disadvantages and cost of the procedures, their medical side effects and alternative treatment options, which will help them to arrive at an informed decision most likely be the best for them.
- Shall make them, aware of the rights of a child born through the use of ART.
- Shall ensure confidentiality of all parties.
- A written informed consent of all the parties is a must.
- Ensure that pre-implantation genetic testing be used to screen the human embryos for known pre existing heritable or genetic diseases and when medically indicated.

Record Keeping

Record to be sent to National Registry are the o the intending couple have not had any following

- Enrolment of the commissioning couple, woman and gamete donors.
- The procedure being undertaken.
- All information available with them in regard to progress of the commissioning couple.

Records to be maintained within the clinic/bank

- Couple and donor sperm/oocyte used or unused.
- The manner and technique of their use.
- Maintain consent form to be signed by the couple or woman as specified in Forms.

How Long are records to be maintained?

- First 10 years In the Clinic/Bank
- After 10 years transfer the records to a central database of the National Registry.
- If clinic closes down what happens to record? - Either keep records available at all times or transfer the records to a central database of the National Registry.
- If any criminal or other proceedings against any clinics or banks - the records of clinics and banks shall be preserved till the final disposal of such proceedings.

Posthumous collection

The collection of gametes posthumously shall be done only if prior consent of the commissioning couple is available in such manner as may be prescribed.

Surrogacy

Only altruistic surrogacy is allowed – No payment to surrogates. Surrogacy cannot be advertised or done through an agency. Couple has to get their own surrogate.

A certificate of essentiality has to be issued by the appropriate authority, once following are checked.

- o the intending couple are married and between the age of 23 to 50 years in case of female and between 26 to 55 years in case of male on the day of certification.
- surviving child biologically or through

adoption or through surrogacy earlier. Except a couple who have a child who is mentally or physically challenged or suffers from life threatening disorder or fatal illness with no permanent cure and approved by the appropriate authority with due medical certificate from a District Medical Board.

o Other conditions as may be specified by the regulations.

A **certificate of a medical indication** in favour of either or both members of the intending couple or intending woman necessitating gestational surrogacy from a District Medical Board

- She has no uterus or missing uterus or abnormal uterus (like hypoplastic uterus or intrauterine adhesions or thin endometrium or small uni-cornuate uterus, T-shaped uterus) or if the uterus is surgically removed due to any medical conditions such as gynaecological cancer.
- Recurrent implantation failure.
- Multiple pregnancy losses resulting from an unexplained medical reason.
- Any illness that makes it impossible for woman to carry a pregnancy to viability or pregnancy that is life threatening.

The surrogate mother is in possession of an **eligibility certificate** issued by the appropriate authority on fulfilment of the following conditions-

- o She has to be married and having a child of her own and between the age of 25 to 35 years on the day of implantation
- o A willing woman
- o Will not be providing her own gametes
- o Has never been a surrogate before
- o A certificate of medical and psychological fitness for surrogacy from a registered medical practitioner
- o The consent of a surrogate mother shall be as specified in Form 2

How does intending couple get the birth certificate in their name?

An order concerning the parentage and custody of the child to be born through surrogacy,

has been passed by a court of the Magistrate Regulation of the first class or above on an application made by the intending couple and the surrogate mother, which shall be the birth affidavit after the surrogate child is born.

Insurance for Surrogate

The intending woman or couple shall purchase a general health insurance coverage in favour of surrogate mother for a period of thirty six months from an insurance company recognized by the Insurance Regulatory and Development Authority for an amount which is sufficient enough to cover all expenses for all complications arising out of pregnancy and also covering post- partum delivery complications. The intending couple/woman shall sign an affidavit to be sworn before a Metropolitan Magistrate or a Judicial Magistrate of the firstclass giving guarantee of this.

How many embryos can be transferred?

The number of embryo transfers on the surrogate mother shall not be more than three times in case previous ones fail with only one embryo transferred each time Under special circumstances up to three embryos may be transferred.

Suggestion:

- 1. Amount of insurance be defined.
- 2. The period of insurance is defined as 36 months although any complication occurring because of pregnancy occurs within three months of delivery.

Rights of a surrogate mother

- o The surrogate mother may be allowed abortion in accordance with the MTP Act, 1971.
- o She shall have an option to withdraw her consent for surrogacy before the implantation of human embryo in her womb.
- o She has no right on the child born.

Decision-making concerning ART cannot be based only on scientific and monetary attentions as these cannot be separated from ethical and legal issues. There may be some grey areas to be defined yet which will come out once the bill is fully implemented. The ART Bill has taken many of these into consideration We must understand that the bill will remain ever evolving as the technology and protocols in this field are fast and continuously evolving and changing. The government has made provisions for those changes in the bill by stating that certain instruction would be stated later as per requirement and can be modified on the recommendations of appropriate authority. It has put in place government bodies which would be reviewing and reassessing to implement any change required.

References

- 1. The Assisted Reproductive Technology (Regulation) Act, 2021 (No. 42 of 2021)https://egazette.nic.in/ WriteReadData/2021/232025.pdf
- 2. The Surrogacy (Regulation) Act, 2021 (No. 47 Of 2021) https://egazette.nic.in/WriteReadData/2021/232118. pdf
- 3. Surrogacy Rules The Gazette of India CG-DL-E-21062022-236719 7th June 2021
- 4. TheARTRulesGazetteofIndiaCG-DL-E-08062022-236395 7th June 2021

AOGD Risk Management Support [ARMS] Group

One of the ways to ensure the stress-free work environment and optimal patient care is mutual support among professional colleagues. We propose to form an advisory group of senior AOGD members that can be contacted if one of us is caught in a complex clinical dilemma / dealing with aggressive clients or is apprehensive about how to document or effectively troubleshoot a potential problem. This group will provide the timely advice and will be led by-

Convener- Dr. Vijay Zutshi - 9818319110

Co convener- Dr. Aruna Nigam - 9868656051

We invite suggestions from all members regarding functioning of this cell which will guide us forming the SOPs. Any member interested in being part of Advisory group may contact the convener.

Pl mail to aogdmamc2022@gmail.com

S. No.	Date	Events
1	02.08.2022	Public forum on Breastfeeding awareness, Rural Health and Public awareness committee AOGD along with Adolescent committee AOGD
2	04.08.2022	CME by Infertility committee & DGFS (physical)
3	06.08.2022	Webinar on "Hyperglycemia in Pregnancy Interventions for Glycemic control" by AOGD
4	07.08.2022	CME by Safe motherhood committee with BLK Max Centre & NNFD
5	10.08.2022	Webinar on "Kidney & Lower urinary tract dysfunction in pregnancy "on 10 th August Urogynaecology sub committee
6	13.08.2022	CME by Oncology sub-committee with GTB
7	15.08.2022	PG forum on Abdominopelvic mass by AIIMS & ESI
8	17.08.2022	Webinar on "Preeclampsia screening" by Fetal medicine committee
9	21.08.2022	Public forum by Rural health committee
10	25.08.2022	CME by Endoscopy Committee
11	25.08.2022	CME by endometriosis committee
12	26.08.2022	AOGD Monthly clinical meeting at AIIMS
13	27.08.2022	Webinar breast and cervical cancer committee
14	27.08.2022	CME by Adolescent health committee – (Physical)

Events held in August 2022

Forthcoming Events

S. No	Date	Events
1	01.09.2022	CME on 'Genetic & Fetal medicine in obstetric practice' by Genetic & Fetal medicine sub-committee
2	04.09.2022	CME by DGF & AOGD (Physical)
3	10.09.2022	CME on Endometrial Cancer- 'Less is More' - AOGD Oncology sub-committee
4	19.09.2022	PG forum on Pregnancy with Anaemia
5	29.09.2022	Webinar by Endoscopy sub-committee
6	06.10.2022	Webinar on 'Paradigm shift in management of Ectopic Pregnancy' by Endoscopy committee
7	07.10.2022	CME by Infertility committee
8	08.10.2022	CME (Physical) on RPL by multidisciplinary committee
9	15.10.2022	Physical event on AUB by Bayers medics
10	17.10.2022	PG forum on Postmenopausal bleeding
11	22.10.2022	Webinar by Oncology Committee
12	27.10.2022	Webinar" by Endoscopy committee
13	28.10.2022	AOGD Monthly clinical meeting at PGIMSR & ESI Hospital, Basadarapur
14	30.09.2022	AOGD Monthly clinical meeting at DDU Hospital
15	12 th &13 th NOV 2022	ANNUAL AOGD CONFERENCE

Cross Word Puzzle

Nalini Bala Pandey*, Dhriti Kapur**

*Consultant, **Senior Resident, Department of Obstetrics & Gynaecology, Maulana Azad Medical College, Delhi



Across

- 2. Section 2 in Labour Care Guide deals with?
- **3.** Which type of pelvis has a small posterior sagittal diameter, convergent side walls, prominent ischial spines, and narrow pubic arch?
- 5. M+ in labour care guide denotes meconium.
- **9.** In Ultrasound during pregnancy, which measurement is most reliable for the estimated fetal weight(EFW)?
- **10.** What posture of the lady during labour is considered to be under alert if recorded on the LCG?

Down

- **1.** In case of suspected delay or arrest of the second stage, which scan is used to assess head perineum distance and angle of progression?
- **4.** What does the acronym D in the pain relief column stands for?
- **6.** Time threshold to await progress of labour at 5 cm cervical dilatation is _____ hours.
- 7. Number of sections in Labour Care Guide?
- 8. At what cervical dilation should LCG be initiated?

Cross Word Puzzle

Reena Rani*, Vaishnavi Jayaram**

*Assistant Professor, **Senior Resident, Department of Obstetrics & Gynaecology, Maulana Azad Medical College, Delhi



Across

- 2.Trial studied the role of progesterone in prevention of preterm birth
- 3. Manoeuvre for delivering frank breech with minimal interference
- 6. Classification of severity of perineal injuries during labour
- 7.manoeuvre is used for delivering fetal head with forceps application
- 10. Concurrent CTG and feta ECG monitoring during labour
- 11.Trial studied the efficacy of tranexamic acid in PPH
- 13. Preferred drug for patient controlled analgesia in labour
- 14. Low dose regimen of MgSO4 in eclampsia

Down

- 1. Antibiotic used in mother is associated with neonatal hemolytic anemia
- 4. Scoring of maternal risk factors in hypertensive disorders of pregnancy
- 5. CHAMPION Trial compared oxytocin with
- 8. Manoeuvre to immediately reposit freshly inverted uterus
- 9. RCT comparing different caesarean techniques
- 12. Which trial brought breech vaginal delivery back into limelight

AOGD Sub-Committee Chairpersons 2022-2024

Committee	Chairperson	Contact No	Email.id
Breast and Cervical Cancer Awareness, Screening & Prevention Sub-Committee	Dr Mrinalini Mani	9811835888	drmrinal5@gmail.com
Infertility Sub-Committee	Dr Manju Khemani	9810611598	dr.manjukhemani@gmail.com
Rural Health Sub-Committee	Dr Shivani Agarwal	9868249464	dragarwal.shivani@gmail.com
Multidisciplinary Sub- Committee	Dr Kiran Guleria	9811142329	kiranguleria@yahoo.co.in

AOGD Sub-Committee Chairpersons 2021-2023

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	Dr Sangeeta Gupta, Co- Chairperson	9968604349	drsangeetamamc@gmail.com
Endoscopy Sub-Committee	Dr Kanika Jain	9811022255	dr.kanika@gmail.com

AOGD Monthly Clinical Meeting Held on 26th August 2022 at All India Institute of Medical Sciences, Delhi

Wanderlust refined: A curious case of wandering fibroid

Neena Malhotra*, Juhi Bharti, Rishu Goel***** *Professor and unit Head, **Associate Professor, **Senior Resident (Unit II), Department of Obstetrics & Gynecology, AIIMS, New Delhi

A 48- year-old female presented to Cardiology OPD with exertional dyspnea and bilateral pedal edema for two months. On cardiovascular system evaluation, Jugular venous pressure was raised alongside a typical parasternal tumor plop and a mid-diastolic murmur. Abdominal examination, identified an ill-defined mass in right iliac guadrant. On further evaluation, patient was found to have a mass on the Echocardiography(ECHO) in the right atrium (3.6x2.6 cms) descending into right ventricle and extending into inferior vena cava(IVC) suggestive of a right atrial myxoma. The patient further underwent CT angiography which showed a right atrial mass (6 x 3 cm) extending into IVC suggestive of partial thrombus. Gynaecology consultation was sought for the irregular abdominopelvic mass, which when examined sized to gravid uterus of 18 weeks size. On pelvic examination a10 x 10 cm mass was felt through right fornix, with differential diagnosis of either right broad ligament fibroid or right adnexal mass. Ultrasonography and contrast enhanced MRI confirmed a solid mass arising from right margins of the uterus that was enlarged, encroaching right adnexa with tumor mass encasing the right ureter. There was evidence of tumor throm bifrom internaliliac vein to Inferior vena cava (IVC) and further ascending up to right atrium. The provisional diagnosis changed to uterine intravenous leiomyoma with intracardiac component. A multidisciplinary team involving the gynaecologists, urologists, CTVS surgeons and cardiac anesthetists aligned to plan her management.

The patient was planned for Total abdominal hysterectomy and bilateral ovariotomy through laparotomy, thoracotomy and cavotomy for complete resection in a single sitting. During surgery, total abdominal hysterectomy and bilateral salpingo-ovariotomy was done. After closure of vault, a pearly white cord like tissue was noticed running under the round ligament towards the lateral pelvic wall. This tissue was dragged with traction and was easily pulled with a clamp. With this step the anesthetist noticed movement of the cardiac lesion distally through transesophageal echocardiography, that was a proof that the thrombi was being dislodged caudally as this tissue, the cord like thrombus was being pulled through the opened venous channels. With confidence partial removal of 11 cm of this serpentine tumour was done dragged at its distal end where it entered the right internal iliac vein, until the bulbous proximal end got stuck in lower part of IVC. This broader end was delivered by incision in IVC (cavotomy) just above the bifurcation of common iliac vein. The surgical manouvering of the thrombus avoided thoracotomy and cardiac surgery; the entire serpentine tumor of 37 cm length was delivered through laparotomy only. Post-surgery, patient underwent CT pulmonary angiography and ECHO which revealed no residual mass or thrombi in IVC or heart. She got discharged on day 14 and histopathology report confirmed the findings of intravenous leiomyoma.

Discussion

Uterine Intravenous-cardiac leiomyomatosisis a rare but serious condition that originates from the uterus and extends to large-calibre vessels and, finally, to the heart and pulmonary arteries. It is histologically benign but biologically aggressive tumour. The above case stands unique as to the best of our knowledge, it is first of its kind reported from India that has been managed successfully in a single sitting. Further, despite having intracardiac component, it was possible to remove it through a pelvic vessel followed by cavotomy, at laparotomy avoiding thoracotomy, which is the standard method suggested in literature. A multidisciplinary team is needed for diagnosis and proper management for such a complicates case, that ensured optimal outcome.

Burn to Rise LikePhoneix, Management of Fetal Lung Lesion

Vatsla Dadhwal*, Aparna Sharma**, Neha Sahay*** *Professor and unit Head, **Professor, **Senior Resident Department of Obstetrics & Gynecology, AllMS, New Delhi

A 30 year old G2P1L1 was referred to our fetal medicine unit with diagnosis of fetal lung lesion and pleural effusion at 27+5 weeks period of gestation (POG). Anomaly scan done at 19 weeks revealed a hyper echoic lesion in left lung following which a fetal magnetic resonance imaging (MRI) confirmed the presence of a pulmonary lesion of size 23 x 24 x 22 mm in left lower lobe. A provisional diagnosis of BPS or congenital pulmonary adenomatoid malformation (CPAM) was made.

Ultrasound at 28 weeks gestation showed a BPS (23 x 27 x 30 mm) deriving blood supply from thoracic aorta, and pleural effusion. Cardiac axis was deviated to right, however fetal echo was normal. The patient was given a course of antenatal steroids and referred to us for further management.

We confirmed the diagnosis of extralobar BPS with supplying artery from thoracic aorta, with massive pleural effusion. Within a week, the mass had increased to 32 x 25 x 34 mm. After counseling the couple consented to ablation of feeding vessel by radiofrequency ablation (RFA).

The procedure was performed at 29+5 weeks gestation, under maternal intravenous (IV) sedation. Fetal paralysis and analgesia was obtained by IM fentanyl and vecuronium. RFA was performed at settings of 100 watts, at a temperature of 100 degrees for 2 minutes. The RFA needle was placed through fetal chest, in the lung mass, close to feeding vessel and tines released, to ablate an area of 1 cm. The tip of needle and tines were visualized, to make sure all were well away from aorta. We purposely did not remove the pleural fluid before procedure as the fluid kept the BPS mass away from other structures in the vicinity, chest wall and fetal diaphragm, increasing the safety of procedure. Post procedure fetal cardiac activity was checked, and patient was followed on outpatient basis. Ultrasound on day 7 of RFA showed reduction in size of mass and in pleural effusion, lungs expanded. The feeder vessel was also not visualized suggesting successful procedure.

On day 10 the pleural effusion resolved completely and lesion further decreased in size. On scan at 35 weeks destation, the lesion was barely visible. At 36 weeks POG patient had spontaneous prelabour premature rupture of membranes (PPROM) and underwent emergency cesarean section for variable decelerations. The baby was small for dates, weighing 1800 grams with Apgar score of 8, 9 at birth. The baby was kept under observation in NICU for one day for transient tachypnea and shifted to mother-side on the following day. A chest X-ray was done for the baby which revealed a small lesion in left lower lobe of lung. Pediatric surgeon advised a cross sectional CT chest at 3 months of age, earlier if symptomatic. Infant is doing well at 2 months of age.

An unusual association of Type II Mayer-Rokitansky-Kuster-Hauser syndrome, Turner mosaic syndrome and tuboovarian inguinal hernia– case report and review of literature

Reeta Mahey*, Rohita**, Neerja Bhatla***

*Additional Professor, **Fellow, ***Professor and Head of the Department of Obstetrics & Gynecology, AlIMS, New Delhi

Abstract:

Objective- To report a rare case of Mullerian agenesis and Turner mosaic syndrome with tubo-ovarian inguinal hernia

Case report

Setting- Department of Obstetrics & Gynaecology of a tertiary care referral centre

Patient- A 17 years old girl presented with complaints of primary amenorrhea, phenotypical features of Turner syndrome with left inguinal hernia and severe hypertension

Intervention- Baseline hormonal analysis was normal. Karyotype revealed Turner mosaic with 46XX(85%); 45XO (15%). MRI showed Mullerian agenesis with normally located right ovary in pelvis and left ovary prolapsed through deep inguinal ring into the canal of Nuck. Anti-hypertensives were started and patient optimized for surgery. Laparoscopic hernia repair and repositioning of left ovary into the pelvis was done.

Results- Patient had uneventful post-operative course and was discharged in stable condition on anti-hypertensive medication. Future

reproductive issues and need of passive vaginal dilatation or vaginoplasty before marriage were explained to the patient and family.

Conclusion- This is the first ever reported case with unusual association of atypical MRKH, Turner mosaic syndrome and tubo-ovarian hernia into the inguinal canal.

Keywords: inguinal hernia, Turner syndrome, amenorrhoea, ectopic ovary, Mullerian agenesis

Events held under Aegis of AOGD in August 2022



CME on 4th August by Infertility subcommittee & DGFS



Webinar on "Hyperglycemia in Pregnancy Interventions for Glycemic control" 6th August AOGD Safe Motherhood sub Committee,



Webinar on "Kidney & Lower urinary tract dysfunction in pregnancy" on 10th August Urogynaecology sub committee



OPELVIC MASS

PG forum on Abdomino-Pelvic Mass, 15th August AIIMS & ESI Webinar on "GTN-current scenario and evolving concepts" on 13th Aug Oncology Subcommittee with GTB Hospital ۲



CME on 7th August, 2022 Safe motherhood subcommittee with BLK Max Centre & NNFD

CME on IUI and Beyond" on 23rd August Infertility subcommittee with Birla Fertility & IVF, DGF-North and DGF OD hospital





AOGD Bulletin





Association of Obstetricians & Gynaecologists of Delhi

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