



2025, Volume 25, April, Issue 12 AOGD BULLETIN

Shared Decision Making - Enhancing Women Emancipation



Theme

Controversies in Obstetrics and Gynecology

AOGD SECRETARIAT

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Message from the President



Dear AOGDians,

Namaskar,

As I write this message at the closure of our one-year tenure, I am filled with immense gratitude, pride, and a deep sense of fulfillment. Serving as the President of our Association of Obstetrics and Gynecology of Delhi has been one of the enriching and humbling experiences.

Over the past year, we have strived to uphold the core values of our association—academic excellence and collaborative spirit. Together, we organized impactful conferences, workshops, and awareness programs that not only furthered professional development but also strengthened the bonds within our medical community. These accomplishments were possible only because of the unwavering support and enthusiasm of our seniors, members, colleagues, and friends. I extend my heartfelt thanks to the executive committee, organizing teams, and every member who contributed their time, expertise, and energy. Your dedication made this year a remarkable one.

As I pass on the baton, I congratulate and send my best wishes to the team LHMC for their future endeavours.

Every new beginning comes from some other beginning's end. With the end of the end-of-the-year tenure of AOGD at ABVIMS & Dr. RML Hospital, we move forward to the next mega event of AICOG Delhi, 2026.

As our knowledge deepens and technologies advance, so too do the debates and dilemmas we face. This issue of our bulletin, dedicated to **Controversies in Obstetrics and Gynecology**, aims to explore some of the most pressing and thought-provoking topics in our discipline. Controversies, after all, are not signs of division—they are reflections of progress. Let us continue to question, to learn, and to grow.

With warm regards and deep gratitude,

Dr. Ashok Kumar MD, PhD, FICMCH, FICOG, FAMS

President, AOGD Organising Chairperson, AICOG 2026 Vice Chairperson, ICOG, an Academic Wing of FOGSI National Corresponding Editor, Journal of Obstetrics & Gynaecology of India

Director Professor & Head Department of Obstetrics & Gynecology, Atal Bihari Vajpayee Institute of Medical Sciences & Dr. Ram Manohar Lohia Hospital, New Delhi

Message from the Hon. Secretary



Hon. Secretary

Dear AOGD members,

Warm greetings to all from AOGD secretariat at ABVIMS & Dr RML Hospital

It is with great pleasure that I present to you the final edition of the AOGD Bulletin from ABVIMS & Dr RML Hospital, focusing on Controversies in Obstetrics. Obstetric practice is constantly evolving, with advancements in technology, evidence-based guidelines, and ethical considerations shaping the way we care for mothers and babies.

In this issue, we are concentrating on some of the most pressing and thought-provoking controversies in modern obstetrics and gynaecology. From evolving perspectives on caesarean delivery rates to the ongoing discussions on contraception in teenage, we aim to provide a balanced and insightful analysis.

The journey of the entire year will be difficult to sum up in few words. I extend my heartfelt gratitude to our respected patrons and advisors who were our guiding source along with the executive members. The subcommittee chairpersons for continuous efforts making AOGD visible in every nook and corner of Delhi. The entire team is extremely thankful to Dr Ashok Kumar for being our team leader and guiding us through and for holding the brigade high.

As we conclude this series of bulletins, I encourage all members to continue engaging in meaningful discussions, staying updated with the latest research, and striving for excellence in obstetric practice. I look forward to the continued growth of AOGD and the collective efforts to advance women's healthcare. We handover to the Lady Harding Medical College under the able leadership of Dr Reena Yadav. Wishing everyone happy learning and happy growing!!



Left to Right: Dr Vandana Agarwal, Dr Neha Pruthi Tandon, Dr Kamna Datta, Dr Geetanjali Nabiyal

EVENTS HELD IN MARCH

06 March 2025

Health Camp - On the occasion of International Women's Day, Community Health & Public Awareness Committee AOGD with Muskan clinic & Support of Clinical Diagnostic Centre



Mammography

- Bone Mineral Density Test (BMD)
- Blood Sugar
- Haemoglobin (HB)

Test done for more than 50 patients

Awareness talks on Nutrition anaemia, Cervical Cancer Screening, HPV Vaccine.

The camps serve to provide access to healthcare for women who might otherwise not seek it out

Scientific Session on Adolescent Health at Hotel Leela Ambience: Adolescent Health Subcommittee AOGD & DGF East





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18 March 2025 AOGD in association with FOGSI for "Sampoorna" FOGSI initiative on "Swasth Janam Abhiyan - CME at New Delhi



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MEYER

28 March 2025

Handing Over Ceremony of AOGD Office from ABVIMS & Dr RML Hospital to Lady Harding Medical College



AOGD Bulletin



Release of OBGY Clinics, FOUR Volumes by ABVIMS and Dr. RML Hospital

- 1. Screening of Gynecological Cancers & Liver Disease in Pregnancy
- 2. Renal Disorders in Pregnancy & Endometriosis
- 3. Cardiac Diseases in Pregnancy & Polycystic Ovarian Syndrome
- 4. Noncommunicable diseases in Pregnancy & Abnormal Uterine Bleeding



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Physical Clinical Meeting by ABVIMS & Dr RML Hospital

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29 March 2025

CME on Integrating Genetics in Women's Cancer Care at India International Centre, New Delhi by FOGSI Gynecological Oncology Committee and AOGD Oncology Sub-Committee

Forthcoming Events "for the month of April"

• 30th – Monthly clinical meeting on 30th May 2025 by ESI Basaidarapur

From the Editors Desk

Editorial Team: (Left To Right) Dr. Kanika, Dr. Preeti, Dr. Renuka, Dr. Kavita. (Second Row Left To Right) Dr. Seema, Dr. Niharika

A final word: looking backwards and forwards ...

As we pen the final issue of our bulletin for this academic year, I am filled with a deep sense of pride and gratitude.

Over the past twelve months, this bulletin has evolved into a dynamic medium, capturing the essence of clinical advancements, academic contributions, and the ever-changing landscape of women's health. Each issue has been the result of careful curation, collaboration, and the collective passion of a dedicated editorial team. We published 12 issues in time during our tenure, starting with the first issue, with a new cover design -Maternal Fetal Medicine: Delving deeper into maternal fetal medicine in the month of May, Minimal Access Surgery: Principles and Practices in June, Infertility: Challenges make us Stronger in July, Contraception: Small choices big impact in August, Urogynaecology updates in September, Menopause: It's the beginning in October, Medical disorders in the pregnancy in November, Gynaecological Oncology Awareness today, Cure tomorrow in December, Critical Care in Obstetrics in January, Adolescent Health – Nurturing the future in February, Optimising labour management and support in March and now for April issue - controversies in obstetrics and Gynecology also updated our readers with Dr Jaya's news flash and Dr Preeti quiz question along with monthly clinical meetings and other events conducted in the preceding month.

The journey has been both inspiring and enriching. None of this would have been possible without the unwavering support of our contributors and, of course, our readers. A special note of appreciation goes to our editorial team, whose tireless efforts behind the scenes—from brainstorming themes to ensuring timely publication—have been instrumental in shaping the bulletin's success.

The entire editorial team expresses its gratitude to our authors: thank you for entrusting us with your expert review articles and to our readers, young and seniors who found insight during a midnight consult or in quiet moments between work, we hope we served you well.

The last issue is on Controversies in Obstetrics and Gynecology. In the field of obstetrics and gynecology, controversy and debates are not only inevitable but essential. It reflects the ongoing evolution of medical science, ethical considerations, and societal values. This issue of the Bulletin brings to the forefront some of the most pertinent and debated topics in our specialty today.

Each of these articles has been carefully selected to reflect not only clinical controversies but also the broader implications for patient care, ethics, and policy. As clinicians, we must remain open to differing viewpoints, updated evidence, and, most importantly, to the needs and rights of the individuals we serve.

As we close this chapter, we do so with a renewed sense of purpose. We hope that the bulletin has served as a valuable resource and will continue to inspire academic excellence and clinical curiosity. Though this marks the end of our first editorial term at Dr. RML, it is also the beginning of another new journey for LHMC, and we extend our best wishes to Dr Pikee Saxena and her team.

Thank you for being a part of this journey.

With warm regards,

Dr. (Prof) Renuka Malik

Editor

Professor and Senior Consultant, ABVIMS & RML Hospital

"Till we meet again"

Thought for the month: who looks outside dreams; who looks inside, awakens —Carl Jung

Laparoscopy With or Without Veress: A Comprehensive Review

Dr. George Paul

Consultant & Endoscopic Surgeon, Paul's Hospital

INTRODUCTION

Background

Laparoscopy has revolutionized modern surgery, offering a minimally invasive alternative to traditional open procedures. By reducing postoperative pain, minimizing recovery times, and decreasing hospital stays, laparoscopic techniques have become the gold standard in various surgical specialties, including gynaecology, general surgery, and urology. The first critical step in laparoscopic surgery is the creation of pneumoperitoneum, which allows adequate visualization and manoeuvrability within the peritoneal cavity.¹

Two primary methods exist for pneumoperitoneum creation: the closed technique using the Veress needle and the open (Hasson) technique without Veress. The Veress needle technique, which was first introduced in the mid-20th century, involves the insertion of a spring-loaded needle into the peritoneal cavity to allow controlled CO_2 insufflation.² Despite its widespread use, concerns about the risk of bowel or vascular injury have led many surgeons to consider alternative methods, such as the open technique, in which a small incision is made, and a blunt trocar is inserted under direct vision.³ Other newer techniques, such as direct trocar insertion and optical trocars, have emerged as well.⁴

This review aims to evaluate the advantages, disadvantages, and safety profiles of laparoscopic entry techniques with or without Veress, using an evidence-based approach.

Utility and Need for Review

Despite extensive research on the topic, the debate regarding the optimal laparoscopic entry technique continues. The need for this review arises from the increasing emphasis on patient safety, the evolution of surgical techniques, and the need to optimize outcomes in diverse patient populations.⁵ By comparing the efficacy, risks, and clinical outcomes associated with these techniques, this review will provide insights into best practices for laparoscopic entry.

DISCUSSION

Veress Needle Technique

Procedure

The Veress needle technique involves inserting a springloaded needle into the peritoneal cavity, typically at the umbilicus, to establish pneumoperitoneum.⁶

Alternatively, it can be inserted at Palmer's point as well. The most practical way to confirm correct placement would be to assess the intraperitoneal pressure. A low initial intraabdominal pressures confirm correct placement.

After verification, CO_2 is insufflated, and once an adequate pneumoperitoneum is established, the primary trocar is inserted.

Advantages

- Minimally invasive entry with reduced tissue trauma.
- Quicker pneumoperitoneum establishment, making it preferable in emergency settings.
- Requires only a small puncture site, reducing the risk of herniation.
- Creates a higher safety margin for primary trocar insertion
- Suitable for a wide range of laparoscopic procedures, including gynecological and general surgeries.

Disadvantages

- Higher risk of visceral and vascular injury, particularly in obese or thin patients.
- Difficulty in confirming correct placement without additional tests.
- Risk of preperitoneal insufflation leading to suboptimal working space.
- Complications such as subcutaneous emphysema, gas embolism, and failed insufflation are more common.

Open (Hasson) Technique

Procedure

The open technique involves making a small incision at the umbilicus, dissecting through the layers under direct vision, and placing a blunt trocar secured with sutures to maintain pneumoperitoneum. This technique is particularly useful in patients with previous abdominal surgeries where adhesions are expected, reducing the likelihood of bowel injury.⁷

Advantages

- Reduced risk of visceral and vascular injury due to direct visualization.
- Preferred in patients with prior abdominal surgeries where adhesions are expected.
- Lower likelihood of gas embolism compared to the Veress needle technique.
- Allows more controlled and secure trocar placement.

Disadvantages

- Longer time to establish pneumoperitoneum.
- Larger incision, potentially increasing postoperative pain.
- Risk of gas leakage if the fascial sutures are not adequately secured.
- May not be suitable for all laparoscopic procedures, particularly in emergency cases where rapid entry is needed.

Visual Entry Technique Without Veress

Procedure

The visual entry technique without Veress involves the use of an optical trocar or a direct entry trocar under real-time visualization.⁸ This method eliminates the blind insertion associated with both the Veress needle and the open Hasson technique. The camera-equipped trocar allows the surgeon to see each layer of the abdominal wall as it is traversed, ensuring correct placement and reducing the risk of injury.

Comparison of the Three Techniques

Each of these techniques has distinct advantages and limitations, and their selection often depends on patient characteristics and surgeon experience. A meta-analysis of randomised controlled trials (RCTs) demonstrated that, Veress needle technique is quick and minimally invasive but carries a higher risk of blind injury. The open Hasson technique, while safer in terms of avoiding visceral and vascular injury, requires a slightly larger incision and takes longer to establish pneumoperitoneum. The visual entry technique offers real-time visualization, reducing complications, but is limited by the availability and cost of specialized trocars. Studies suggest that no single method is superior in all cases; rather, the best approach is tailored based on patient factors such as obesity, history of previous surgeries, and overall surgical complexity.

Feature	Veress Needle	Open (Hasson)	Visual Entry
Entry Speed	Faster	Slower	Slower
Risk of Injury	Higher	Lower	Lower
Suitability for Adhesions	Less suitable	More suitable	More suitable
Incision Size	Smaller	Larger	Smaller than Open
Pneumoperitoneum Integrity	Higher	May require suturing	Higher

Special Considerations

Obese patients- The veress technique can be challenging due to increased abdominal wall thickness with the standard 10cm veress needle. Either a long veress needle or a direct trocar insertion is preferable.

Previous Abdominal Surgery – Open technique was the initial recommendation to prevent injury to underlying adhesions. With the introduction of the visual entry technique, it has become the current recommendation in cases with a history of previous abdominal surgery.

Introduction of Veresee: A New Innovation

A new product, Veresee, is expected to become available soon, aiming to enhance the safety and precision of laparoscopic entry. Veresee incorporates advanced pressure sensors and real-time feedback mechanisms to guide the insertion of the Veress needle more accurately, reducing the risk of misplacement and injury. Preliminary studies indicate that this innovation may significantly lower complication rates associated with traditional Veress needle usage. If successful, Veresee could bridge the gap between the speed of Veress entry and the safety of visual entry techniques, offering surgeons a more reliable and efficient alternative. This is a 2mm abdominal access visual entry device, unlike a 5mm optical trocar. This is being developed by Freyja Healthcare, headed by Dr Jon Ivar Einarsson. This device was cleared by the FDA in 2024 and is expected to be available in the market soon.

CONCLUSION

The introduction of innovations such as Veresee may further refine laparoscopic entry techniques by enhancing safety and precision. Future advancements in laparoscopic entry techniques will likely focus on improving visualization, reducing complication rates, and enhancing overall surgical outcomes. Ultimately, individualising the approach based on patient characteristics and surgical expertise is essential for optimal outcomes.

KEY POINTS

- 1. The choice between the Veress needle technique, the open (Hasson) technique, and the visual entry technique depends on patient factors and surgeon expertise.⁹
- 2. While the Veress technique remains popular for its speed and minimal invasiveness, the open technique is preferred in high-risk cases due to its enhanced safety.
- 3. The visual entry technique provides an alternative that balances efficiency and safety, particularly with the advent of optical trocars.

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Date	Hospital
25 th April 2025	ESI, Basaidarapur
30 th May 2025	Sitaram Bhartia Hospital
27 th June 2025	Indraprastha Apollo Hospital
25 th July 2025	Army Hospital Research & Referral
29 th August 2025	AIIMS, New Delhi
26 th September 2025	VMMC & Safdarjung Hospital
31 st October 2025	Deen Dayal Upadhyay Hospital
28 th November 2025	Maulana Azad Medical College
26 th December 2025	Sir Ganga Ram Hospital
30 th January 2026	ABVIMS & Dr. RML Hospital
27 th February 2026	UCMS & GTB Hospital
27 th March 2026	Lady Hardinge Medical College
24 th April 2026	ESI, Basaidarapur

CALENDAR FOR AOGD MONTHLY CLINICAL MEETING 2025-2026

Should Contraception be Offered to Teenagers

Dr. Supriya Jaiswal

Chairperson, Adolescent Health Committee FOGSI Director and Consultant Obstetrician and Gynecologist at SM Hospital, Patna Specialist Obs. & Gynae. at Government Hospital, SDH, Nalanda

INTRODUCTION

The question of whether contraception should be offered or prescribed to teenagers is a complex and sensitive issue. However, the WHO and AAP(American Academy of Pediatrics) recommend contraception to all sexually active adolescents, regardless of age and marital status. Access to contraception is a basic health need. On one hand, providing contraception to teenagers can prevent unintended pregnancies and reduce the risk of sexually transmitted infections (STIs).¹ On the other hand, in India, there are concerns about the potential risks and moral implications of providing contraception to minors. Section 19 of the POCSO Act says that any person aware of a minor engaging in sexual activity to report the matter to the local police, even if it is consensual, as the law pegs the age of consent at 18 years. However, mandatory reporting should not result in the denial of service. They need to provide the service regarding contraception and then report the matter.

The Benefits of Contraception for Teenagers:

Research has shown that providing contraception to teenagers can have numerous benefits:-

- 1. Reducing the risk of unintended pregnancies.
- 2. Meeting unmet contraception need.
- 3. Reducing maternal mortality.
- 4. Reducing STI incidence.
- 5. Reducing HIV prevalence.
- 6. Improves nutrition and mental health.
- 7. Lower healthcare costs and ensure that more girls complete their education.

For example, a study found that the use of contraception, such as long-acting reversible contraceptives (LARCs), can significantly reduce the risk of unintended pregnancy among teenagers,¹ Additionally, the American Academy of Pediatrics (AAP) recommends that teenagers have access to comprehensive sex education and contraceptive services, including LARCs, condoms, and emergency contraception.²

Concerns and Considerations:

Delays in the initiation of contraception may be a barrier to contraception for adolescents, so same-day initiation ("quick start") should be considered for most adolescents. All contraceptive methods (including LARC) can be started anytime, including on the day of the contraceptive counseling visit, if there is a reasonable certainty that the patient is not pregnant. Chances of pregnancy can be ruled out by using patients' history and urine pregnancy tests. Despite the benefits of contraception for teenagers, some concerns and considerations need to be taken into account. The foremost important concern in India regarding advising or offering contraception is the POCSO act. Some parents and healthcare providers may be concerned about the potential risks of contraception, such as side effects and interactions with other medications. Additionally, there may be concerns about the moral implications of providing contraception to minors, as sex outside marriage is discouraged and stigmatized. Even the health care providers are against advising contraception to unmarried as they had strong personal views against premarital sex because they believe it is against social norms. Some providers are feared of the negative reactions of the community if they recommend contraception to minors, particularly in communities with conservative values.

The Importance of Comprehensive Sex Education:

Comprehensive sex education is critical for teenagers, it includes accurate information about reproductive health, contraception, and STIs. It is important for their well-being and empowerment, equipping them with knowledge, skills, and attitudes to make informed decisions about their sexual and reproductive health and helping them in preventing risky behavior. The AAP recommends that parents and healthcare providers talk with teenagers about abstinence, as well as contraception and condom use. Additionally, the AAP recommends that pediatricians should spend one-on-one time with adolescents starting at the 11- to 13-year-old checkups, discussing sensitive topics such as sexual behaviors and birth control. It can improve 15

educational outcomes and overall well-being by creating a more supportive and inclusive environment for teenagers.

Comprehensive sex education includes:-

- 1. Accurate information will be provided about STIs, including HIV, and contraception and help them make informed choices and practice safe sex.
- 2. It informs about the access of sexual and reproductive healthcare services and ensures timely and appropriate care.
- 3. It provides information about the types of abuse, like sexual violence and dating violence, and empowers them to recognize and report abuse and to seek help if required.
- 4. Empowering them with the knowledge and skills to make informed decisions about their sexual and reproductive health, contraception, sexual activity, and relationships.
- 5. It promotes critical thinking about media portrayals of sexuality and relationships and to resist harmful stereotypes and make informed choices.
- 6. It teaches about essential life skills like communication, negotiation, and decision-making, which helps them in all aspects of life, not only in sexuality.
- 7. Preventing STIs and unintended pregnancies contributes to better public health outcomes.

Long-Acting Reversible Contraceptives (LARCs):

LARCs, such as implants and intrauterine devices (IUDs), are highly effective methods of contraception that can be used by teenagers.

It does not prevent the risk of STIs, so they should use condoms along with this method. The main barrier to the usage of these methods is a lack of familiarity. The health care providers should use the "LARC- First counselling "protocol regarding LARC methods³

Benefits of LARCS:

- 1. LARCs are the most effective contraceptives to prevent pregnancy, with less than a 1% chance of becoming pregnant during the first year of use.
- 2. LARCs can be used to treat heavy bleeding or dysmenorrhea and can even be used to stop periods altogether.
- 3. Once inserted, LARC methods are forgettable, making them a good option for adolescents who may have difficulty remembering to take pills or use other methods consistently.
- 4. LARC methods provide a private and convenient option for birth control so that they can concentrate on their goals and education.

Emergency Contraception:

Emergency contraception, such as the "morning-after pill" or the copper IUD, can be used by teenagers to prevent

pregnancy after unprotected sex. The AAP recommends that teenagers have access to emergency contraception and that pediatricians provide prescriptions or supplies in advance.⁴ Emergency contraception can be used up to 120 hours after unprotected sex and is highly effective in preventing pregnancy. They should be educated about the availability and effectiveness of the method. They should be counseled that it should not be used as a primary contraceptive method. It is only for emergency backup. They should be counseled that they will use this method as a regular contraceptive it will cause menstrual irregularities. The Levonorgesterol single-dose pill is available as the counter method.

CONCLUSION:

Providing contraception to teenagers is a complex issue that requires careful consideration of the benefits and concerns. Comprehensive sex education, LARCs, and emergency contraception are all important tools to prevent unintended pregnancies and reduce the risk of STIs among teenagers. Ultimately, the decision to provide contraception to teenagers should be based on individualized care and a comprehensive assessment of their needs and circumstances.

KEY POINTS

- 1. Providing contraception to teenagers is a crucial step in preventing unintended pregnancies and reducing the risk of sexually transmitted infections (STIs).
- 2. The American Academy of Pediatrics (AAP) recommends that teenagers should have access to comprehensive sex education and contraceptive services, including long-acting reversible contraceptives (LARCs), condoms, and emergency contraception.
- 3. Healthcare providers should provide individualized care and counseling to teenagers, taking into account their unique needs and circumstances.
- 4. We can empower teenagers to make informed decisions about their reproductive health and well-being.
- 5. The POCSO ACT does not hamper health care providers in providing contraception to teenagers.

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Vitamin D in Pregnancy

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INTRODUCTION

Vitamin D deficiency is common, particularly among those who work indoors. Vitamin D deficiency ranges from 18% and 84%, depending on country of residence, ethnicity, and dietary intake. The main sources of vitamin D, a fat-soluble vitamin, are fish oils, dietary supplements, and fortified milk or juice. Additionally, when exposed to sunlight, it is naturally created in the skin. The various source of vitamin D are presented in (Table 1).¹ Pregnant women who are high-risk, such as vegetarians, women who live in cold climates, or wear winter and sun protection gear, and members of ethnic minorities, particularly those with darker skin, are more likely to experience vitamin D deficiency.² The vitamin D status of the mother has a significant impact on the vitamin D levels of newborns. Thus, babies born to mothers who have vitamin D deficiency or are at high risk for it are also susceptible to vitamin D deficiency.³

TABLE 1: Source of vitamin D and Amount¹

Source of vitamin D	Amount of vitamin D (IU)
Cow's milk, fortified with vitamin D, 8 oz	98
Soy milk, fortified with vitamin D, 8 oz	100
Orange juice, fortified, 8 oz	100
Cereal, fortified, 1 cup	40–50
Pink salmon, canned, 3 oz	530
Sardines, canned, 3 oz	231
Mackerel, 3 oz	306
Herring, 3 oz	1,383
Catfish, 3 oz	425
Tuna, canned in oil, 3 oz	200
Quaker Nutrition for Women Instant Oatmeal, 1 packet	154
Egg yolk	25
Most multivitamins	400
Tri-Vi-Sol infant supplements, 1 drop	400
Prenatal vitamins	400
Over-the-counter vitamin D3 supplements	2000 (max)
Typical prescribed vitamin D2 supplements for deficiency	50,000 (given weekly until replete)

The serum concentration of 25-OH-D could be the indicator of nutritional vitamin D status for the specific pregnant woman who is believed to be at a higher risk of vitamin D deficiency. Although there is no consensus on the optimal level to maintain overall health, most agree that a serum vitamin D level of at least 20 ng/mL (50 nmol/L) is required to avoid bone problems.^{4,5} The absorption and resorption of calcium depend on vitamin D. Vitamin D is required for calcium and phosphate absorption and resorption⁶, making it essential for skeletal development and bone health maintenance.⁷ Rickets is the best-known illness related to vitamin D deficiency.⁸

Vitamin D synthesis

Vitamin D is primarily synthesized in the skin when exposed to sunlight, and beginning with the conversion of 7-dehydrocholesterol (also known as provitamin D3) to precholecalciferol (previtamin D3). Precholecalciferol is subsequently converted into cholecalciferol, which is recognized as vitamin D3. Vitamin D3 binds to vitamin D-binding protein and is transported to the liver, where it is metabolized into 25-hydroxyvitamin D3 [25(OH)D3] (calcidiol) by the enzyme 25-hydroxylase (CYP2R1). In the kidney, 25-hydroxyvitamin D3 is further converted to 1,25-dihydroxyvitamin D3 [1a,25(OH)2D3] (calcitriol), the biologically active form of vitamin D, through the action of 25-OH-D3-1a-hydroxylase (CYP27B1).⁹

Normal bone mineralization and growth are made possible by this active form, which is crucial for promoting the gut's absorption of calcium. Biochemical evidence of disrupted skeletal homeostasis, congenital rickets, and fractures in the fetus have been linked to severe maternal vitamin D deficiency during pregnancy.¹⁰

Measurement

To assess vitamin D levels in the body, serum 25(OH)D3 concentrations are measured, with a generally accepted minimum requirement of 20 ng/mL.¹¹ Individuals with a level of 30-32 ng/mL (75-80 nmol/L) have a lower incidence of falls and bone fractures, so a level of around 30 ng/mL (75 nmol/L) is recommended.¹²

The prevalence of vitamin D deficiency during pregnancy

Vitamin D deficiency during pregnancy is a global problem; studies have found that the prevalence ranges from 18-84%, depending on the country of residence and local clothing customs.¹³ In the United States, vitamin D deficiency is thought to affect 5-50% of pregnant women.¹⁴ African American women are at a much higher risk of vitamin D deficiency than other women due to increased skin pigmentation and low dietary intake.¹⁵

Bodnar et al.¹⁶ observed the prevalence of vitamin D deficiency and insufficiency in 200 white and 200 black pregnant women, as well as the cord blood of their newborns. In African American pregnant women, vitamin D deficiency and insufficiency were found in 29.2% and 54.1%, respectively, compared to 5% and 42.1% in white pregnant women. The author also found that 90% of the study participants stated that they took prenatal vitamins. At delivery, vitamin D deficiency and insufficiency occurred in 45.6% and 46.8% of black neonates, respectively, compared to 9.7% and 56.4% of white neonates.

In North India study found that 391 (93.5%) pregnant women suffer from vitamin D deficiency. 34.44% of pregnant patients had severe vitamin D deficiency (144/418), and it was also observed that the severely deficient group had significantly lower levels of serum 25(OH)D and serum calcium levels.

Vitamin D deficiency in pregnancy and adverse effects

Pregnancy causes a progressive decrease in maternal serum 25-hydroxyvitamin [25(OH)D] due to physiological demands and adaptations in foetus. A recent systematic review and meta-analysis found that vitamin D deficiency is associated with an increased risk of gestational diabetes, preeclampsia, and small for gestational age infants. Pregnant women with low 25-OH vitamin D levels were more likely to develop bacterial vaginosis and have babies with lower birth weights.¹⁷ Various stages of vitamin D deficiency and adverse effects are presented in Table 2.1. In the study conducted by Sohail and Rashid, 98% of primigravidae were found to be vitamin D deficient, with mean vitamin D levels in antenatal women of 10.30 ng/mL despite 400 IU of vitamin D prophylaxis per day. The authors suggested that all pregnant women have their vitamin D levels checked regularly.¹⁸ Another study reported that antenatal vitamin D deficiency is associated with hypertensive disorders of pregnancy (HDP), small for gestational age (SGA), oligohydramnios, and Low Birth Weight (LBW). Therefore, the author suggested that routine vitamin D supplementation should be given in the antenatal period.19

In study on pregnant women with low vitamin D status observed that vitamin D supplementation may enhance fetal growth and lower the risk of gestational diabetes, small-for-gestational-age, preeclampsia, and preterm birth. Offspring of mothers who get enough vitamin D have fewer enamel defects, as well as fewer attention deficit, hyperactive, and autism disorders. The study suggested that every pregnant woman should take 600 IU of vitamin D3 per day as a supplement. Study data suggest that higher vitamin D dosages (1000–4000 IU/day) might be practical to improve outcomes for both mothers and babies. Infants born to mothers with low vitamin D levels during pregnancy may be more susceptible to attention deficit hyperactivity disorder, enamel defects, and decreased bone mineral content.²⁰

Stage	Serum 25(OH)D, ng/mL	Maternal adverse effects	Newborn infant adverse effects
Severe deficiency	<10	Increased risk of preeclampsia, calcium malabsorption, bone loss, poor weight gain, myopathy, and higher parathyroid hormone levels	Small for gestational age, neonatal hypocalcemia, hypocalcemic seizures, infantile heart failure, enamel defects, large fontanelle, congenital rickets, rickets of infancy if breastfed
Insufficiency	11–32	Bone loss, subclinical myopathy	Neonatal hypocalcemia, reduced bone mineral density, and rickets of infancy if breastfed.
Adequacy	32–100	Adequate calcium balance, parathyroid hormone levels	None, unless exclusively breastfed
Toxicity	>100	Hypercalcemia, increased urine calcium loss	Infantile idiopathic hypercalcemia

TABLE 2: Stages of vitamin D deficiency and adverse effects1

CONCLUSION

Pregnant women should always check their vitamin D levels regularly. Studies recommended vitamin D supplementation during pregnancy to improve maternal, fetal, and immediate and later offspring health.

KEY POINTS

- 1. Vitamin D deficiency is common in vegetarians, women with limited sun exposure, those with darker skin, and ethnic minorities.
- 2. Infants of vitamin D-deficient mothers are at risk of vitamin D deficiency.
- 3. Vitamin D supplementation is helpful in the prevention of pre-eclampsia, low birth weight, preterm birth, and gestational diabetes.
- 4. Adequate vitamin D levels are also helpful in the prevention of attention deficit disorder, autism, and enamel defects.
- 5. Normal bone mineralization and adequate bone growth are promoted by normal vitamin D levels.

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Does Routine Third Trimester Ultrasonography in Low Risk Pregnancy Improve the Pregnancy Outcome

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INTRODUCTION

Ultrasound is widely used in almost all the trimesters of pregnancies routinely. Not only has it aided the diagnosis and management in pregnancy, but it also safeguards obstetricians against medicolegal issues and to foresee any adverse outcomes of pregnancy.

Clinical assessment of foetal weight and amniotic fluid have less than 50% sensitivity in picking up growth and liquor abnormalities. Apart from clinical examination, third trimester ultrasound plays a very important role in correlating foetal biometry with gestational age, liquor or dopplers, and placental details which can otherwise be skipped on clinical examination.¹ Routinely, the thirdtrimester ultrasound is performed at 32–34 weeks.

They become especially important if the patient does not have any prior scans where dating a foetus may be difficult. This debate whether routine ultrasound scans should be offered to all pregnant ladies or not has different opinions. Many countries have different policies for advocating third trimester scan in all antenatal population irrespective of low or high risk², as it was found to add to financial burden, increase anxiety in parents and did not affect perinatal outcome.

Importance of third trimester scans in low risk pregnancy

A second-trimester anomaly scan may not always pick all malformations due to technical difficulties, like obesity or changing foetal position. Many anomalies that affect the genitourinary tract, central nervous system (CNS), and heart are generally visible in a third trimester scan. For women presenting for the first time in the third trimester, the gestational age should be assessed by using Femoral length.³ A single-parameter formula using trans cerebellar diameter has been shown to have a low 95% prediction.³⁴

A systematic review of 13 studies involving over 140,000 women, conducted by Drukker et al.⁵ found that 3.7 out of every 1,000 women had fetal anomalies detected in the third trimester. The most common anomalies were urogenital, central nervous system (CNS), and cardiac abnormalities,

accounting for 55%, 18%, and 14% of third-trimester diagnoses, respectively. A Cochrane review comparing two randomized controlled trials (RCTs) discovered that universal screening detected more fetal anomalies than targeted scans.² However, this increased detection rate did not translate to improved neonatal survival rates.

Many of these anomalies may be surgically corrected and carry better outcomes if they are diagnosed earlier in utero.

Anomalies in third trimester scan:-

 Table 1: Anomalies detected in third trimester scan

Sno	System	Anomalies
1	Head	Microcephaly, scaphocephaly, dolichocephaly, craniosynostoses, and cloverleaf skull.
2	Brain	agyria, lissencephaly, polymicrogyria, pachygyria, dilatation of ventricles (figure 1)
3	Heart	Asymmetry of ventricles, outflow tract abnormalities (figure 2)
4	Chest	Congential diaphragmatic hernia (figure 3)
5	Abdomen	small bowel dilatation, and abdominal wall abnormalities (figure 4)
6	Urinary system	Fetal hydronephrosis (Figure 5)

Nearly 60% of cases of hydronephrosis are detected in the third trimester. The upper limit for a renal pelvic anteroposterior (AP) diameter in the third trimester is 7 mm, and an AP diameter > 15 mm is associated with an increased risk for the need of postnatal surgery.⁶

Figure 1: (a) Normal fetal brain as seen on ultrasound imaging in the third trimester. (b) Dilatation of third and lateral ventricles, with intraventricular echogenic material intraventricular hemorrhage

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Figure 2: (a) Normal cardiac views in the third trimester showing symmetrical chambers. (b) Left outflow-tract – aorta smaller than ductus arteriosus, suggestive of coarctation of the aorta

Figure 3: Congenital diaphragmatic hernia

Figure 4: Small bowel dilatation

Figure 5: (a) Third trimester scan of fetal kidney showing renal pyramids as hypoechoic areas; (b) Severe hydronephrosis with dilatation of calyces and thinning of renal cortex

Placental abnormalities

Figure 6: (a) placenta previa (b) low lying placenta

A transvaginal ultrasound is highly accurate in diagnosing placenta previa, with a positive predictive value of 99% and negative predictive value of 98%. The false-negative rate is 2.3%, outperforming transabdominal scans in the second and third trimesters.⁷ According to guidelines, if the placental edge is at least 20 mm away from the internal cervical os, vaginal birth can be considered a viable option.⁸

Women with a low-lying placenta or placenta previa, bilobed placenta or placenta with succenturiate lobes, and multiple gestation 8, during routine second-trimester scan, should undergo placental location again in the third trimester along with Doppler to rule out accreta spectrum. The transvaginal ultrasound scan may be preferred with posterior placenta previa, the presence of maternal obesity, or uterine fibroids & vasa previa.

Vasa previa

Unprotected fetal vessels, whether arterial or venous, that cross the membranes over the cervix⁹ or are within 20 mm of the internal cervical os, pose a significant risk. If left undiagnosed before birth, this condition is associated with a high perinatal mortality rate of 56%.⁹ (Figure 7)

Figure 7: Vasa Previa

Knowledge of the placenta and its related abnormalities helps in managing childbirth and avoiding stillbirth, maternal and foetal morbities, and mortalities.

Abnormal /Breech presentation:

As ultrasound examination of foetal presentation before or at the time of delivery can reduce the risk of undiagnosed breech presentation and its related foetal mortality and morbidity.¹⁰

Umbilical cord entanglements:

Presence or absence of nuchal cord, around the limbs or abdomen or chest, number of loops of cord around neck are picked up in third trimester scans.

Skeletal Malformations:

Generally detected in the second trimester scan, but others like Achondroplasia may be detected in third trimester scan.

Small for gestational age/foetal growth restriction

RCT has shown that a scan at around 36 weeks is more effective at detecting FGR than a scan closer to 32 weeks.^{11,12} Foetuses at increased risk of FGR should undergo evaluation of foetal biometry and foetal Doppler earlier than the third trimester, between 26 and 28 weeks' gestation¹

Large-for-gestational age/macrosomia

Large for gestational age (LGA) fetuses are typically identified by an estimated fetal weight (EFW) or abdominal circumference (AC) above the 90th percentile. Macrosomia, defined as a birth weight exceeding 4000 or 4500g, is a concern due to its link to pregnancy complications, particularly shoulder dystocia. Predicting macrosomia is crucial to mitigate these risks.¹²

Screening for LGA is more accurate when performed later in pregnancy, at 36 weeks rather than 32 weeks. Obstetricians need to weigh the timing and mode of termination of pregnancy to avoid potential soft tissue and bony injuries.

Abnormalities of amniotic fluid volume

The amniotic fluid volume can be assessed semiquantitatively using either the amniotic fluid index (AFI) or the deepest vertical pocket (DVP).

'Oligohydramnios'' is defined as AFI less than 5 cm and 'polyhydramnios' more than 25cm, or DVP >8cm.

Oligohydramnios may often be associated with abnormalities of foetal urinary system, rupture of the membranes or FGR, or it can be idiopathic. Therefore, it requires serial estimation to rule out these causes.

A recent meta-analysis showed that those with isolated oligohydramnios had an increased risk for meconium aspiration (RR, 2.83), higher induction of labour, Caesarean delivery for foetal distress (RR, 2.10), and NICU admission (RR, 1.71), while there were too few data to assess the risk for stillbirth¹³

Polyhydramnios (Table 8)

Polyhydramnios may be linked to various factors, including maternal diabetes (20-25% of cases), fetal abnormalities (such as gastrointestinal obstructions, cardiac and CNS anomalies), fetal infections, chromosomal and genetic abnormalities, and placental tumors. However, in 50-60% of cases, the cause remains unknown (idiopathic).^{16,17} A recent meta-analysis of 2392 patients with idiopathic polyhydramnios and 160,135 patients with normal amniotic fluid levels revealed increased risks for the former group, including:

- Neonatal death (odds ratio: 8.7)
- Intrauterine fetal demise (odds ratio: 7.6)
- NICU admission (odds ratio: 1.9)
- Macrosomia (odds ratio: 2.9)
- Cesarean delivery (odds ratio: 2.3)¹⁴

Figure 8: Polyhydramnios

The management of secondary polyhydramnios depends on the underlying cause and aims to provide symptomatic relief to the mother in case of discomfort or dyspnoea.

The third-trimester scan also helps to analyse antepartum bleeding, abnormal foetal movements, preterm rupture of the membranes, and growth abnormalities and to guide external cephalic version.

POCUS- point-of-care-ultrasound in obstetrics is conducted at the bedside using a portable ultrasonography machine or handheld device and holds promising results and immediate correlation with clinical findings.¹⁰

Perinatal mortality

A Cochrane systematic review and meta-analysis by Bricker et al. in 2015, including 30675 women, did not find any significant association between ultrasound performed after 24 weeks' gestation and perinatal mortality (risk ratio, 1.01; 95% CI, 0.67–1.54)2

Table 2: Overview of 7 RCTs

S.No	study	year	FGR (EFW<10TH CENTILE)	LGA (EFW >90TH CENTILE)	oligoamnios	polyhydroamnios	fetal anomalies
1	Duff, ¹⁶	1993	NR	NR*	NR	NR	NR
2	McKennaetal,17	2003	NR	NR	NR	NR	NR
3	kra°stadetal, ¹⁸	2013	(usg- 15% control-7%	usg- 33% control-12%	NR	NR	usg- 1% control-1%
4	Revankaretal, ¹⁹	2014	(usg-2% control-2%	(usg- 0.7% control-0%	(usg- nil control-nil	(usg- 1% control-nil	(usg- 2% control-nil
5	Hammadetal, ²⁰	2016	(usg-9% control-3%	(usg-16% control-nil	(usg-3% control-1%	(usgg-7% control-3%	NR
6	Balogunetal, ²¹	2018	usg-8% control-2%	usg-8% control-2%	usg-4% control-2%	usg-11% control-2%	NR
7	Henrichsetal, ²² -IRIS	2019	usg-4% control-2%	NR	NR	NR	usg-2% control-2%

Table 3: Primary and Neonatal outcome of RCTs

S.No	study	year	primary outcome- perinatal death)	neonatal resuscitation	NICU admission	Neonatal RDS
1	Duff16	1993	USG- 1%	USG- 24%	USG- 14%	NR
			Control-0.5%	Control-27%	Controls-12%	
2	McKenna et al.,17	2003	NR	USG- 7%	USG- 3%	NR
				Control-7%	Control-3%	
3	Skrastad et al.,18	2013	USG- 0.5%	usgg- 3%	USG- 11%	NR
			Controls-0.4%	Controls-3%	Controls-10%	
4	Revankar et al., ¹⁹	2014	USG-nil	NR	USG- 1%	NR
			Controls-nil		Control-nil	
5	Hammad et al.,20	2016	USG-nil	NR	USG-3%	USG-3%
			Controls-nil		Control-3%	Control-nil
6	Balogun etal, ²¹	2018	USG-nil	USG-nil	USG-10%	USG-3%
			Control-1%	Control-1%	Control-8%	Control-4%
7	Henrichs etal,22-IRIS	2019	USG-0.2%	USG-0.3%	NR	NR
			Controls-0.3%	Controls-0.4%		

NR*- not reported

Although existing evidence does not support the use of routine third-trimester ultrasound in low-risk settings to improve perinatal outcome^{15,1}

Tables 2 and 3 present the results of 7 randomized controlled trials (RCTs) involving 23,643 low-risk pregnancies. The findings indicate that routine third-trimester ultrasound scans do not reduce perinatal mortality compared to standard antenatal care with regular fundal height measurements. However, the ultrasound group showed increased detection rates of fetal growth restriction (FGR), large for gestational age (LGA), polyhydramnios, and antenatal interventions without corresponding changes in preterm birth, delivery mode, or neonatal outcomes.

CONCLUSION

A third trimester ultrasound may help to detect high-risk fetuses in low-risk pregnancies, which could be otherwise missed on clinical examination and may end up in stillbirth or with morbidity.

Many anomalies affecting the genitourinary tract, central nervous system (CNS), heart, growth abnormalities, liquor, and placental anomalies are detected late in the third trimester scan.

Although studies have shown limited effect on perinatal outcome, it should be offered to all patients to plan mode of delivery, priming the patient regarding the need for referral to another higher centre, NICU facility.

A multidisciplinary team may be involved for management of anomalous baby, regarding need for surgery& optimisation of care.

Paediatricians should be informed to keep anomalous babies in follow-up.

Additionally, it also helps as an adjunct to perform prenatal genetic analysis such as third-trimester amniocentesis for chromosomal microarray (CMA) and decide for the termination of pregnancy for anomalies with serious implications for the child.

It helps to mitigate medicolegal litigations.

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KEY POINTS

- 1. Routine third trimester scan should be offered to all patients irrespective of low risk pregnancy.
- 2. It helps to detect anomalies, pick FGR cases, liquor and placenta related anomalies, and help in deciding the correct time of delivery.
- 3. Studies are not enough to prove improved perinatal outcome, but benefits must outweigh disadvantages.

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AOGD Risk Management Support (ARMS) Group

One of the ways to ensure stress-free work environment and optimal patient care is mutual support among professional colleagues. An advisory group was set up last year so that they can be contacted if any 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. The same group will continue to provide timely advice and is 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. Please mail to aogd.ucmsgtbh2023@gmail.com

Should Cesarean Section be Available on Request?

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INTRODUCTION

The increasing global rates of caesarean section (C-section) have sparked an ongoing debate about whether the procedure should be performed solely on medical indications or if women should have the right to request it without a clinical necessity. While C-sections are life-saving in many obstetric emergencies, their growing prevalence in elective settings raises ethical, medical, and economic concerns.

Global Scenario

Worldwide, a steep rise in the rates of cesarean births has been observed in the past 3-4 decades. In the 1990s, cesarean birth rates were around 7%, but they have increased to 21% in the 2020s, and the magnitude is likely to be as high as 29% by the 2030s.¹ This is possibly contributed by a steep rise in cesarean rates in the post-COVID era. There are large geographic variations with some countries of Sub-Saharan Africa having only 5 % births by cesarean section whereas in countries like Brazil, Cyprus, Egypt, Turkey, the cesarean births have outnumbered the vaginal deliveries.² Based on the current trends, projections estimated by 2030 reveal that almost 63% of births in East Asia would be by cesarean section.³

This increase in rates is not driven solely by medical reasons but has become a social issue, possibly fueled to some extent by social media and family demands. This has occurred despite continuous education and awareness about the fact that a cesarean section, especially when not medically indicated, has significant short- and long-term health problems for both the mother and the baby. There is an ongoing trend of opting for cesarean section, which is popularly phrased "cesarean on maternal request". Analyzing the factors, there is a coalition of medical indications and personal reasons. Lack of support during labor, anxiety about labor discomfort, future worries about pelvic floor damage, and sexual discomfort play a major contributory role. Other factors like the desire to have a baby on a special date, women deferring pregnancy till the end of their reproductive years, surgeons being incentivized, and increasing litigations against practitioners contribute to a vast majority of cases.

Unfortunately, countries with suboptimal health resources are performing a higher number of cesarean surgeries in facilities that are not well-equipped, resulting in further health hazards in the future. WHO has justified limit of cesarean births to 10-15% in any given region because further rise in rates does not correspond with any concurrent improvement in maternal and neonatal health outcome indicators.

Indian Scenario:

Our country's trends also reveal a steep rise in the rates of cesarean births from 5% in 1993 to 21.5% in 2019-2021.⁴ The States of Telangana, Andhra Pradesh have the highest number of cesarean births, whereas Nagaland has the lowest percentage. In addition, many private setups have rates as high as 47%. It has been claimed that 1 in 5 women in the private sector undergoes a cesarean on maternal request.⁵

DISCUSSION

Despite the easy acceptance of Caesarean section in society at large, it must be emphasized that this procedure has the potential to be associated with both maternal and fetal complications, which may include the following problems.

Maternal risk factors include higher chances of infections, more dependency on antimicrobials, Anesthesia, Bleeding and, Thromboembolic events, damage to surrounding structures like bladder, ureters, slower recovery rates, delayed initiation of breastfeeding and longer hospital stay compared to a vaginal delivery. The chance of mortality is also higher with a cesarean birth as compared to a vaginal delivery. In subsequent pregnancies, there is a greater chance of repeat surgery, development of adhesions, and endometriosis, leading to a further increase in the chance of complications. Remote but grave complications like morbidly adherent placenta, uterine rupture further warn for judicious utilization of cesarean surgery. Babies born to mothers undergoing cesarean section have several short- and long-term complications. The short-term complications include more chances of respiratory distress, more NICU dependency, altered immunity, and alteration of gut microbiome. In the long term, such babies are more prone to develop various noncommunicable diseases in later life like Type 1 DM, Asthma, Childhood Obesity, Multiple Sclerosis, and Crohn's disease.⁶

This plethora of complications is enough to justify the need to curb the rising rates of cesareans on maternal request. Beyond individual risks, the rising cesarean rates are detrimental to the healthcare infrastructure and manpower at any given place, especially in low-income countries where both finances and manpower are constrained. Soon, the set of complications that arise due to a cesarean delivery are going to be public health issues with upcoming generations having much to suffer.

WHO's future vision based on the current trends estimates that 50 % of the world's population would be born by cesarean section in 2030s, out of which 80% would happen in third world nations. The present lack of any effective interventions to curb the rates would further add to the rates. The narrow vision of the practitioners incorporating the cesarean outcome of only the current births as a mode of painless birth would not foresee the future rise in the incidences of placenta accreta spectrums which account for 40% of the peripartum hysterectomies and 20% of massive transfusion protocols and a subsequent increase in both maternal morbidity and mortality.⁷

This emphasizes the role of counselling for a woman demanding a cesarean without medical indications. Apart from the immediate post-operative complications, such women with their families should be counselled about the long-term hazards of an unwanted cesarean section, which include morbidities for both the mother and the baby. Hence, while opting for a cesarean to bypass a painful birth and for timed social events, the counselling should be impactful enough, so the mere needs of the present times are always weighed against the likely hazards of the future. A clear consent stating all potential negative outcomes must be utilized before this type of surgery.

CONCLUSION

A cesarean birth would remain a safe procedure only when benefits would weigh more than its risks and where sound conditions and skills are feasible. Thorough education and awareness about human parturition during antenatal period, partner support in labor, knowledge and feasibility of labor analgesia, external audits of rates of cesarean, taking opinion of a second obstetrician and thorough verbal and written explanation of all the short- and long-term health hazards are to be discussed with any woman wanting a cesarean section which is not medically indicated. Separate consent forms for cesarean on maternal request should be incorporated. They should include in writing that the choice for cesarean has been made despite knowing all the short-term and long-term complications associated with it.

KEY POINTS

- 1. In the absence of maternal or fetal indications for cesarean delivery, a plan for vaginal delivery should be recommended.
- 2. After exploring the reasons behind the patient's request, these should be properly dealt with, e.g., for fear of pain, adequate analgesia to be offered.
- 3. Given the high repeat cesarean delivery rate, patients should be informed of the risks of placenta previa, placenta accreta spectrum with each subsequent cesarean delivery.

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1. Uterine Fibroids – Are They All Benign? A Case Series Exploring Diagnostic Challenges and Histopathological Surprises

Samiksha Kharbanda¹, Kamna Datta², L. Shyam Singh³, Ashok Kumar⁴

PG¹, Professor², Professor³, Director Professor & HOD⁴

INTRODUCTION

Uterine fibroids (leiomyomas) represent the most prevalent benign neoplasms of the female reproductive tract. While the majority are non-malignant, rare variants such as leiomyosarcomas and smooth muscle tumours of uncertain malignant potential (STUMPs) may exhibit overlapping clinical and radiological features, posing diagnostic dilemmas and management strategies.

Case Summaries

We report three cases of women of the reproductive age group presenting with a combination of abnormal uterine bleeding, pelvic pain, and abdominopelvic masses, all provisionally diagnosed as fibroid uterus based on clinical and radiological findings. Surgical interventions included myomectomy in one case and hysterectomy in the other two. Neither preoperative and intraoperative findings did not raised any suspicion of malignancy. However, subsequent histopathological evaluation revealed two cases of STUMP and one of leiomyosarcoma.

DISCUSSION

Uterine smooth muscle tumors are broadly classified by the WHO (2020) into leiomyoma, STUMP, and leiomyosarcoma. The diagnosis relies on the Stanford criteria, which consider

mitotic activity, cytologic atypia, and the presence of coagulative necrosis. STUMP is characterized by atypical histological features that are insufficient for a definitive diagnosis of leiomyosarcoma. These tumors often mimic benign leiomyomas in clinical presentation and imaging, making a histopathological assessment post-surgery essential for accurate diagnosis. In women who have completed childbearing, hysterectomy is the preferred treatment, whereas myomectomy with careful follow-up is advised for fertility preservation. Although typically slow-growing, STUMPs can exhibit unpredictable behavior, including recurrence or metastasis. Immunohistochemical markers such as p53, p16, and Ki-67 are increasingly used to assess malignant potential and guide clinical management.

CONCLUSION

Obtaining and reviewing the histopathology report following surgery is a fundamental aspect of comprehensive medical care. It not only confirms the clinical diagnosis and validates the chosen treatment approach but also offers essential prognostic insights. Moreover, it safeguards the interests of both patients and healthcare providers by ensuring diagnostic accuracy. Collecting the histopathology report is critical for closing the diagnostic loop and facilitating informed, evidence-based postoperative management.

Keywords: Uterine fibroid, Leiomyosarcoma, STUMP, Histopathology, Myomectomy, Hysterectomy

2. Microangiopathy in Pregnancy: Demystifying the Maze

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A 37-year-old G3P2L1A1 un-booked previous caesarean patient presented with severe hypertension, severe anemia, and severe thrombocytopenia at 35 weeks and 3 days gestation. She had a singleton, live, intrauterine fetus in longitudinal lie and cephalic presentation and was not in labour.

On preliminary investigation, her hemoglobin was 4.8 grams per deciliter, platelets were 30,000 per microliter, and LDH was 13, 650 U/ml. Liver function was normal. A provisional diagnosis of evolving HELLP syndrome was made. The patient was optimized in the intensive care unit with blood products. On obstetric ultrasound,

absent end diastolic flow was present, and the patient suffered preterm pre-labor rupture of membranes (PPROM). Despite multiple transfusions of packed cells and random donor platelets over the following 16 hours, her hemoglobin was only 6.8 grams per deciliter and platelets 30,000 per microliter. She underwent a caesarean section under general anesthesia with the birth of a female baby weighing 1.9 kilograms. The baby cried immediately after birth. Following caesarean, more blood products were transfused over two postoperative days, but the anemia and thrombocytopenia were refractory. Meanwhile, investigation reports of samples sent before transfusions were obtained, and vitamin B 12 deficiency was diagnosed. The patient promptly responded to parenteral B 12 and was discharged uneventfully on post-operative day 13.

DISCUSSION

Microangiopathy of pregnancy can be a presentation of complete or partial HELLP syndrome, thrombotic thrombocytopenia purpura (TTP), antiphospholipid antibody syndrome (APS) with or without systemic lupus, atypical hemolytic uremic syndrome (aHUS), or vitamin B12 or folate deficiency. The key to management is clarity of the underlying pathology, which is different in each of them with correspondingly different management strategies. TTP entails a deficiency of ADAMTS13 protein secondary to its destruction by antibodies. Management includes plasma exchange with or without systemic corticosteroids. Atypical hemolytic uremic syndrome is primarily a complement mediated disorder which responds to complement blockade with drugs such as Eculizumab. APLA is defined by the modified Sapporo's criteria and is managed by anticoagulation and aspirin. Vitamin B12 and folate deficiency are managed by supplementation of corresponding nutrients.

The key deferential between B12 deficiency and aHUS is the degree of hemolysis, which is more severe in HUS and hepatic cytolysis, which is a characteristic of HELLP syndrome but not the latter. Renal dysfunction is a hallmark of HUS, which especially worsens after the pregnancy is terminated. HELLP syndrome, on the other hand, tends to improve after the birth of the baby. The peripheral smear holds important clues in B12 deficiency and is characterized by hyper-segmented neutrophils (shift to left), schistocytes, and reticulocytopenia, which is almost universal in most cases series on the subject.

Obstetricians are likely to face this dilemma in the presence of pre-eclampsia with severe features, which can be complicated by each of these pathologies, as is evident in the literature.1 Vitamin B12 deficiency in the absence of a standardized policy for supplementation is estimated to be found in 40-70% of pregnancies. A knowledge of these underlying distinct pathologies can help manage microangiopathy better and save precious lives.

3. Successful Maternal Outcome in Preeclampsia with Severe **Features with Life-Threatening Neurological Complications**

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INTRODUCTION

Preeclampsia is a multisystem disorder affecting 5-8% of pregnancies. In preeclampsia, the risk of acute cerebrovascular disease is approximately 1 in 500. The neurological complications like posterior reversible encephalopathy syndrome (PRES), intracranial haemorrhage are well-documented, though idiopathic spinal subarachnoid hemorrhage (SAH) is extremely rare in pregnancy.

Case Summary

Case 1

A 37-year-old, elderly primigravida at 27 weeks and 3 days period of gestation with dichorionic diamniotic (DADC) twins presented with bilateral lower limb weakness, bowel and urinary incontinence for 2 days, along with severe headache and vomiting for 1 day. One twin had been diagnosed with intrauterine fetal demise a day prior. Examination revealed blood pressure (200/110 mmHg) with lower limb power of 0/5 while upper limb power normal and loss of bladder sensation, Laboratory investigations revealed haemoglobin of 9.8 g/dl, thrombocytopenia $(74,000/\mu L)$, elevated liver enzymes (AST 134 U/L, ALT 166 U/L), and proteinuria (1270 mg/24hr). Neuroimaging showed bilateral periventricular hypodensity suggestive of PRES, intraventricular haemorrhage, and spinal subarachnoid haemorrhage (SAH) extending from T10-S1 with clot formation and displacement of cauda equina nerve roots. Management included intensive blood pressure monitoring, seizure prophylaxis, and a multidisciplinary approach. An emergency caesarean section was performed on the same day after stabilization under general anaesthesia, followed by L1 and L2 laminectomy with evacuation of subarachnoid hematoma. The postoperative period showed gradual improvement in power to 2/5 at discharge with regain of bladder and bowel sensation.

Case 2

A 24-year-old, P1L1 was referred on postpartum day 1 following full term normal vaginal delivery with complaints of vomiting, sudden loss of consciousness one hour after delivery and bilateral lower limb weakness (left > right). On examination, she had altered consciousness (GCS-E1V2M5), hypertension (180/100 mmHg), and reduced power in both lower limbs (left 2/5, right 3/5). Neuroimaging revealed extensive intraventricular haemorrhage with bilateral basal ganglia infarct (right > left) with mass effect. She underwent left frontal burr hole and external ventricular drain (EVD) insertion under local anaesthesia within few hours of presentation. The follow-up imaging showed resolving hematoma. The EVD was removed on postoperative day 24, and the patient was discharged with improved lower limb power (3/5), which further improved to 4+/5 at the 6-week follow-up.

DISCUSSION

Preeclampsia can lead to severe neurological complications, including PRES, intraventricular haemorrhage, and,

rarely, spinal SAH. Case 1 highlights the rare occurrence of idiopathic spinal SAH in pregnancy, likely exacerbated by HELLP syndrome-related thrombocytopenia, leading to cauda equina compression and paraplegia. Early diagnosis via MRI and timely neurosurgical intervention were crucial in achieving neurological recovery. Case 2 illustrates the life-threatening complication of intracranial haemorrhage in the postpartum period, managed successfully with burr hole decompression and EVD. Both cases emphasize the importance of a multidisciplinary approach, early intervention, and intensive monitoring for favourable maternal outcomes in preeclamptic patients with neurological involvement.

CONCLUSION

A multidisciplinary approach is vital for managing neurological complications in preeclampsia, involving timely detection, neurosurgical intervention, and intensive blood pressure control. Early antenatal care is key to preventing life-threatening outcomes.

Keywords: Preeclampsia, HELLP, Spinal subarachnoid hemorrhage, Intracranial hemorrhage

Journal Scan

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Does vitamin D supplementation benefit, harm, or not affect pregnant women or their babies?

Palacios C, Kostiuk LL, Cuthbert A, Weeks J. Vitamin D supplementation for women during pregnancy. Cochrane library. 2024 Jul 30;2024(7).

BACKGROUND

Supplementing Vitamin D during pregnancy may improve maternal and neonatal outcomes concerning lower preterm births, low-birthweight babies, and reduced risk of adverse pregnancy outcomes like severe postpartum haemorrhage.

OBJECTIVES

To study whether vitamin D supplementation alone or in combination with calcium and other vitamins and minerals can safely improve certain maternal and neonatal outcomes.

Search strategy & Selection criteria

The Cochrane Pregnancy and Childbirth Trials Register, which comprises comprehensive searches of CENTRAL, MEDLINE, Embase, CINAHL, ClinicalTrials.gov, the WHO International Clinical Trials Registry, etc., were searched. Randomised and quasi-randomised trials studying the effect of Vitamin D supplementation alone or in combination with calcium or other micronutrients as compared to placebo or no intervention were assessed using the GRADE approach. The review included a total of 10 studies, 117 excluded studies, 34 studies in awaiting assessment, and seven ongoing studies.

RESULTS

Overall, it cannot be declared with surety that supplementation with vitamin D alone compared to no intervention or a placebo (eight studies, 2313 women) prevents preeclampsia, diabetes, preterm births, and nephritic syndrome. It may prevent severe postpartum hemorrhage (although this was based on a single study) and decrease the risk of low birthweight (LBW) babies. Regarding vitamin D supplementation along with calcium versus placebo or no intervention (one study, 84 women), the authors were not sure if it can prevent preterm birth and LBW babies. No other outcomes were reported in the only study that was included. Lastly, they were not sure if supplementation with vitamin D + calcium + other vitamins and minerals versus calcium + other vitamins and minerals (but no vitamin D) (one study, 1298 women) prevents gestational, maternal adverse events like hypercalciuria, preterm births, or low birthweight. Other outcomes were not reported.

CONCLUSION

Vitamin D supplementation alone compared to no intervention or a placebo resulted in very uncertain evidence on the prevention of pre-eclampsia, gestational diabetes, preterm birth, and nephritic syndrome. It may reduce the risk of severe postpartum haemorrhage; however, this outcome was reported by only one study. It may also decrease the risk of LBW babies. However, the upper confidence interval suggested that an increase in risk cannot be ruled out. Vitamin D and calcium supplementation versus placebo or no intervention resulted in very uncertain evidence on preterm birth and low birthweight.

All findings warrant further research. Further rigorous, high-quality, larger randomised trials are required to evaluate the effects of vitamin D supplementation, particularly concerning the risk of maternal adverse events.

KEY POINTS

- 1. Vitamin D supplementation in pregnancy alone or combination with calcium and other micronutrients is an area of growing interest.
- 2. Currently, there is uncertain evidence regarding the use of vitamin D supplements in reducing the risk of preeclampsia, gestational diabetes, preterm birth, and nephritic syndrome.
- 3. It may decrease the occurrence of severe postpartum hemorrhage and low-birth-weight babies.
- 4. Further large-scale randomized trials are the need of the hour.

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Laparoscopic Entry Techniques: Which should you Prefer?

Raimondo D, Raffone A, Travaglino A, Ferla S, Maletta M, Rovero G, et al. Laparoscopic entry techniques: Which should you prefer? 2022 Sep 1;160(3):742–50.

BACKGROUND

Inadvertent serious injuries to the bowel, bladder, and vascular structures may occur during laparoscopy. The incidence is 3-4 per 1000 procedures, of which more than 50% occur at the time of entry into the abdomen during primary trocar insertion. To reduce the risk of these complications, several entry maneuvers have been developed, like the open (Hasson) method, the conventional closed entry method with Veress needle CO_2 pre-insufflation, and the optical entry methods. However, despite a debate spanning two decades, no consensus has been achieved regarding the safest entry technique.

OBJECTIVES

To update the evidence regarding the safety of the different laparoscopic entry techniques.

Search Strategy & Selection Criteria

Six electronic databases were searched from inception to February 2021, and all randomized controlled trials studying different laparoscopic entry techniques were included.

RESULTS

A total of 25 RCTs (6950 patients) were included. The complications considered were vascular, visceral, and omental injury, failed entry, extraperitoneal insufflation, bleeding and infection at the trocar site, and incisional hernia. In comparison to direct trocar, the OR for Veress needle was significantly higher concerning omental injury (OR 3.65, P < 0.001), for failed entry (OR 4.19, P < 0.001), and extraperitoneal insufflation (OR 5.29, P < 0.001). In comparison to the open method, OR for Veress needle was

significantly higher for omental injury (OR 4.93, P = 0.001), failed entry (OR 2.99, P < 0.001), extraperitoneal insufflation (OR 4.77; P = 0.04), and incisional hernia. The OR for direct trocar was significantly lower for visceral injury (OR 0.17, P = 0.002) and trocar site infection (OR 0.27, P = 0.001) in comparison to the open method.

CONCLUSION

The direct trocar method may be preferred as the laparoscopy entry technique since it appears to be associated with a lower risk of complications such as omental injury, failed entry, and extraperitoneal insufflation compared to the Veress needle method. There was a lower risk of visceral injury and infection at the trocar site compared to the open method. Moreover, the direct trocar method appeared to be the best time-sparing method. However, further large-scale studies are required to confirm these findings and to assess the laparoscopic entry technique to be preferred in high-risk patients such as the ones with previous abdominal surgery or extremely high/low BMI.

KEY POINTS

- 1. The complication that may occur during entry of the abdomen constitutes the "Achilles' heel" of laparoscopic surgery.
- 2. The preferred entry technique remains an unresolved issue.
- 3. The direct trocar method may be preferred over the Veress needle and open method as it appears to be associated with a lower risk of complications.
- 4. Ultimately, the choice regarding the location, equipment, and method of entry depends on the experience of the surgeon and the availability of resources.

News Flash

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CONTROVERSIES IN OBSTETRICS & GYNAECOLOGY

The rising caesarean rate has been one the most cardinal concerns in Obstetrics. The malady of a repeat caesarean not only entails, more blood loss, more anaesthesia related complications, more surgical issues and more thromboembolic complications for the mother in the short term but also more endometritis, more instances of placenta accreta spectrum, obstetric hysterectomies, more intensive care admissions, and inarguably more deaths in the long term. I am not here to touch upon the saga of Mahurat Caesareans (read Caesarean on request), which incidentally was the theme of the first column we had planned. Today, we are going to discuss the role of Obstetricians' dilemmas, the easy answer to which is sought in termination of pregnancy. These inductions of labour in primigravidae (read virgin abdomens) pave the future more liberal indications for previous caesarean with and an endless list follows.

Our nurseries have improved over time, leading to salvaging babies a little over 600 grams also, at times. I wonder if there is any data on the neurologically intact survival of these born-alive babies, but ophthalmology clinics, for instance, are replete with cases of retinopathy of prematurity as a small example. Our penchant to identify very early onset growth restrictions and desperate intent to save them by preterm caesareans may boost our image in our own eyes, but the fact that a staggering over 60% of these babies shall succumb in the best of nurseries in the country and those who manage to reach home may spend a major part of their salvaged lives spent in the hospital for various indications is what we can claim comfortable oblivion to.

The other medial co-morbidity that we have a penchant to diagnose is intrahepatic cholestasis of pregnancy. The rates of stillbirth are 0.13% with serum bile acid levels $<40 \,\mu mol/L$, 0.28% with $40-99 \,\mu mol/L$, and 3.4% with levels $\ge 100 \,\mu mol/L$, as per the most recent meta-analysis. (Lancet, 2019). This implies that under 100 $\mu mol/L$, the risk at term is at par with the baseline population (0.4%). The only subpopulation that benefits from early intervention is the small subgroup presenting with maximum bile acids of $\ge 100 \,\mu mol/L$.

However, the rate of iatrogenic prematurity attributed to this disorder is much higher. In the absence of a robust surveillance protocol for this disease, the most convenient way to absolve the marginal risk is induction at an early term. It is worth noting that the major neonatal concern at present with IHCP is RDS, even after statistical adjustment for gestational age.

Developing insights into the cause of disease and knowing percentages is more likely to win battles for obstetricians rather than professing a fear of the unknown as a basis of their actions. It is time to practice what is truly evidencebased based, more importantly, to generate evidence where it is lacking. Until then, the meticulous follow-up of your patients, especially after birth, can bring in important insights and answer many of these questions more locally. After all, what happens in Rome may not be true for Raebareli.

Snitch Snatchers

Dr. Preeti Sainia

CMO NFSG

Department of Obstetrics and Gynaecology, CMO, NFSG, ABVIMS & RML Hospital

- 1. All are correct about delta hypertension except
 - A. BP may be normal or <140/90
 - B. Can lead to complications
 - C. Sudden increase in map in third trimester
 - D. Subsides on its own and needs no treatment
- Which of the following is a recognised risk factor for 2. adenomyosis?
 - A. Previous uterine surgery
 - B. Nulliparity
 - C. Previous medical miscarriage
 - D. Smoking

3.

- The mechanism of action of the 'morning after pill' is
- A. Prevents implantation
- B. Creates environment toxic to sperm
- C. Thickens cervical mucus
- D. Inhibits ovulation
- Following variable is not a part of the piers model 4. (preeclampsia integrated estimste of risk)
 - A. Dyspnoea C. Serum creatinine
 - D. Chest pain B. Maternal age
- 5. Following blood vessel is encountered frequently while giving a pfannenstiels incision
 - A. Perforating vessels C. Inferior epigastric
 - D. Hypogastric B. Superficial epigastric
- Hypothyroidism in pregnancy is least likely to be 6. associated with

- A. Polyhydroamnios
- C. Miscarriage
- D. Placental abruption B. Preeclampsia 7. Which is an absolute contraindication for contraceptive implant
 - A. Breast feeding
 - B. Migraine with aura
 - C. Liver cirrhosis
 - D. Smoking over age of 35 yrs
- 8. After menopause, increased facial hair growth occures due to
 - A. Fall in fsh level
 - B. Increase in lh level
 - C. Decreased estrogen-androgen ratio
 - D. Decreased androgen level
- 9. Causative organism of chancroid is
 - A. Chlamydia trachomatis
 - B. Treponema pallidum
 - C. Pox virus
 - D. Haemophilus ducreyi
- 10. Mechanism of action of bisphosphonates is
 - A. Inhibition of bone resorption, promotion of apoptosis of osteoclasts
 - Direct stimulation of osteoblasts В.
 - C. Increase in collagen synthesis
 - D. Both c and d

Answer Key to March Quiz on Optimising Labour Management And Support

- 1. Inefficient contractions
- 2. Frontal bone
- 3. Hyperbilirubinemia
- 4. Steroids
- Postpartum period 5.
- 6. Terbutaline

- 7. A visible lesion or prodromal symptoms are absent at the time of delivery
- Macrolides 8.
- 9. Standing up position
- 10. Sacroiliac
- Answer Key to April Quiz on Controversies in Obstetrics and Gynecology
- 1. Subsides on its own and needs no treatment
- 2. Previous uterine surgery
- 3. Inhibits ovulation
- 4. Maternal age
- 5. Superficial epigastric
- 6. Polyhydramnios

- 7. Liver cirrhosis
- Decrease estrogen androgen ratio 8.
- 9. Haemophilus ducreyi
- 10. Inhibition of bone resorption, promotion of apoptosis of osteoclasts

A CONTRACT OF CONTRACT	All India Congress of Obstetrics & Gynaecolog All COO Obstetrics & Gynaecolog All COO Obstetrics & Gynaecolog Obstetrics & Gynaecolog	y Image: Constrained and the second and t	Conference Theme 2026 State Conference Theme Obstetrics & Gynaecology Vent: Improving Women's Health in India Cka New Delhi D Centre)
Σ	(Please Fill in Capital Letters) Title: Dr. Prof. Mr. Ms. Mrs. FOGSI Member – Yes No. *FOGSI Mem *Full Name: *Date of Birth/*Ageye	mbership No State M ears, Gender- Male□Female□, Nat	edical Council Registration No ionality– Indian 🗆 Others 🗆 ;Specify
F O R	*Address:*City:*State: *Email:*Email: PG Students should submit the bonafide certific ACCOMPANYING PERSON DET	*Pin Code: *Mobile: cate from Head of the Department/In	*Country: (* Mandatory Fields) Istitution along with Registration Form
T I O N	No. of Accompanying Person(s) 1. Full Name: 2. Full Name:		Age years Gender: M□ F □ Age years Gender: M □ F □
GISTRA	For Conference Delegates	Special Offer Till 31st May 2025	For Accompanying Person
ш М	 Inclusions: Workshop CG Saraiya CME Conference Access to Exhibition Area Lunch (14th,15th,16th,17th,18th Jan) Inaugural Dinner (15th Jan) Cultural Dinner (16th Jan) Banquet (17th Jan) Conference Kit 	SCAN QR Code To Register	 Inclusions: Access to Exhibition Area Lunch (16th, 17th, 18th Jan) Inaugural Dinner (15th Jan) Cultural Dinner (16th Jan)) Banquet (17th Jan) Accompanying Person Kit Bag

NATIONAL FEE

*Please tick the appropriate box

CATEGORY	First Call Till 31 st May 2025		Second Call Till 31 st October 2025			Final Call Till 31 st December 2025			
	Amount (INR)	GST 18% (INR)	Total Amount (INR)	Amount (INR)	GST 18% (INR)	Total Amount (INR)	Amount (INR)	GST 18% (INR)	Total Amount (INR)
FOGSI MEMBER (Only Conference: 16,17,18 Jan)	12977	2336	15313	14274	2569	16844	17129	3083	20213
NON MEMBER (Only Conference: 16,17,18 Jan)	14100	2538	16638	15510	2792	18302	18612	3350	21962
ACCOMPANYING PERSON (16,17,18 Jan)	10152	1827	11979	11167	2010	13177	13401	2412	15813
POST GRADUATE (Only Conference: 16,17,18 Jan)	9588	1726	11313	10546	1898	12445	12656	2278	14934
WORKSHOP (14th Jan)	4510	812	5322	4961	893	5854	5953	1072	7025
CG Saraiya CME (15th Jan)	3609	650	4259	3970	715	4685	4764	858	5622
BANQUET (17th Jan)	3384	609	3993	3722	670	4392	4466	804	5270
FOGSI MEMBER (ABOVE 75 YEARS)	Complimentary (Kindly email duly filled Registration Form along with age proof on our official email id mentioned below)								

INTERNATIONAL FEE

*Please tick the appropriate box

CATEGORY	First Call Till 31 st May 2025	Second Call Till 31 st October 2025	Final Call Till 31 st December 2025
SAFOG* COUNTRIES	\$250	\$275	\$330
OTHER COUNTRIES	\$500	\$550	\$660
WORKSHOP (14th Jan)	\$60	\$66	\$79
CG Saraiya CME (15th Jan)	\$60	\$66	\$79
BANQUET (17th Jan)	\$60	\$66	\$79

SAFOG* COUNTRIES (Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan, Sri Lanka)

Workshops - 14th January, 2026

PAYMENT DETAILS

(**Total Amount Paid:** INR

Amount Paid - Deleg	ate
No. of Accompanying	Person
Accompanying Perso	n
Workshop	
CG Saraiya CME	
Banquet	
·	

SCAN QR Code To Register

ACCOUNT DETAILS

Bank Account Name: AICOG2026AOGD Bank Account No: 2602020000458 Bank Name: BANK OF BARODA Account Type: Current Account MICR Code: **110012061** IFSC Code: BARBORAMDEL Bank Branch: Dr. RML Hospital, Baba Kharak Singh Marg, New Delhi- 110001

Note: Incase of Bank Transfer Payment, please email us your duly filled scan Registration Form along with payment receipt for our record.

Payment Mode: UPI Card Cheque DD NEFT RTGS *NO CASH WILL BE ACCEPTED

UPI/ Card/ Cheque/ DD/ NEFT/ RTGS Transaction ID ____

_ Transaction Date _____

Registration can be done online at website "www.aicog2026.com"

REGISTRATION I	NOT INCLUDED	
FOGSI Member / Non-Member / PG Student / Foreign Countries / SAFOG Countries	Accompanying Person	Registration Fee does not include
 Delegate Badge and Program Book Delegate Kit Bag Certificate of Attendance Buffet Lunch on 16th, 17th And 18th Jan Inaugural Dinner on 15th Jan Cultural Dinner on 16th Jan Access To All Scientific Sessions on 16th, 17th and 18th Jan Access To Industry Exhibition Zone 	 Accompanying Badge Accompanying Kit Bag Buffet Lunch on 16th, 17th and 18th Jan Inaugural Dinner on 15th Jan Cultural Dinner on 16th Jan Access to Industry Exhibition Zone 	 Airport Transfers Transfers from the Hotel to Venue to Hotel Accommodation Travel Insurance

General Registration Guidelines

- Registration for the conference can be done (a) by filling the above registration form in offline mode (b) through conference website **"www.aicog2026.com"** in online mode
- Conference Registration is mandatory for workshops, CG Saraiya CME & Banquet.
- Conference Registration is mandatory for all the delegates including children above the age of 5 years.
- Photo ID is mandatory for all registered participants for Security Reasons to enter the Conference Area and to collect the Registration Badge
- Please note, Accompanying Person of FOGSI Member (Above 75 years) will be on chargeable basis as per Registration Fee Slab.
- Please ensure to wear a registration badge (Bar/QR Coded) in the conference area.
- If a Registration badge is lost, a duplicate badge can be issued for a non-refundable fee of INR 500, payable in advance.
- Registration is non-transferable.
- Delegate must bring a Registration Confirmation Letter at the time of registration. Along with valid Photo ID.
- PG Students will have to submit a no-objection NOC letter from Head of the Institute.
- Please provide your Medical Council and FOGSI membership number.
- Please mention your registration number in all future correspondence with Congress Secretariat.
- For spot registrations, payment will be accepted only by mode of cash/card/UPI. Demand Draft/Cheques will not be accepted. The disbursal of the delegate kit for the same will be subject to the availability.
- Delegate kit and Badge would be handed over only to the registered delegate.
- Entry of the Accompanying Person may be restricted to certain areas at the venue of the Event.
- All Remittance/ Bank Charges/ online transaction fee to be paid by the delegate as per bank policy.
- 3.5% additional charges will be applicable for online registration.
- Online & Offline registration will be closed on 31st December 2025.
- GST is subject to change as and when applicable.
- GST amount is non-refundable in any circumstances.
- For any card payment, additional fee will be charged as per the bank policy.
- Refund includes only the registration base amount and does not include GST & card payment/bank charges.
- For any change in the registration slab subsequently, the same will be updated on the website **www.aicog2026.com** and shall be effective w.e.f revision date.
- Conference organizers are not responsible for postal delays / failure to deliver by post or failure of electronic communication.
- Organizer will not be responsible for any date change of the conference and any loss or theft of personal belongings.
- All legal disputes shall be subject to Delhi jurisdiction.
- For Latest Updates and information, keep visiting "www.aicog2026.com"
- If you have any inquiries or encounter any difficulties during the registration process, please do not hesitate to reach out
- to the mentioned details **Mobile: 9560493999/ 9999216837/ 7683009277 | Email Id: registration@aicog2026.com**

• Please Note - The transactions conducted through the online payment gateway options will be subject to an additional fee of 3.5%. This charge encompasses platform handling fee, payment gateway charges and convenience fees.

Terms And Conditions

- Organizers reserve the right to reject a registration if found in violation of registration rules or to reassign them to a category which they may deemed fit.
- DD/Cheque should be in favor of "AICOG2026AOGD" and should reach the AICOG 2026 Secretariat office within 10 days of the DD/Cheque issuing date via speed post or registered post/Courier.
- Registration slab applicable shall be the prevailing slab on the date of credit of the amount in the Conference account.
- It is requested to send forms and payment promptly well ahead of the slab transition period.

Cancellation Policy

- Cancellation of your conference registration can be done by writing an email to the conference secretariat at **registration@aicog2026.com** clearly stating your registration number in the subject line. The email will have to be sent from the email address you used while registering.
- Cancellations up to 30th September 2025: 50% of Base registration fee will be refunded.
- Cancellations done up to 31st October 2025: 25% of Base registration fee will be refunded.
- Cancellations done after 31st October 2025: No refund.
- All refunds will be processed after 45 days from the completion of the conference.
- Time stamp of email will be considered as official date of cancellation request.

FORCE MAJEURE: AICOG 2026 CONFERENCE POSTPONEMENT & CANCELLATION

AICOG 2026: Organizing Committee/FOGSI governing body shall not be liable for failure or delay to organize the AICOG 2026 Conference, which may become practicably impossible because of circumstances beyond the reasonable control of the organizing committee/FOGSI governing body. Such circumstances include without limitation natural disasters or acts of God; acts of terrorism; labor disputes or stoppages; war; government acts or orders; epidemics, pandemics, or outbreaks of a communicable disease including ongoing COVID-19; quarantines; national or regional emergencies; or any other cause, whether similar in kind to the foregoing or otherwise, beyond the reasonable control of the organizing committee/FOGSI governing body.

Postponement of Conference: Conference dates of AICOG 2026 if affected by force majeure, shall be tolled for the duration of such force majeure, i.e. Not to cancel but reschedule the Conference to revised dates as soon as practicable after the force majeure condition ceases to exist. Any refunds claimed by delegates on account of a change of dates of the Event shall be subject to the cancellation policy published on the website and in registration form.

Cancellation of Conference: If the Force Majeure period lasts for such prolonged times or its residual effects are longlasting thereby making it impractical to conduct the conference, the event shall be cancelled. In case of cancellation of the event, the refundable deposit shall be returned to the delegates with some deduction (If any) made on account of nonrecoverable expenses incurred in the preparations including but not limited to reservations, MARCOM (Mktg. & communication) & IT expenses, Office Admin, Taxation & Professional Fee, etc, as per the decision of FOGSI governing body.

In the scenario, the Conference is converted to Virtual/Online format in the year 2026, a part of the existing registration deposit equivalent to the registration fee of the Virtual Conference shall be auto adjusted towards the virtual conference, while the balance deposit amount shall be refunded to delegates. Complete cancellation and a full refund shall not be admissible.

Please Note: GST/Taxes/Bank charges/Handling fee/ Convenience fee is non-refundable in any circumstances.

AICOG Conference Secretariat

Department of Obstetrics & Gynaecology Maternity Nursing Home Atal Bihari Vajpayee Institute of Medical Sciences & Dr. Ram Manohar Lohia Hospital, New Delhi - 110001 Email : secretariat@aicog2026.com

Professional Conference Organizer (PCO)

Conferences International B-220/2, 2nd Floor, Opposite Kali Masjid, Savitri Nagar New Delhi – 110017 Contact - +91 9560493999, +91 9999216837, +91 7683009277 Email: registration@aicog2026.com

www.aicog2026.com

FROM IMAGING TO PATHOLOGY & GENOMICS

We have expanded the Trust & Care to your patient's doorstep.

LOCATIONS

Safdarjung Development Area
 Defence Colony
 Gurugram
 Pusa Road
 Bali Nagar

Scan for appointments & queries

