TAMIL NADU FEDERATION OF
OBSTETRICIANS & GYNAECOLOGISTS

Mid Year e Conference
19 & 20 June 2021
Souvenir

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference

19th & 20th JUNE 2021

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Hony. Secretary, TNFOG

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Chief Guest's Message

Warm greetings to you all from our National HQs of Indian Medical Association, New Delhi!

I am delighted to be invited for this first of its kind obstetrics and Gynae forum, exclusively for Tamil Nadu created off late and marching ahead with clear cut vision, enhanced focus, humanitarian extended services, and high calibre academic deliberations. Indeed, it is a joy to note Dr Sampath Kumari, Dr. Revathy Janakiram, Dr. Vijayalakshmi Gnanasekaran, Prof. Dr. Anjalakshmi,C and Dr Mary Ann are doing altruistic services to uphold the tradition of Tamilnadu and the ramification of their in-depth knowledge.

I am delighted to know this conference is packed with 3 keynote addresses on vital practical topics to be delivered by the masters of the field, panel discussions to collage varied views of the experts on the fields, learned lectures, useful practical debates and an exciting quiz with fabulous price will surely make it a unique one.

On one side we try hard to expand the knowledge, on the other hand, pseudo-science and mis campaigns are getting political moratoriums and bliss. The assault on doctors both mentally and physically is harassing and humiliating one or another person daily. It is the need of the day to learn more about self-help and empowering martial arts. I wish our organizations have to give much more priority to our fraternity by self-help and enhancing security structures.

I wish and hope the future conference shall include one such topic too.

Once again, I wish you all the best and on behalf of IMA, we are observing July 1st to 7th as safe motherhood week and seek all your cooperation too. Let us join hands together to work for better safe motherhood.

Prof. Dr. J A Jayalal
National President, IMA

President's message

Dear Comrades

My warm wishes for a healthy life to everyone. I am thrilled to realise six months have passed since the birth of TNFOG and we are holding the vibrant state level conference. The corona pandemic cannot hinder our academic activities. In the conference we have three workshops conducted by the various subcommittees of TNFOG, a challenging quiz by Dr.TV. Chitra and Dr.Meena for the post graduates with tremendous response, paper and poster presentation for the postgraduates and consultants coordinated efficiently by Dr. Dhanalakshmi, Dr. Geethalakshmi & team and well planned scientific program with first TNFOG oration by Dr. Kurian and three keynote addresses by eminent speakers. I am very happy to see the enthusiasm, commitment and co-operation of the various societies in making the conference a great success.

The great task for us is the formation registries for the dreadful diseases and concentrate on public awareness program once the lockdown is over. We have thirty eight districts in Tamil Nadu and only eighteen societies are there, so let us encourage, the formation of new societies. Our next dream is to have an own premises for TNFOG and let us all contribute for it.

My thanks to international faculties Prof. Sir. Sabarathinam Arulkumaran, Dr. Maruf Siddique, National faculties Dr.Hrishikesh D. Pai, Dr.Hema Divakar, Dr. Kamini A Rao and TNFOG orator Dr. Kurian Joseph and all other faculties. I appeal to everyone to go through the Souvenir and recollect your knowledge.

Thank you, Together we win! Ever live TNFOG!!

Jai Hind!!!

Dr. Anjalakshi Chandrasekar

Founder President TNFOG

Vice President's message

Dear friends,

TNFOG started with clear objectives very recently. Within this short period, the activities are really promising and encouraging. I'm sure, it is because of the great efforts put in by Dr. Sampathkumari, Dr. Anjalakshi and their Team. The commitment of each and every society of Tamil Nadu is really appreciated. I wish the unity and cooperation continue for ever.

This midyear conference is another feather to their cap. The scientific deliberations of this midyear Conference seems to be an interesting one. The topics are chosen very aptly. My best wishes for the conference to be a grand success.

LONG LIVE TNFOG.

Dr. Revathy Janakiram

Secretary's message

'Well begun is half done' – This adage holds good for our efforts to start a state federation of OG societies. We have been trying to initiate the process for more than 3 years. While every state had a state federation Tamilnadu should also get one, having played the pioneer role in forming the national federation years ago. Now, we are up and have got going, thanks to the unflinching support the organizing team got from all societies.

We have now conducted 4 webinars, CMEs and conferences. Plans are ready for the First ever Midyear Conference of TNFOG in the month of June 2021. Success of this event lies very much in the hands of all Presidents, Secretaries and every member of the participating member-societies. International faculties and sector veterans and luminaries are waiting to take part in this event. So, friends and fellow members mark the dates and encourage all your society members and friends to log in on those days. And, help make this event a tremendous success!

We are also happy to bring out our First Newsletter of TNFOG. This is the first step towards our desire to have our own indexed journal soon. I am sure with all your able support and active participation the day is not far off when we will flaunt our journal!

In these trying times and the plethora of similar events happening across country I am very well aware of the lack of time to attend every viable webinar. Yet it is every one of us' duty to keep our own flag flying high. I am confident that we all will contribute our might in this direction.

This newsletter is in its nascent stage and it will flourish with your suggestions and right feedback in time. Look forward to hearing from each one of you.

Until we all meet in person, STAY SAFE STAY HOME. HELP ONE ANOTHER IN THE FIGHT TO DEFEAT CORONA!

Long live our relationship and togetherness!

Dr. S. Sampathkumari

Founder Secretary TNFOG

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference

19th & 20th JUNE 2021

INTERNATIONAL FACULTY

KEYNOTE SPEAKER
Prof.Sir.Sabaratnam Arulkumaran
Topic - 'Intrapartum Care bundle to improve clinical outcome'

KEYNOTE SPEAKER
Dr.Maruf Siddique
Topic - Selection of cases for IUI & Stimulation protocols

TNFOG Oration
Topic - 'Obstet-Tricks" - then to now
20th June, Sunday (11.00 am to 12.00 noon)
Dr. Kurian Joseph

NATIONAL FACULTY
KEYNOTE SPEAKERS

Dr. Hrishikesh D.Pai

Dr. Hema Divakar

Dr. Kamini A Rao

Oration

"Obstet tricks"

The Past, Present and the Future!

Obstetric care has been described in many of our ancient texts and a few of the principles shown were followed. Customs like going back to the mother's house for delivery are still done. But essentially, we have gone blindly the western way of managing pregnant women. Care improved over the years and management techniques changed to improve on the markers available. Have we achieved enough? How do we go about improving this situation? I review the experiences over 40 years of managing obstetrics. This discussion is an attempt to make all obstetricians of Tamil Nadu aware of the larger problem we have in our country which still reports 19% of the worldwide maternal mortality today.

Dr A Kurian Joseph MD

Key Note Address

'Intrapartum Care bundle to improve Clinical Outcome'

Dr. S Arulkumaran,

Professor Emeritus of Obstetrics and Gynaecology, St George's University of London

Over the last few decades there has been an increase in caesarean section rate but there has been no decline in the incidence of birth asphyxia. We need to change our ways of managing intrapartum care by using a care bundle approach. Each of the element of the care bundle should be based on evidence or evidence-based guidelines. The following elements have been suggested to improve intrapartum care.

1. Birth companion throughout labour to act as the advocate of the woman, to provide fluids and nutrition, to reassure the woman and if possible simple pain relief.
2. The use of intrapartum care guide recommended by the WHO to manage labour that starts with the active phase of labour at 5 cm.Sufficient time is given for full dilatation thus reducing the incidence of oxytocin use for augmentation.
3. Intelligent intermittent auscultation using a Doppler device which can show the fetal heart rate in a graphic form to identify abnormalities as early as possible.
4. Use of prophylactic oxytocin preferably heat-stable to manage the third stage of labour to reduce the incidence

Key Note Address

5. All care givers to be trained in active neonatal resuscitation and for promoting early breastfeeding and Kangaroo Mother care.

The WHO conducted a facility-based prospective cohort study among African women in labor – the BOLD study- Better Outcome in Labor Difficulties with a sample sizeof10,000 women. This showed whether labors progressed normally or abnormally, morbidity outcomes were seen in both groups. This study and systematic reviews on labor made the WHO to conclude that in managing labor the following should be considered;

1. **Respectful care:** Women expressed the need for supportive and respectful care during labor, including empathy and emotional support from providers

2) **Good Communication:** Women want providers to take the time to communicate slowly and clearly with them so that they are empowered to make decisions about their care

3) **Labor companion:** Most women would prefer to have their husband or a female relative with them because they felt lonely and scared

4) **Essential physical resources:** Women thought that hospitals were dirty, especially the patient toilets. Women described the waiting area of the hospital as overcrowded and overflowing, where women are lying on the floor waiting to be seen by providers

5) **Actionable information system:** Providers expressed frustration when medical records were not completed in a timely fashion.

Currently there is ongoing research to explore these conceptswith the use of 'Labour care guide' to see whether better outcome could be achieved. Another reason for rising CS rate is non-reassuring FHR. This we believe could be assisted by applying intelligent intermittent auscultation by using graphic FHR displays.

Key Note Address

Based on Cochrane network meta-analysis the WHO has recommended the use of modern invention of heat stable long acting carbetocin for prevention of PPH. Following the WOMAN study the WHO has recommended the early use of tranexamic acid for treatment of PPH. Recent evidence based on large WHO studies it is established Kangaroo mother care improves neonatal survival in preterm babies. Application of a 'Care Bundle' of steps in labour with strong evidence base should help to improve clinical outcome for mothers and babies.

ARTICLE 1

MYOINOSITOLS AND ITS POTENTIAL HEALTH BENEFITS

Dr. Anjalakshi Chandrasekar
M.D. D.G.O., Ph.D
Prof and HOD Madha medical College
President TNFOG

Inositol is a 6-carbon ring compound with a hydroxyl group attached to each carbon of the ring. It is a sugar alcohol, belong to vitamin B family. Myoinositol and D Chiro inositol are the 2 of the 9 important isomers. MI 99% and DCI 1%. First identified in India in Bougainvilla leaves. It is commonly found in fruits and vegetables. Average daily intake from diet varies between 225 to 1500 mg/day per1800 kcals diet.

Role of Myoinositol: Important role in cellular morphogenesis and cytogenesis, synthesis of lipids, creation of cell membrane & cell growth

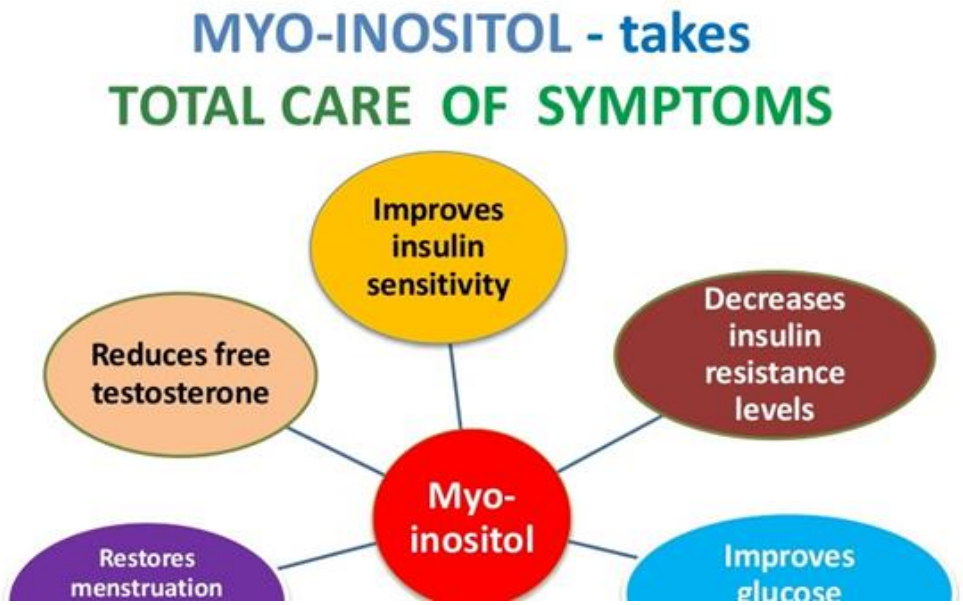
In the ovary regulates calcium metabolism, involves in the release of cortical granules, inhibition of polyspermy, completion of meiosis, activation of cell cycle and embryogenesis.

MI & DCI are intracellularly incorporated into inositol phosphoglycons (IPGs) which are second messengersof Insulin FSH & TSH

PCOS and Inisitols: 36% of women in India are suffering from PCOS. It is a metabolic syndrome with reproductive implications. PCOS is characterised by hyperandrogenism, altered gonadotropins and insulin resistance is the central player.

Insulin acts like a key which can open the door on the cell surface and phosphatidylinositol 3 kinase is the key messenger. We need production and activation of PI3 kinase for normal cell glucose metabolism. Inositol, both produces and activates

PI3 kinase. Deficiency of inositol decreases PI3 kinase activity. Myoinositol gives 65% reduction in testosterone level and 69% ovulated with myoinositol. It offers better clinical pregnancy rate and delivery rates, myoinositol shows significant improvement in metabolic characteristics. MI is a simple and safe treatment capable of restoring spontaneous ovarian activity and this therapy donot cause multiple pregnancy and MI superior to metformin. No drug interaction documented. Duration of treatment 8 weeks.



Other uses of MI are:

1. Spermatogenesis – capacitation & hypermotility, chemotaxis & acrosome reaction,
2. Prevents diabetes during pregnancy,
3. Useful in GDM management,
4. Erectile dysfunction in diabetes,
5. Weight loss in PCOS, 6. Panic disorder,
7. Lithium side effects , and
8. Some cutaneous disorders

ARTICLE 2

THROMBOELASTOGRAPHY

Dr T V Chitra

Professor PSGIMSR

Major bleeding is a serious condition in obstetrics- the bleeding is unpredictable, may have underlying coagulation abnormalities, liver dysfunction or platelet disorders.

Due to the maternal adaptation during pregnancy, the uterine vessels are hypertrophied and bleeding from such a vessel can be torrential and cause rapid deterioration of the patient's condition.

An imbalance between the coagulation and fibrinolytic system often exists. What started off as bleeding due to coagulation deficiency may end up in increased fibrinolytic activity. Treatment of both are totally different and it is imperative to find out what is at fault, the coagulation or fibrinolysis.

There are a number of tests to assess this-PT, aPTT, INR, fibrinogen level, D-dimer level and platelet counts. These tests not only help us in making the diagnosis but are also used routinely to aid in treatment as far as replacement is concerned.

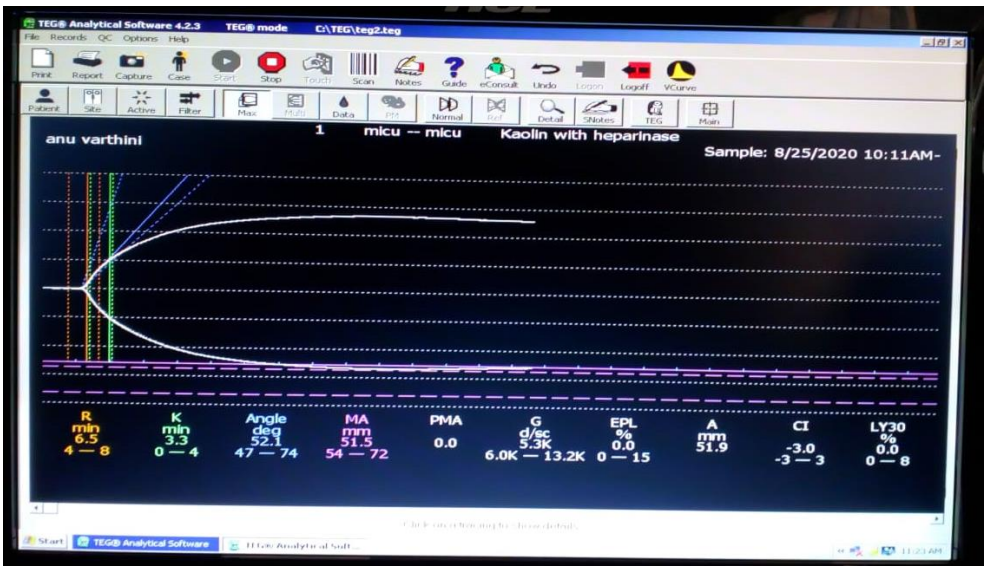
In spite of being very effective these tests have certain limitations. The main disadvantage is the long turnaround time by which the picture may have altered.They also do not predict the platelet function.

To overcome these short comings TEG- thromboelastography is a promising new diagnostic modality. It was first discovered in 1947 by Dr Hellmut hartert. It was initially used during Vietnam War for major trauma patients. Subsequently it was used in liver transplant and cardiac surgery. Since then it has been used in others specialities too.

TEG is a non-invasive test based on the dynamic changes on the viscoelastic properties during clotting. The sample of blood is placed in a small cup with a pin suspended in

the center. The movement of the pin varies as how the blood is, fluid or solid state and based on these movements a graph is obtained which is analysed by a softwarewhich quantifies these changes.

Below is shown a normal graph. Three findings are important for us



- Clot initiation
- Clot strength
- Clot stability

Clot initiation:

This is the time taken for the start of clot formation. This may be prolonged in conditions were there is deficiency of clotting factors or on anticoagulants. This is shown as R in the graph

Clot Strength:

From the time of clot initiation to 20mm clot formation is taken as K time and the rate of formation is the angle. This mainly depends on fibrinogen and a prolonged K time or decreased angle indicates deficiency of fibrinogen.

In addition, MA- indicates the maximum amplitude of the graph which is mainly dependent on platelet and other factors like fibrinogen and factor xiii.

Clot stability

This shows the percentage of clot lysis 30 mins after maximum amplitude and reflects fibrinolytic activity.

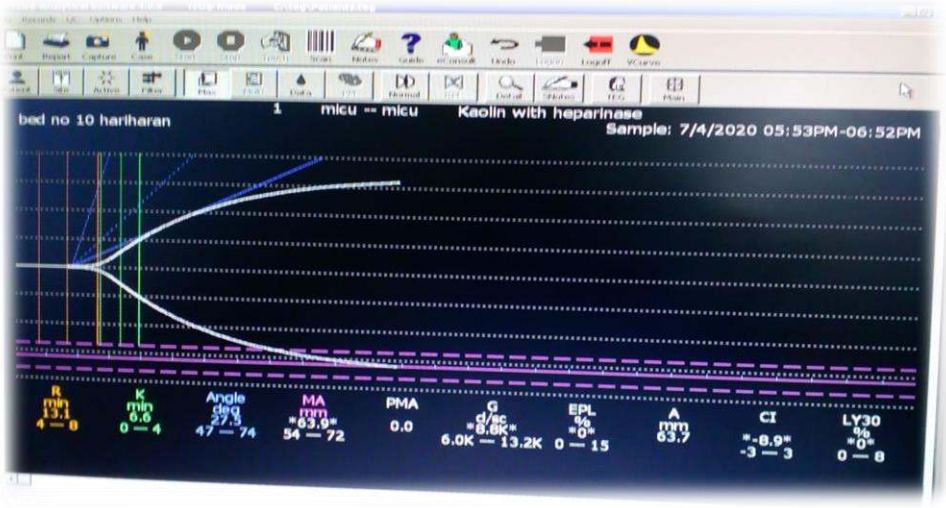
The normal values are as follows

- R 4-8 mins
- K- 1-4 mins
- α- 45-75 degrees
- MA -55-70 mm
- LY30 7.5%

Interpretation and management

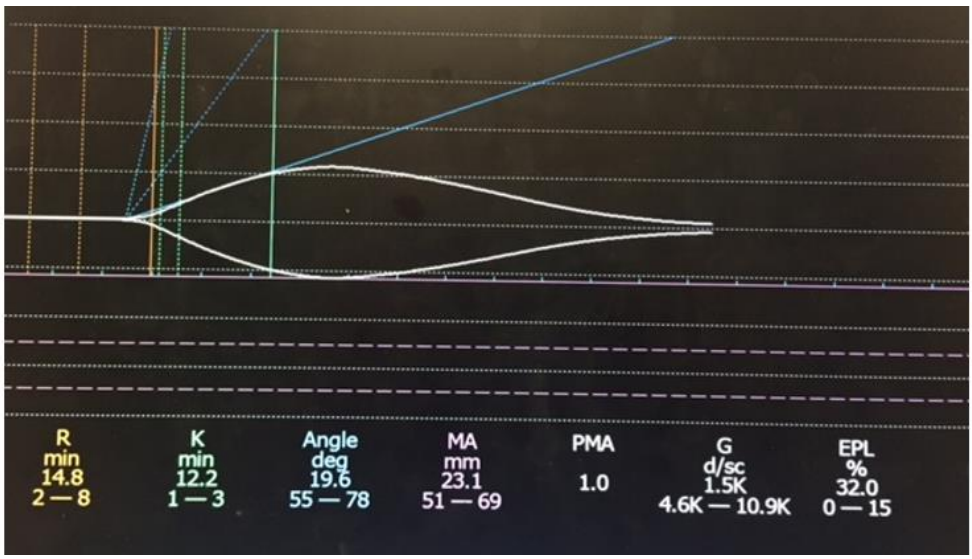
1. Prolonged R value-denotes deficiency of clotting factors, give FFP
2. Increased K and angle - denotes deficiency of ctyoprecipitate and give cryoprecipitate.

Shown below is a case with prolonged K time and angle



3. MA less amplitude indicates platelet disorder & fibrinogen give both.
4. Clot lysis - after 30 mins the % fall should be within 7.5%.

The below picture shows prolonged R & K time, decreased angle decreased MA and increased clot lysis .



TEG is fast and reasonably in 10 mins the coagulation pattern can be made out. It is found to be extremely useful in massive transfusion protocols and in patients with HELLP or AFLP where giving the right component matters.

ARTICLE 3

ENDOMETRIAL POLYPS

Dr D. Geetha

M.D.,D.G.O.,
Associate Professor,
Govt.Medical College Hospital, Dindigul

INTRODUCTION:

Endometrial polyps are localized hyperplastic overgrowths of endometrial glands and stroma which form projections from the surface of the endometrium.

CLINICAL MANIFESTATIONS:

Asymptomatic- found incidentally.

- Abnormal uterine bleeding
- Postmenopausal bleeding
- Prolapse through cervical canal
- Abnormal vaginal discharge
- Breakthrough bleeding during hormonal therapy

RISK FACTORS:

More common in the fifth decades

- HRT
- Tamoxifen therapy
- Diabetes
- Hypertension
- Obesity

FERTILITY AND ENDOMETRIAL POLYP:

- Associated with subfertility
- Interfere with implantation
- Increase the risk of miscarriage

It has to be removed if found.

TREATMENT:

- Hysteroscopic Polypectomy/resection has to be done in symptomatic and asymptomatic postmenopausal women.
- In asymptomatic women, observation can be offered in premenopausal women if the size of the polyp is less than 1 cm.
- If it is more than 1 cm, they are to be removed in premenopausal even if they are asymptomatic, because of high risk of malignant potential.

ARTICLE 4

INTRAPARTUM ULTRASOUND

Dr. Gigi Selvan

Annai Velankanni Hospital, Tirunelveli.

More than any other diagnostic modality, ultrasound has significantly changed the face of diagnosis in medical science. Now obstetrics practice cannot be done without ultrasound. The unknown gray areas of obstetrics can be looked through the ultrasound. Now from its role in antenatal care to delivery it also helps in better management of labour. It will help to reduce the rate of caesarian section which is in a rising trend, So obstetric ultrasound has evolved into ultrasonographic obstetrics. Therefore, to understand labour better and to follow up the progress of labour, to monitor the fetus wellbeing and to make a decision about the mode of delivery INTRAPARTUM ULTRASOUND helps.

Evidence show that digital pelvic examination during labour is not very much accurate. The study of Dupius at al published the American journal of obstetrics and gynecology, 2005 revealed this truth. Not only that there are a hand full of studies showing that ultrasound in superior to vaginal examination.

The Significance of Intrapartum ultrasound

- To assess before induction of labour
- To Determine the labour progress
- To decide in stalled labour
- Before Instrumental Delivery
- To reduce LSCS rate

Position of the Probe

- Suprapubic position
- Sub pubic position
- Translabial position -sagittal and transverse

Measurements taken are:

1. **Head perineal distance**

The distance measured by a translabial scan in the transverse position The distance between the skin of mons pubis and the uppermost part of fetal skull is measured. The cut off being 47 mm.

2. **Head-symphysis distance:**

Distance between the inferior edge of symphysis pubis to the nearest point of the fetus skull along a line perpendicular to the long axis of the symphysis pubis and the cut off is 32 mm.

3. **Angle of progression:**

This is an angle measured with a imaginary midline drawn through the public symphysis and a line from the inferior apex of the symphysis to the leading part of the fetus skull. If angle is more than 120 degree it favours vaginal delivery.

4. **Head Directions**

We all know the head has to move anterior in the mechanism of labour, therefore the fetus head direction can be viewed. It is the angle between the vertical line from the inferior apex of the symphysis. And another line drawn perpendicular to the widest diameter of the fetus skull. As the labour progresses this angle increases.

5. **Progression Distance**

This is the distance measured between a vertical line from the interior part of symphysis pelvis to the leading part of the skull. As labour progress this distance increases denoting the head is coming down.

Occiputo- Posterior

Clinically this can be diagnosed but now with our overweight in women it is difficult to asses. By a supra pubic scan even a beginner can identify whether the back is anterior or not. If it is occiputo posterior both the eyes can be seen otherwise called Venetian mask sign. As labour progressive we can follow up the rotation of the head or persistent occiput posterior.

Fetus head position before instrumental Delivery

Before applying either forceps or vacuum we can apply it properly under ultrasound guidance.

ARTICLE 5

INTRAUTERINE INSEMINATION: FUNDAMENTALS REVISITED

Dr. Jothi Sundaram

MD(OG).,DGO.,

Despite revolutionary advances in the field of assisted reproduction, such as in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), and subzonal insemination (SUZI), intrauterine insemination (IUI) remains an inexpensive, noninvasive, and effective first-line therapy for selected patients with cervical factor, moderate male factor, unexplained infertility, immunological infertility, and infertility due to ejaculatory disorders and is now also proposed as a therapy for endometriosis, ovarian dysfunction, and even for tubal factor.

Strict patient selection criteria and individualized stimulation protocols tailored according to the age and etiology of the patient with a strict cycle cancelation policy will help to reduce the associated complications, such as multiple pregnancies and OHSS, while maximizing the overall pregnancy outcome. Three to six IUI cycles may be offered before considering alternate therapy. However, patients with advanced maternal age, severe male factor infertility, tubal pathology, or severe endometriosis will benefit from a direct referral to IVF/ICSI.

In couples with a cervical factor, diagnosed by a well-timed, no progressive, post-coital test with normal semen parameters, higher pregnancy rates (PRs) have been reported following IUI compared to expectant management (51 vs. 33%, respectively) with acceptable pregnancy rates even without COH (9.7%) and without an increased risk for multiple pregnancy compared to COH (12.7%).

Controlled ovarian hyper stimulation with IUI is recommended in early-stage and surgically corrected endometriosis when the pelvic anatomy is normal, while combined surgery with gonadotropin-releasing hormone (GnRH) analog treatment has been proposed to be a first-line therapy followed by IVF as second-line therapy in advanced cases . Heterogeneity in OS protocols, the combination with other fertility agents, the limited number of studies, and the methodological quality differences reduce our ability to draw conclusions on specific treatment. More observational studies, assessing the risk of multiple pregnancy or MCM, as a primary outcome, using standardized methodologies, in larger and better clinically defined populations are needed.

IUI in stimulated cycles was effective only in patients with more than 3 years duration of infertility but is associated with a significant rate of higher-order multiple births. The good success rate recently associated with mild stimulated IUI cycles must be confirmed by large trials. Prevention of premature LH surges and luteal phase support do not appear major requirements in IUI cycles. Although IUl treatment is cheaper and less demanding on the patient, IVF is the most effective treatment for infertility. There is a need for management trials to evaluate the order of treatment and overall effectiveness of treatment strategies in more clinical and cost settings.

ARTICLE 6

PPIUCD: ENSURING FOLLOW UP AND CONTINUATION

Dr. Jyoti Sachdeva
State Program Officer (FP), Delhi

Roll out of PPIUCD by MoHFW in 2010 was a landmark achievement as it helped overcome the reluctance and non-willingness of obstetricians to insert IUCD at the time of delivery. Though IUCD forms 5.4% of method mix of mCPR for Indian couples (NFHS-IV: 2015-16); PPIUCD has recently reserved an escalating contribution in total IUCD insertions (2% in 2013-2014, 15% in 2017-2018, 21% in 2020-2021). (Source: HMIS)

PPIUCD has multiple advantages both from perspectives of service providers/service delivery points and the woman who adopts PPIUCD. Convenience, lesser time and number of visits, lower risk of perforation, reduced chances and perception of initial and ongoing bleeding, already ruled out pregnancy, to mention a few.

GoI launched PPIUCD services in 2000 in selected states and later universalized it across the country in 2010. After formal national level PPIUCD trainings in 2010, there was phasic introduction of PPIUCD in bigger hospitals followed by CHCs, PHCs, and other delivery points. Among the enthusiastic take up of this strategy were the states of **West Bengal, Uttar Pradesh, Tamil Nadu and Delhi.** The acceptance of PPIUCD escalated like a leaping frog over the years after cascade trainings and promotional strategies by GoI and State Governments. One such strategy was the roll out of the scheme "performance linked payment plan for PPIUCD to service providers and ASHAs". The later extended scheme with expansion of benefit to acceptors also worked in some states to increase the acceptance rate.

However, the million-dollar issues were retention of PPIUCD & capitalization of the advantage of PPIUCD by the beneficiaries on a long-term basis. There were possibilities and also actually reported incidences of expulsions and removals. In fact, the higher rate of expulsion of PPIUCD which was initially believed to be as high as 16%-18 % led many obstetricians to exclude PPIUCD from their post-partum contraceptive basket[1]

Some later studies showed a much lower expulsion rate. This led service providers to agree that although the expulsion rate of PPIUCD is higher than those of interval IUCD, the benefit of PPIUCD should not be deprived to the 90-96% prospective retainers.

The achievement figure around 17 lakh PPIUCDs in first five years of implementation was often questioned by program officers. Retention and complication figures could not be assessed because of poor follow up, probably because of focus of women on the new borns. As the follow up data on the authentic HMIS portal is not available separately for PPIUCD, data on follow up was compiled for state of Delhi and showed a positive trend. (See table below). The falling figures in 2020-21 can be explained by restricted mobility due to COVID pandemic.

	2017-18	**2018-19**	**2019-20**	**2020-21**
Total Cases	43310	40883	59202	52378
1st Follow up	7295	6339	8912	4780
2nd Follow up	5640	5147	6028	2660
3rd follow up	4755	4529	4696	2493
Approximately % retention at 1 year	11.0%	10.5%	11.5%	4.2%

Realizing the importance of retention, modalities for follow up were put in place. These included both conventional and innovative strategies.

- Stamps were put on discharge slips stating date and venue of follow up. The connect was gradually made more client friendly by sharing phone numbers of concerned ANM/hospital OPD/helpline numbers. Combining the PPIUCD follow up with birth certificate collection visit/immunization visit as per feasibility of facility also worked for some delivery points.
- Keeping the venue for follow up as labour room instead of crowded OPD also proved client friendly in Maternity Homes (equivalent of CHC in Delhi)
- Persons taking client exit interviews or those (resident doctors, nursing officer, etc.) responsible for issue of discharge slip were trained to reiterate information about type of PPIUCD, its follow up protocol, monetary scheme related to PPIUCD, etc. and adding on an IUCD card and emphasizing on importance of presenting it also provides compliance with follow scheduled
- Feedback calls for ensuring their well-being and seeking information about of PPIUCD instilled further confidence among these beneficiaries and number of follow up visits increased.
- Appraising, Rewarding, Encouraging, Felicitating the performance at levels also sends a positive message across districts facilities and individual services provides and motivates all cover more and more woman delivering in their facilities on during their duties.

Conclusion and Way forward:

While the beneficiaries it is important to inform about advantages of PPIUCD for convincing them to adopt it, they must also be given full confidence of availability of service provider at time of need (side effect, wanting, removal or any other concern). The compliance with scheduled visit/televisit (teleconsultation) helps ensure the retention of PPIUCD which is the saviour of women's health and life by confirming to 3yr spacing/limiting family size.

Reference:

1. Acceptance rate, probability of follow up, and expulsion of postpartum intrauterine contraceptive device offered at two primary health centres, North India J Family Med Prim Care 2016 Oct-Dec; 5(4): 770–776
2. A follow up study of postpartum intrauterine device insertion in a tertiary health care centre Ranjana, Anita Verma, Indu Chawla International Journal of Reproduction, Contraception, Obstetrics and Gynecology Vol 6, No.7 (2017)

ARTICLE 7

AZOOSPERMIA

Dr B Kalpana

M.D.(OG)., FNB (Reproductive Medicine).,

FICOG., FIAOG., FICS., P.hd.,

The responsibility of male factor in couple's infertility has been exponentially rising in recent years due to a comprehensive evaluation of reproductive male function and improved diagnostic tools. Despite this improvement in diagnosis, azoospermia is always the most challenging topic associated with infertility treatment. Several conditions that interfere with spermatogenesis and reduce sperm production and quality can lead to azoospermia. Azoospermia may also occur because of a reproductive tract obstruction. Optimal management of patients with azoospermia requires a full understanding of the disease etiology.

Azoospermia is total absence of sperm in semen. Incidence is 1-3% of male population and 10-15% male infertility population.

True azoospermia should be differentiated from cryptozoospermia. It could be due to pretesticular, testicular or post testicular causes. Pretesticular is hypo gonadotrophic hypogonadism. Testicular is due to partial or complete failure of testes. Post testicular is due to obstruction. In hypogonadotropic hypogonadism FSH, LH, Testosterone levels are low. In testicular failure FSH, LH are high. Genetic evaluation includes chromosomal analysis, y deletion CFTR gene mutation.

In hypogonadotopic hypogonadism HCG for 2 months then HMG should be given for 6 months.

Obstructive azoospermia, micro surgical method or PESA, MESA are the Treatment of choice. Sometimes micro TESE may be needed.

Non obstructive azoospermia (NOA), Which is diagnosed in about 60% of azoospermic men, is detected clinically in men having small- volume testicles, raised follicle-stimulating hormone (FSH), and azoospermia. NOA patients usually seek testicular sperm extraction (TESE) or micro-TESE procedure followed by intracytoplasmic sperm ejaculation (ICSI). Multiple sperm retrieval techniques have been reported in the literature, such as fine-needle aspiration, percutaneous testis biopsy, and open testicular biopsy and micro-TESE. Micro-TESE has become a procedure of choice due to its minimal invasiveness, high safety, and high sperm retrieval rate (SRR). Several studies have suggested that the micro-TESE technique should be the standard technique for treating men with NOA. Several studies have reported that SRR with micro-TESE in NOA patients is between 40% and 60%.
Despite micro-TESE's high success rate, Preoperative patient counseling regarding the probability of SRR has remained a challenge. It is very important to predict the success of sperm retrieval using a noninvasive method before a definitive procedure. An unsuccessful micro-TESE and ICSI procedure could lead to emotional and financial crises. Hypogonadism, defined as serum testosterone level <10 nmo/L, is frequently observed of men with NOA who present for treatment in a fertility clinic. Testosterone's exact role in spermatogenesis is still controversial, a sufficient level of intratesticular testosterone (ITT) is crucial in spermatogenesis.

Further controversy exists regarding the efficacy of preoperative optimization of hormones in patients with NOA having hypogonadism. However, hormonal optimization increases ITT level, and evidence shows that an increase in ITT level may improve sperm production. Preoperative optimization of FSH and testosterone with clomiphene citrate or human chorionic gonadotropin increased the likelihood of sperm in ejaculate and increased SRR by micro-TESE in patients with NOA. On the other hand, men with NOA associated with hypogonadism often respond to hormonal therapy, leading to an increase in testosterone level. Neither baseline testosterone nor increase due to response to hormone therapy affects SRR, clinical pregnancy, or live birth rates.

Preconception counselling and antenatal care:

It is recommended to avoid pregnancy for 12-18 months after surgery to allow the body to adapt to the altered absorptive status. Such women require proper diet counselling, with nutritional supplements, frequent ultrasound to monitor growth of fetus. There has been no guideline on ideal weight gain in pregnancy after bariatric surgery.

ARTICLE 8

PREGNANCY AFTER A BARIATRIC SURGERY

Dr. Nirajana Asokan

Incidence:

The incidence of bariatric surgery is now on the rise and it is going to be common to encounter pregnant women with history of bariatric surgery. There has been 86.7% increase in number of bariatric surgeries performed in India in 2018 over 2014.

Benefits:

Indications for bariatric surgery include BMI >40, BMI >35 with comorbidities. There is variety of surgeries in terms of restrictive and malabsorptive surgeries like Roux en Y Gastric bypass, sleeve gastrectomy and gastric banding. Significant weight loss after bariatric surgery provides multitude of health benefits in terms of reduction of diabetes and hypertension. Along the same response there is decrease in GDM, hypertensive disorders, reduced risk of LGA babies, PPH and decreased need for cesarean delivery after bariatric surgery.

Risks:

With any advantage there is an associated risk. Likewise in bariatric surgery there was associated risk of SGA babies, IUGR and preterm birth. They have deficiency in vitamin A, D, E, K and folate leading to developmental delays. Study by Josefson et al has shown risk of congenital anomalies to be similar in bariatric surgery versus non bariatric surgery group (OR 4.1% vs OR 3.4%). As for maternal complications, there have been studies showing risk of 1% internal hernia, 1.5% intestinal obstruction during pregnancy.

ARTICLE 9

VITAMIN D IN PREGNANCY

Professor Dr. Revathy Janakiram

MD, DGO. MNAMS, FICOG, FICMCH,

Vitamin D is the "sunshine vitamin". It is a fat-soluble vitamin. It is not just a vitamin but is a prehormone. It is found in some food and made in the body after exposure to UV rays. Its major biological function is to maintain normal blood levels of Ca and Po4.

Serum vitamin D level: Optimal:- 30 ng/ml

Vit.D insufficiency: 20-30 ng/ml

Vit D deficiency: < 20 ng/ml(,75 nmol/l)

Vit D toxicity> or equal to 150 ng/ml

Endocrine, paracrine and intracrine functions of Vitamin D.

It helps in calcium hemostasis, Bone health, Muscle skeletal, Cardiovascular system, Blood pressure regulation & neurodevelopment. Its role in Immuno modulation, regulation of cell growth & differentiation is established.

Only after hydroxylation in the body, active form of vit D is obtained. First 25 hydroxylation in the liver – calcidiol, and 1,25 hydroxylation in the kidney. This 1,25 hydroxy vit D, calcitriol is the active component. Whenever we ask for serum vit D level, it should be only 25 hydoxy vit D, because of its longer halflife.

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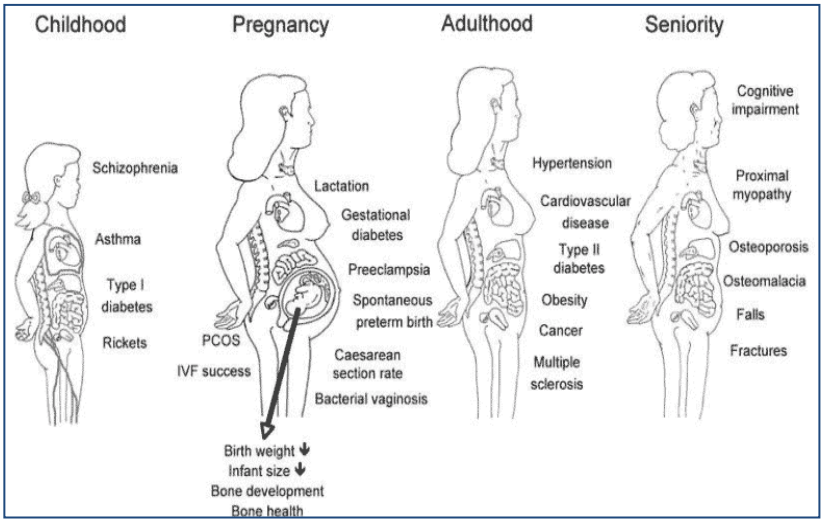
Lack of UVB sunlight exposure, Dark skinned people, Malabsorption, Anticonvulsant use,Chronic kidney disease ,Elderly people ,Small quantities in food , use of Sunscreen with SPF 15+ which blocks 99% vitamin D synthesis, lead to Vitamin D deficiency . Maternal Vit.D status has an impact on fetal bone health. Vit D plays a major role in women 's life, right from childhood.



Vitamin D deficiency in pregnancy & lactation

At adequate levels of vitamin D, the calcium demands of the mother and fetus are met through increased intestinal calcium absorption. Adequate serum vitamin D levels during pregnancy are necessary to ensure appropriate maternal responses to the calcium demands of the fetus and neonatal handling of calcium. Its supplementation during pregnancy has been suggested to safely improve pregnancy and infant outcomes. During pregnancy and lactation, significant changes in maternal vitamin D

and calcium metabolism occur to provide the calcium that is needed for fetal bone mineral accretion.

Adverse maternal outcomes	Adverse neonatal outcomes
▪ Pregnancy – induced hypertension ▪ High blood pressure in diabetic pregnancy ▪ Gestational diabetes mellitus ▪ Recurrent pregnancy loss ▪ Preterm delivery ▪ Primary Caesarean section	▪ Neonatal rickets ▪ Craniotabes ▪ Decreased wrist ossification centres ▪ Impaired tooth enamel formation

Vitamin D deficiency is common in pregnant women (5-50%) and in breastfed infants (10-56%), despite the widespread use of prenatal vitamins, because these are inadequate to maintain normal vitamin D levels.

Impact of vit D deficiency on infant health:-

1.Infants born to mothers with hypovitaminosis D had 3.8 times higher risk of developing hypovitaminosis D as compared to those born to mothers with normal vitamin D levels

(J Pediatr Endocrinol Metab. 2009 Mar;22(3):241-6)

2. 96.3 % of the lactating Indian women had vitamin D deficiency. Serum 25(OH)D levels were significantly lower in winter in the second and third trimesters

(Br J Nutr. 2011 Nov;106(9):1383-9.)

3. Mothers of babies who suffer hypocalcaemic seizures are more likely to be vitamin D deficient (85%) than mothers of babies who do not (50%)

(Indian Pediatr 2010;47:581–6)

4. Infants of mothers with vit D insufficiency were found to have low none mass at the age of 9 years.

(M.K. Javaid, SR Crozeir at al. Lancet Jan 7 2006)

Systemic review and Meta-analysis of Longitudinal studies have also shown that, Serum 25(OH)D levels < 30 ng/ml was associated with 83% and 13% increased risk of Pre-term Birth measured at <32-34 weeks and <35-37 weeks, respectively. Serum 25(OH)D levels < 30 ng/ml was also associated with 11% increased risk of spontaneous pre-term birth with a dose-response relation also noted.

Supplementing pregnant women with vitamin D in a single or continued dose increases serum 25(OH) D at term and may reduce the risk of pre-eclampsia, low birth weight and preterm birth. Vitamin D supplementation could reduce the risk of pre-eclampsia.

Therefore, vitD plays an important role in

- Maternal and fetal health during pregnancy
- Prevention of adverse outcomes
- Prevention of future health risk to child

Recommended supplementation in pregnancy is 1000-2000 IU/day.

ARTICLE 10

INSRTUMENTAL DELIVERY

PROF. S. Sampathkumari

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VP Elect FOGSI2022

Instrumental delivery is defined as vaginal delivery accomplished with the aid of instruments which can be vacuum or forceps. It is carried out in the maternal interest, foetal interest or both. Some important points about FORCEPS DELIVERY

Forceps are instruments designed to aid in the delivery of the fetus by applying traction to the fetal head. Forceps deliveries are unique and effective tool to assist patient and provider in achieving a vaginal delivery. Different types of forceps are used.

Outlet forceps

- Scalp is visible at the introitus without separating the labia
- Fetal skull has reached the pelvic floor
- Fetal head is at or on perineum
- Sagittal suture is in anteroposterior diameter or right or left occiput anterior or posterior postion
- Rotation does not exceed 45 degrees

Low forceps

- Leading point of the fetal skull is at station +2 cm or more and not on the pelvic floor
- Without rotation: Rotation is 45 degrees or less (right or left occiput anterior to occiput anterior, or right or left occiput posterior to occiput posterior)
- With rotation: Rotation is greater than 45 degrees

Midforceps

- Station is above +2 cm but head is engaged

Reprinted with permission from Operative vaginal delivery. Practice Bulletin No. 154. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2015;126:e56–65.

Indications of forceps delivery are

1. Prolonged second stage (more than 1 hr in primi and 30mts in multi) as in uterine inertia, Rigid perineum, Large foetus & malposition
2. Maternal conditions to avoid exhaustion - Heart disease, TB, Eclampsia
3. Foetal conditions as Foetal distress, cord prolapse & preterm.

Prerequisites for forceps are Pelvis adequate, Bladder empty, cephalic with engaged, cervix fully dilated & membrane ruptured.

After locking we have to confirm the placement in three dimensions 1.the line formed by the handles is in line with sagittal suture.2. A plane bisecting the shanks is 1-2 fingerbreadths anterior to the posterior frontanelle.3. No more than one finger can be inserted into the fenestration on each side

Advantages of Forceps – can be used in cardiac patients, maternal effort is not needed, quicker, used for foetal distress, after coming head in breech and the disadvantage are genital & foetal injury if not applied properly. Selection of case is important. If application, locking & traction done with good training success rate will increase & LSCS rate also will get reduced.

ACOG - No evidence that having a forceps delivery has any effect on a child's development, according to the American College of Obstetricians and Gynaecologists.

Conclusion: Instrumental delivery training is must for budding doctors to reduce LSCS rate. Patient's mobility can be earlier & breast feeding will be comfortable.

ARTICLE 11

WORK – LIFE BALANCE FOR OBSTETRICIANS

Dr Saravana Kumar

OGSOS, Salem

A few decades ago, we prided in being the sole obstetrician for a sizeable population, be it a city or a single obstetrician of a small town. The hectic schedules, caring less of their own self, being available to patients anytime and always, conducting deliveries at all times and even at the ripe age, all were touted to be a virtue. People bought us their village produce, recognized us in our marketplace, and teachers took care of our children well.

But there was a price to pay for the celebrity status too. Since our patients dependent on us as a sole doctor for their care, their pregnancy confirmed few months back, we took less holidays, the maternity leave of lady obstetricians was limited to merely a week and we were bang with our feet caring for pregnancy and their complications.

The turn of Millennium took a gradual shift. OBGYN expanded in a rapid pace of subspecialities, endoscopy, fetomaternal medicine, Gynae oncology and latest a cosmetic twist too. Some thought they missed out on learning new tricks. The perception of patients towards doctors too changed significantly. The doctor was slowly pulled down from the pedestal. Search engines equipped them with new armory to confront doctors and the profession lost its shimmer.

So, what did we miss in pursuit of professional Mastery? Our personal life, physical and mental wellbeing took a hit. Covid lockdowns have given us a lot of insights of what we ignored in our busy Schedule. So, let us shrug of the weight of "My whole week was busy and stressful. I have to catch up on my seep debt". Let us device a work – life balance and take care of ourselves a little more.

Gallup and Healthways define and measure well-being in terms of five elements:

- Purpose: Liking what you do each day and being motivated to achieve your goals
- Social: Having supportive relationships and love in your life
- Financial: Managing your economic life to reduce stress and increase security
- Community: Liking where you live, feeling safe and having pride in your community
- Physical: Having good health and enough energy to get things done daily

Let us not be residents throughout our life. The society will provide us with personal Space if we demand. Let us build up a team of fellows who would readily be willing to substitute us for our patients. Let us spend on the holidays which we certainly deserve. Let us have an emergency team to help us when a mishap happens, who would take out the mental stress and handle from medical/surgical management till handling the crowd and be a spokesperson. Each Obstetric society should come forward in team building.

The peer pressure of making our sons and daughters doctors and missing out on making them join our fraternity induces anticipation and anxiety from the time they enter their 10th standard. India is the next China and is in the cusp of becoming a financially strong hold. Our children will do well in the next decade, even if they choose alternative fields. Let us refrain from spoon feeding our money for next generations and rather increase our own security and achieve financial independence.

The best Gym equipment you can buy is a good pair of walking shoes. Let us walk to build core strength. Let us walk to be an example to our patients who struggle with Non communicable disease. Let us keep ourselves fit, be agile and welcome aging with health and vigour.

Wear the outfit, Sing a song, drench in the rain, post travel pics, display your art, be philanthropic, cook for our family, make friends with non-medicos, make youtube videos, and the list is endless.
Live live we desired.

ARTICLE 12

HOW TO WRITE A RESEARCH PAPER

Dr. Seetha Panicker

Professor, PSGIMSR, Coimbatore

Scientific publishing in a peer reviewed indexed journal has become important aspect of professional life.

Publication is important to share your experiences, educate others and provoke debate, change practice and last but not least it improves your CV.

Choosing your research topic is important. It should be

F – Feasible

I – Interesting

N – Novel

E – Ethical

R – Relevant

After your Research is complete, there are three important steps before actually starting to write.

The data are the driving force of your paper so the first important step is to check the accuracy of data and prepare the Tables which show the actual experimental results and Figures which are used for comparisons with previous or calculated values.

The second step is to do your research and find reliable sources to support your ideas. It is important to keep a track and write down all the publication details for citation.

"Cite while you write" is the dictum which is much easier than digging through your sources at the end.

The third step is to choose the journal to which you are planning to send your article and read the "Instructions to Authors "carefully

A few simple pointers for beginners is to use simple language which is clearly understood and to write in the active voice. Keep the paragraphs short and break up the text with subheadings. Be specific about the area or country specially if submitting to an international journal

The three Cs of good writing are

-Clarity

-Conciseness

-Correctness

The key is to be as brief and specific as possible without omitting essential details

The text of the paper usually follows the IMRaD format

Introduction: Why ask this research question?

Methods: What did I do?

Results: What did I find?

Discussion: What does it mean?

The **Introduction** starts with a brief background for the readers. State the research question clearly and explain why it is important. It should also clarify what is known or not known about the subject. It should be reasonably short (don't bore the readers or reviewers)

The section on **Methods** should read like a recipe. Informed readers should be able to reproduce the results. The measures to ensure the ethical conduct of the study should be described. The PICO/PECO elements of the study should be addressed.

P : Which patients or population ?

I or E: Which interventions or Exposures?

C: Which comparison group? Any randomisation or stratification?

O: What outcomes or endpoints? Define primary and secondary endpoints

The ethical aspects in the methods section should answer the following questions.

What was the consent procedure?

Were there any deviations from standard of care?

What were the risks and benefits for the participants and others?

Might publication reveal the patient's identity?

What are the benefits for future patients and society?

The **Results** section includes the text (story) Tables (evidence) and Figures (highlights) It is important to report your results fully and honestly. Report the primary outcomes first and give confidence intervals for the main results.

The section on **Discussion** should give a clear statement of principal findings.

Explain the possible mechanisms and findings. Discuss the strengths and weaknesses of the study and compare with other studies. It is also important to include the potential implications for clinicians & policy makers and give suggestions for future research.

The last part is a clear **Conclusion** to show how the work advances the field from the present state of knowledge.

Although the title and abstract come first in a published article, it is better to do this once the main body of the article is ready.

The Title should be concise but descriptive. It is your first (probably only) opportunity to attract the reader's attention.

Example:

Original Title: Action of antibiotics on bacteria

Revised Title: Inhibition of growth of Mycobacterium Tuberculosis by streptomycin

The **Abstract** is often the only part that will be read by a busy reader. Generally, the abstract answers 2 questions:

What has been done?

What are the main findings?

A structured abstract has a structured format with objectives, design, results and conclusion

Select **Key Words** for indexing

Write **Acknowledgements** to thank people who helped in the research

Write the **References**: Cite all the scientific publications on which your work is based (usually the Vancouver style is used)

Next to the Title, the cover letter is what the Editor looks at. This should explain the key elements of the study as well as the perceived value to the journal audience

The final step is to check your paper is in the best possible state before uploading. Ask a colleague to read and be critical Check that everything meets the requirements in "Guide to Authors" (again) before submission

Happy Publishing!!

ARTICLE 13

ADOLESCENT POLY CYSTIC OVARIAN SYNDROME (PCOS)

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WHO defines adolescence as a period spanning from 10-19 years during which marked physical, physiological, endocrinological and social changes happen.

PCOS is one of the most common endocrine disorders in female and has become an increasingly important adolescent reproductive health diagnosis. It is a complex heterogeneous, familial, multisystem reproductive metabolic disorder with principle clinical manifestations like ovulatory dysfunction characterized by menstrual irregularity, hyperandrogenism, polycystic ovaries and is associated with insulin resistance. As a result, women with PCOS first present to various medical specialist including gynaecologists, endocrinologists and dermatologists. Thus, a familiarity with PCOS is essential for physicians in each of these specialities.

Incidence

It affects 5-10% of adolescent and young women worldwide. In India the prevalence is much higher from 9.13-36% in adolescents.

Etiopathogenesis:

Anovulation in women with PCOS is characterized by inappropriate gonadotropin secretion. Specifically, alterations in gonadotropin releasing hormone (GnRH) pulsatality leads to preferential production of LH compared with FSH. It is currently unknown whether hypothalamic dysfunction is a primary cause of PCOS or is secondary to abnormal steroid feedback. In either case, serum LH levels raise, and increased levels are observed.

More recently study findings indicates a genetic predisposition among family members. Recently promotor-1031(T/C) polymorphism in TNF alpha was linked to PCOS. Besides that some inflammatory markers and certain types of congenital uterine anomalies are closely related to PCOS syndrome that could explain the pathogenesis. (Fig 1)

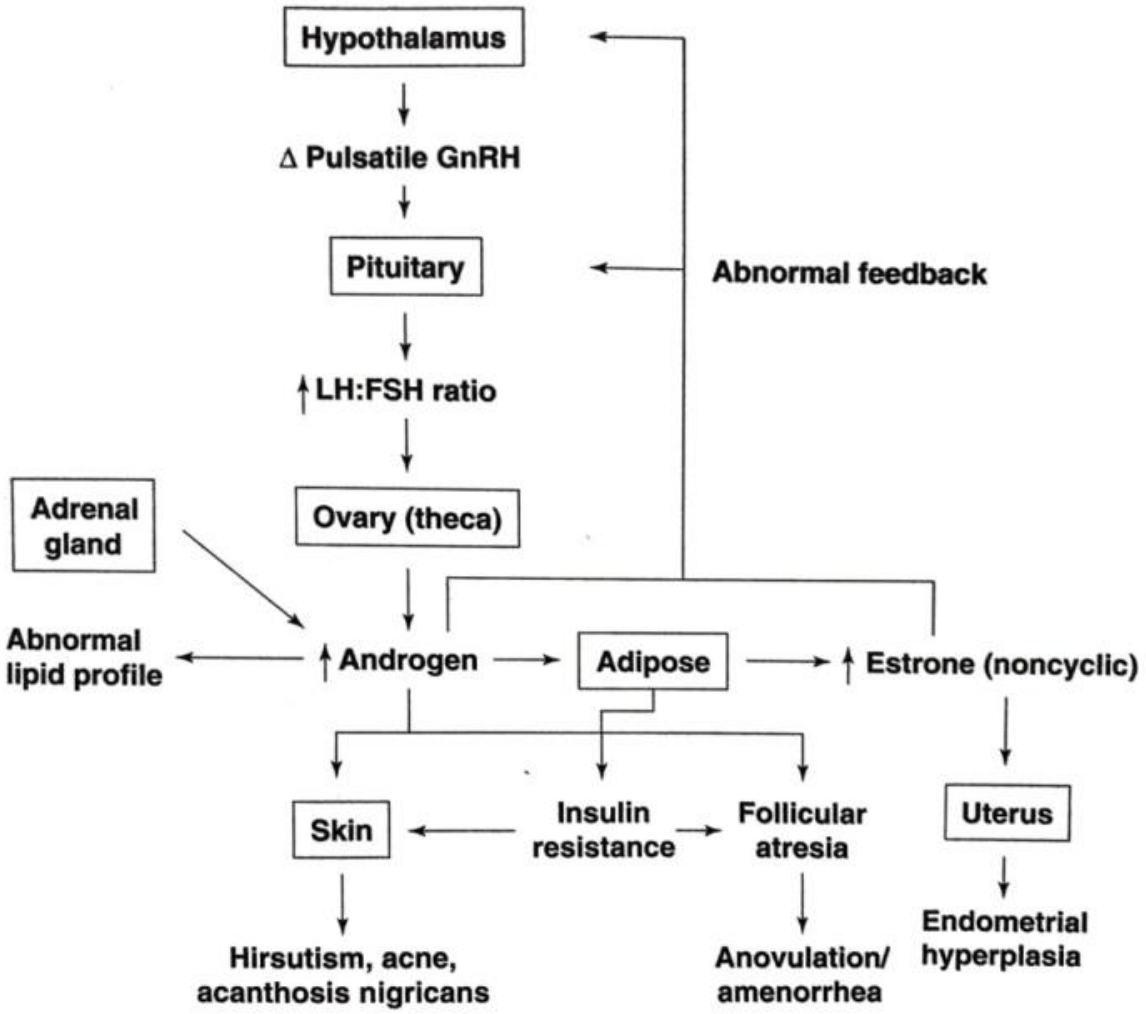

Fig 1: Model for the initiation and maintenance of polycystic ovarian complex syndrome (PCOS). The common denominator is development of a self perpetuating noncyclic hormonal pattern

Fetal origin of PCOS

1. Women with fetal androgen excess disorders, including congenital 21 alpha hydroxylase deficiency and adrenal virilising tumors develop features of PCO during adulthood despite normalisation of androgen excess after birth.
2. Maternal and fetal HA can provide fetal programming of PCO which is genetically determined.

Diagnostic Criteria

In adolescents, presence of oligo-menorrhoea or amenorrhoea beyond 2 years of menarche should be considered an early clinical sign of PCOS followed by Rotterdam's criteria (of adults) for diagnosis of PCOS.

Rotterdam consensus- At least 2 of the 3 below mentioned features should be present.

1. Ovulatory dysfunction- oligo or anovulation
2. Clinical or Biochemical Hyperandrogenism
3. Polycystic ovaries more than 12 follicles of size 2-9mm and ovarian volume more than 10cc.

Clinical features

1. Abnormal and irregular menstrual periods
2. Hirsutism
3. Acne- mild, moderate and severe
4. Androgenic alopecia
5. Obesity

Diagnosis

History - A detailed patient centred interview is essential, and this includes:

Patient symptoms, H/o exogenous drug therapy like androgenic steroids, anti-seizure medication, thyroxine, and contraceptive drug usage. Menstrual history including details of puberty is essential. Social history including sexual behaviour and pregnancy,

family history of PCOS in siblings and mother, H/o pre-consultation hair removal or acne treatment should be evaluated.

Physical examination

A comprehensive physical examination is done which includes -vital signs, Anthropometric assessment, general appearance, skin survey to detect alopecia, male pattern of baldness, AN, acne, hirsutism, thyroid swelling, galactorrhoea, tanner staging, examination of external genitalia for virilisation, rectal examination to assess ovarian mass if tolerated.

Laboratory investigations:

Main laboratory features of PCOS in adolescence

Hormones		**Metabolic markers**	
Total and Free Testosterone	High / Normal	A1 Apolipoprotein	Low
Free Androgen Index	High	Cholesterol	Normal / High
SHBG	Low	HDL / LDL ratio	Low
Androstenedione	Normal /High	Triglycerides	Low
DHEAS	Normal / High	Fasting Insulin	High / Normal
FSH	Normal / High	HbA1C	High / Normal
LH	High		
LH / FSH Ratio	Normal / High		

Diagnosis of Insulin Resistance

1. Increased waistline>35
2. Increased BP, Increased Blood sugar and triglycerides
3. Skin tags
4. Fasting and Post prandial insulin levels for diagnosing IR

Fasting <25mIU/L

1 hour -18-276 m IU/L

2hour – 16-166 m IU/L

6. HOMA IR index: FPG x Fasting serum insulin/22.5.
   Increased HOMA IR indicates low insulin sensitivity.
   Normal <2.6
   High >3.8

Other Tests to be done

1. Morning 17 hydroxy progesterone and ACTH stimulation test to be done if late onset CAH is suspected.
2. Thyroid profile
3. Serum prolactin
4. Serum cortisol if Cushing syndrome is suspected
5. In obese PCOS liver function test
6. OGTT to rule out IGT.
7. AMH which is a valuable biomarker for adult PCOS is not recommended for adolescent PCOS
8. Liver USG when patient is obese with evidence of non-alcoholic liver disease
9. Pelvic USG is not recommended for adolescent PCOS
10. MRI for Adrenal depiction to rule out Adrenal tumours

Pre-pubertal Risk Factors for adolescent PCOS

1. Above average or LBW.
2. Premature Menarche
3. Atypical Sexual precocity
4. Obesity with AN

Differential Diagnosis

1. Disorders of Steroidogenesis
2. Resistance in Glucocorticoids
3. Congenital adrenal hyperplasia
4. Acromegaly
5. Cushing Syndrome

6. Hyper prolactinemia
7. Insulin Resistance
8. Hypothyroidism
9. Androgen secreting tumours

Consequences of PCOS

Short term	Long term
Obesity and obstructive sleep apnoea	Type II Diabetes Mellitus
Irregular menstrual cycles	Endometrial Hyperplasia/Endometrial carcinoma
Infertility	Cardiovascular disease
Dyslipidaemia	
Hirsutism/Acne/Alopecia	
Impaired glucose tolerance/ Acanthosis nigricans	
Psychological /depression/Anxiety state	
Negative body image/ eating disorders	

Treatment

Since PCOS in adolescence have lifelong implications for reproductive and metabolic health, early treatment is critical. The goals of the treatment are managing irregular menses, decreasing the risk of endometrialHyperplasia, reducing hirsutism,acne, risk of development of T2 DM, cardiovascular risk and to improve the quality of life and preserving fertility.

Options

Lifestyle modification is the first line treatment. Weight reduction improves menstrual irregularity and HA state and decreases cardio metabolic risks.

Low dose Combined Oral Contraceptives (COC)

This is the first choice of pharmacotherapy for PCOS and provides contraceptive coverage for sexually active patients. The Estrogen component of the COC causes suppression of endogenous HPO -axis and increases SHBG and thereby reducing the androgen level. The Progesteronecomponentin COC prevents the unopposed Estrogen action and thereby preventing endometrial hyperplasia. Improvement in menstrual pattern, acne and hirsutism are noted in 2 to 3 months.

Preparations available

Ethinylestradiol and desogestrol

Ethinylestradiol and Drosperinone

Ethinylestradiol and Cyproterone acetate.

Metformin (An Insulin Sensitizer): Metformin is recommended for patients with IGT or T2DM. It is as effectiveas COC for treatment of hirsutism. It also causes weight reduction, improvesDysglycemia, and improves mood changes and depression.

Anti-Androgens: Spironolactoneis added to COC or Metformin for cutaneous changes. Since Spironolactone is a potent teratogen, sexually active patients should be advised to use some other form of contraception. Othertreatment options for Hirsutism like Laser therapy, Epilation, Electrolysis are advised. Local Eflornithine cream along with Laser gives better results.

Psychological Counselling– forms an important part of treatment.

Other drugs that are used (Needs further study)

- Myoinositol, N- acetyl cystine - correct the malfunctioning of insulin pathways and reduces the signs and symptoms of IR and HA
- Orilistat and Sibutramine – for weight reduction

- Vitamin D, Probiotics and Omega 3 fatty acids – shown to improve mental health parameters, IR and HA

Conclusion

All adolescent females with persistent hyperandrogenism and oligo-anovulation should be assessed for PCOS. Based on the major complaints and clinical manifestations, early diagnosis should be made and appropriate therapeutic options recommended. Timely recognition and management of these patients, helps prevent or reverse some of the metabolic consequences of PCOS, which has an important impact on overall health and quality of life.

References

1. Fauser BC, Tarlatzis BC, Rebar RW, *et al*. Consensus on women's health aspects of polycystic ovary syndrome (PCOS): the Amsterdam ESHRE/ASRM-Sponsored 3 rd PCOS Consensus Workshop Group. FertilSteril 2012;97:28-38.
2. Witchel SF, Oberfield S, Rosenfield RL, *et al.* The Diagnosis of Polycystic Ovary Syndrome during Adolescence. Hom Res Paediatr 2015
3. Rotterdam ESHRE/ ASRm – Sponsored PCOS Consensus Workshop Group. Revised 2003 consensus on diagnostic criteria and long term health risk related to PCOS. Fertilsteril 2004;81:19-25
4. Boyle, Teede, H. Polycystic ovary syndrome An update. Aust. Fam. Physician 2012, 41, 752-756
5. Sultan.C, Paris.F. clinical expression of polycystic ovary syndrome in adolescent girls. FertilSteril 2006,86,s6
6. Palmert.M R G C, Kartashov.A *et.al.* Screening for abnormal glucose tolerance in adolescent with PCOS. J. ClinEndocrinolo. Metab 2002,87,1017-1023
7. Erensoy H, Niafar M, Ghafarzadeh S *et.al*. A pilot study of metformin for insuliun resistance and mood disturbances in adolescent and adult women with PCOS. Gynecol. Endocrinol. 2019;35(1);72-75

8. Carmina E, Oberfield SE *et.al.* The diagnosis of Polycystic Ovary Syndrome in Adolescents. Am. J. ObstetGynecol 2010;203:201
9. William Textbook of Gynecology: Second edition.2012: 462
10. Textbook of Clinical Gynecology, Endocrinology and Infertility: Eight edition 2011.560.

ARTICLE 14

URINARY TRACT INFECTION IN PREGNANCY

Dr Shyjus. P

MBBS, MS (JIPMER), FMAS, DMAS,
Fellow of Indian College of Obstetricians & Gynaecologists (FICOG),
Certificate in daVinci Robotic Surgical System

Urinary tract infections (UTIs) remain a leading cause of morbidity and healthcare expenditure in all age groups. UTI account for about 10% of primary care consultations by pregnant women. The incidence of UTI reported among pregnant mothers is about 8%. The majority of the UTI occur due to ascending infection.

Does pregnancy predispose to UTIs?

Pregnancy increases the risk of UTIs. At around 6th week of pregnancy, due to the physiological changes of pregnancy the ureters begin to dilate. This, "hydronephrosis of pregnancy", peaks at 22-26 weeks and continues to persist until delivery. Increased progesterone and estrogens levels of pregnancy, lead to decreased ureteral and bladder tone. Increased plasma volume of pregnancy leads to decrease urine concentration and increased bladder volume. The combination of all these factors lead to urinary stasis and vesico-ureteral reflux. Glycosuria in pregnancy also predisposes to UTI.

Types on UTIs in Pregnancy

Three major types of UTI in pregnancy are asymptomatic bacteriuria, acute cystitis and acute pyelonephritis.

Asymptomatic bacteriuria is defined as a finding of more than 10^5 colony-forming units per mL of urine in a clinically asymptomatic person. The prevalence of ABU in pregnancy is about 10%. Lower serum interleukin-6 levels and lower serum antibody responses to *E. coli* antigens which occurs in pregnancy has been associated with increased incidence of ABU in pregnancy.

Neonatal complications which are associated with ABU include IUGR, LBW and PPROM. Maternal complications which are associated with asymptomatic bacteriuria are hypertension, pre-eclampsia and maternal anemia. Without treatment, this condition leads to symptomatic cystitis in about 30% of pregnant mothers of whom about 50% will eventually develop acute pyelonephritis.

Acute cystitis relates to infection of the urinary bladder and urethra. The major distinguishing feature of acute cystitis is the presence of dysuria, urgency and frequency. Usually, the patient remains afebrile. Severe systemic symptoms such as nausea, vomiting, high grade fever and distress are usually absent.

Acute pyelonephritis is infection of the kidney and the pelvic ureter. It is a serious systemic illness affecting 1-2% of all pregnancies. This is characterised by high-grade fever, chills and rigors, headache, nausea, vomiting, lumbar pain and in serious cases, reduced urine output. Without treatment it can cause preterm labour and maternal septicaemia. Recurrent pyelonephritis has been implicated as a cause of IUGR and foetal death.

Aetiological agents

Escherichia coli (*E. coli*) is the major aetiological agent in causing UTI, which accounts for up to 90% of cases.

Proteus mirabilis and *Klebsiella pneumoniae* are less frequent offenders. Less commonly, *Gardnerella vaginalis*, *Ureaplasma ureolyticum*, Group B streptococcus, *Staphylococcus saprophyticus* and *Staphylococcus haemolyticus.*

Is screening needed?

Due to the high prevalence of ABU in pregnancy and its serious consequences, it is justifiable to screen for this condition in pregnancy. Various methods used to screen are urinalysis to look for protein, white blood cells, red blood cells, urine dipstick for nitrites and leukocyte esterase. Although these tests are easily available and rapid, they have relatively poor predictive values & false negative

The gold standard for detecting bacteriuria in pregnancy is urine culture. The limiting factor is the relative high cost and delay in results (it takes 24 to 48 hours to culture the organism).

Treatment

Various studies have proven that early treatment of asymptomatic bacteriuria in pregnancy reduces the incidence of acute pyelonephritis and decreases the incidence of pre-term delivery and low birth weight infants and can also reduce up to 70% of acute symptomatic UTIs.

The antibiotic of choice should be safe for both mother and baby. Cephalosporins and nitrofurantoin are safe choices for pregnant mothers; as both have high urinary concentration and are effective against *E. coli*. Nitrofurantoin has the advantage of sparing the disruption of normal vaginal flora but should be avoided at third trimester because a potential risk of haemolysis if the foetus is G6PD-deficient.

A 7 to 10-day course of oral antibiotic treatment is usually adequate in a majority of the cases of ABU and acute cystitis. Patients should be advised to come for a repeat urine culture 1-2 weeks after completing antibiotics. Mothers who are treated for shorter period of time are more likely to have higher recurrence rate.

For acute pyelonephritis in pregnancy, hospitalisation is often indicated even though it is not mandatory. Indications for admissions include severe distress, dehydration, poor oral food tolerance, maternal and foetal complications and where intravenous antibiotic is necessary. Urine culture and sensitivity is mandatory in the management of acute pyelonephritis. Empirical treatment with parenteral antibiotics should begin as soon as possible. When results of the culture and sensitivity are available, the treatment regime can be altered accordingly. *E. coli* is the major causative agent in acute pyelonephritis. With good hydration and antibiotic treatment, most patients respond within 24-48 hours. If patient's symptoms persist despite appropriate antibiotics, further investigations are needed

to evaluate the possibility of underlying predisposing factors such as renal calculi and renal tract abnormalities or a perinephric abscess formation. Septicaemia is present in about 15% of patient with acute pyelonephritis.

Blood culture and sensitivity should be obtained if the patient does not respond to antibiotic treatment. Intravenous antibiotic therapy should be continued for a further 24-48 hours after initial response, evidenced by subsiding fever, disappearance of lumbar pain and improvement in patient's general physical appearance. Oral antibiotics are preferably continued for further 1-2 weeks.

UTIs recur in 4-5% of pregnancies especially when the initial infection is inadequately treated. Pregnant mothers with urinary tract calculi, diabetes mellitus and a past history of UTI are more prone to recurrence. Further evaluation of urinary tract abnormalities with radiological imaging is recommended at 3 months postpartum after anatomical and physiological changes of pregnancy have resolved.

ARTICLE 15

SCAR PREGNANCY - DIAGNOSIS & MANAGEMENT

Dr. Suma Natarajan

MD DGO

Coimbatore

Scar pregnancy (CSP) is defined when a blastocyst implants in a microscopic or macroscopic tract on the uterine scar or in the "NICHE" left behind by an incision site of the previous caesarean.

First reported - 1978 and Incidence varies from 1:1800-1:2216 of normal pregnancies

Increase in the incidence may be due to increased C-sections and improved diagnosis by Ultrasonography.

Causes and mechanism of CSP - unclear. May be due to uterine scar dehiscence and scar defects after C-section or other uterine surgeries. (curettage, myomectomy, metroplasty, hysteroscopy and manual removal of placenta)

Correlation with the number of previous caesarean sections, indication for caesarean, surgical technique and subsequent CSP are inadequate.

2 types of CSP

CSP type I (Endogenous) - Superficial implantation of the embryo on the cesarean scar (CS) which develop towards the cervico isthmic space or the uterine cavity

CSP type II (Exogenous) - Deep implantation of the embryo into a CS defect growing towards the bladder, infiltrating the uterine myometrium, and bulging from the uterine serosa.

Clinical challenge of a cesarean scar pregnancy

Presents in 2 ways:

Acute emergency in which the patient has bleeding, or acute abdomen due to a uterine rupture.

At sonography with a history of previous Caesarean

Gestational age of diagnosis is between 5 to 12 weeks with an average 7-9 weeks

CSP Diagnosis

Ultrasound is the primary diagnostic modality, using a transvaginal approach supplemented by transabdominal imaging

MRI second-line investigation if the diagnosis is equivocal

No biochemical investigations are needed routinely (serum β-hCG does not have a role in the diagnosis of CSP)

Transvaginal ultrasound: Jurcovic's Diagnostic criteria

Uterine cavity: Empty

Endocervical canal: Empty

Gestational sac or solid mass of trophoblast located anteriorly at the level of the internal os embedded at the site of the previous section scar

Myometrium: Thin or absent layer between the gestational sac and bladder

Evidence of prominent trophoblastic/placental circulation on Doppler examination

Diagnosis of CSP

Initial & early USG between 5-7 weeks is critical as CSP are misdiagnosed threatened abortion or, miscarriage sac,

May lead to curettage for a failed pregnancy causing profuse bleeding & emergency surgical intervention & hysterectomy.

Differential Diagnosis

Cervical pregnancy

Miscarriage in process caught in transition

Sliding sign: Gestational sac of the abortus slide over the endocervical canal following gentle pressure on the probe.

Treatment

Termination of pregnancy (TOP) in the first trimester is recommended, as high risk of subsequent uterine rupture, massive bleeding and life-threatening complications.

Maze of options available to manage CSP it becomes a trifle confusing as to the use of the correct choice of treatment for each case

Not < 30 primary therapeutic approach published in literature

No consensus on treatment strategy in relation to CSP type or thickness of the myometrium between the bladder and gestational sac

Insufficient evidence to recommend any one specific intervention but the current literature supports a surgical rather than medical approach as the most effective (RCOG 2016)

Expectant management

Suitable for women with small, nonviable scar pregnancies

May be considered if the pregnancy is partially implanted into the scar and grows into the uterine cavity (CSP: Type I)

Woman is counselled regarding the associated potential risks if she declines termination of the pregnancy

ARTICLE 16

MANAGEMENT OF POST PARTUM HAEMORRHAGE

Dr. Sumathi Senthilkumar

DGO, DNB, FRCOG (UK), PGA in ART(UK)
SS Medical Centre, Salem - 4

PPH is the most common cause of maternal mortality world-wide. This workshop is aimed at training and updating our practical skills to effectively manage PPH which is preventable. Management of PPH requires the prompt recognition of the situation, escalation, monitoring, investigation and direct treatment of the underlying cause.

PPH is defined as the genital blood loss of 500ml or more within 24 hours after birth. Severe PPH is more than 1000ml within 24 hours. Most cases of morbidity and mortality due to PPH occur in the first 24 hours following delivery. Abnormal or excessive bleeding within 24 hours of delivery is regarded as Primary PPH. Abnormal or excessive bleeding between 24 hours and 12 weeks is regarded as secondary PPH.

Causes of PPH (4 T's): Tone (70%), Trauma (20%), Tissue (10%), Thrombin (1%). Risk factors for PPH include multiparty, multiple gestation, big baby, polyhydramnios, prolonged labour, fibroids, instrumental delivery, difficult delivery, etc. However, PPH may occur in women without any identifiable risk factors. It is therefore recommended that active management of 3rd stage of labour should be offered to all women.

AMTSL: 1) Administration of a uterotonic (Inj.Syntocinon 10 units IM) soon after delivery of the baby, 2) clamping of the cord following the observation of uterine contraction (at around 1-3 minutes), 3) delivery of the placenta by CCT followed by uterine massage.

Even with AMTSL, some women require multiple interventions (medical, mechanical, invasive surgical and non-surgical procedures requiring different levels of skills and technical expertise to control bleeding. The health care provider needs to begin resuscitative measures quickly. Effective treatment of PPH often requires simultaneous

multidisciplinary interventions. Avoiding delay in diagnosis and treatment will lead to irreversible changes like DIC, Multi-organ Failure and death. Therefore, we obstetricians should be familiar with the standard algorithms, techniques and train our health care workers also. Labour ward should always be equipped with all uterotonics (stored in appropriate temperature), Packs, Intrauterine Balloons and suction catheters. Accurate quantification of blood loss charts should be placed in Labour room and OT. Graduated collection containers can be used to quantify blood loss.

Management of PPH

- Position flat, Nasal O2(10 L), 2 large IV cannula, **CALL FOR HELP – at least 3 persons**
- CBC, Clotting, Group & cross match (at least 4 units of Packed cell, 4 units platelets and 4 units FFP))
- Replace the volume - Up to 2 liters of crystalloid solution, blood and blood products (PC, FFP, Platelets 1:1:1)
- Uterine massage
- Bimanual compression
- Empty Bladder
- Uterotonic Agents

  Syntocinon – 10 units IM or IV, 20 to 40 units in 500 ml of NS 125 ml / hour

  Methergine – 0.2mg IM, repeat dose after 2 hours

  Carboprost -0.25mg IM once in 15 minutes up to 8 doses 2 mg (after 2 doses plan for surgery)

  Misoprostol – 800 – 1000 mcg P/R

  Carbetocin(caritec) – 100 mcg IM or IV single dose soon after delivery of the baby, heat stable oxytocin analogue

- Inj. Tranexamic Acid (anti fibrinolytic)- Fixed dose of 1 g in 10 mL (100 mg/mL) IV at 1 mL/min (ie, administered over 10 min). Second dose of 1 g IV if bleeding continues after 30 min or if bleeding restarts within 24 hours of completing the first dose. Explore uterus for retained placenta, manual removal of placenta
- Explore vagina, cervix for lacerations and haematoma's, Suturing and packing
- Uterine packing or tamponade with hydrostatic balloon, rubber, latex, etc.
- Conservative surgical: Step wise devascularization, Brace sutures, B Lynch suture and Internal iliac artery ligation
- Uterine artery Embolization & Hysterectomy

In case if you are in primary care level

- **SHIFT TO HIGHER CENTER WITH NASG (Non-Pneumatic Anti Shock Garment) – Adequate communication**
- Monitor BP/PR/SpO2/ PV bleeding – continuously during transport

<u>Prevention of PPH</u>

- **Identify the risk factors & Quantify Blood Loss**
- Keep Antenatal Hb% at higher level
- Inj. Tranexamic acid 1gm slow IV, 15 minutes before starting elective LSCS– reduces the risk of blood transfusion by 39%
- **AMTSL (Active management of 3rd stage of Labour) -** Incidence of PPH decreases by 60% with AMTSL
- **Immediate breast feeding – endogenous oxytocin**
- Anticipate PPH if fresh bleeding occurs before placental separation
- Major Haemorrhage happens in the first 2 hours of delivery
- 2 hours post-delivery in labour ward under monitoring (once in 15 minutes)
- Reexamine the woman before shifting from labour ward to ward

PREVENT THE PREVENTABLE AND SAVE MOTHERS

ARTICLE 17

COVID IN PREGNANCY

Dr Vijaya
M.D, D.G.O
Director and Professor, IOG, Egmore

The wave continues.....

Currently, the entire world is experiencing the desolation and devastation of the new viral disease, emerging from the new coronavirus SARS-CoV 2, a global pandemic

The clinical picture of patients with COVID-19 has a pattern of respiratory dominance and depends on the tropism of the virus towards the target organs of the body, because SARSCoV-2 uses the ACE-2 receptor for its entry into the host cell . The virus binds ACE-2 with an affinity 10-20 times greater than SARS-CoV. This receptor is highly expressed in multiple body tissues, including lung, gastrointestinal, kidney and cardiac tissue, explaining the symptoms present in the prodrome of the disease

Second wave is much more critical than the first wave and most of the pregnant mothers are getting admitted in the second trimester, almost entirely dependent on oxygen. At IOG we had around 1000 mothers both antenatal and postnatal managed during this covid pandemic.

Triaging is very important when pregnant mothers present with covid positive RT PCR. If the pregnant mother is positive and completely asymptomatic but still home quarantine is not suggested during this second wave. It is better to observe the patient for 5 days as an inpatient because they may become suddenly hypoxic.

The basic test to do done is CBC, NLR, LFT,RFT,CRP,D-DIMER,LDH,Sr.FERRITIN.

CT is not mandatory for all pregnant mothers. CT is only needed if there is persistent fall of saturation or other complications of covid pneumonia. CT has to be taken with proper shielding of abdomen.

IOG PROTOCOL:

Protocol A is completely for asymptomatic pregnant mothers, who will be only on T. Zinc and T. Vitamin C and T.PARACETAMOL SOS and T.AZITHROMYCIN 500MG OD and T.MONTELUKAST 10mg HS for 5 days

Protocol B for symptomatic pregnant mothers, yet the saturation is normal, we will put them on Tab. Methyl prednisolone 16 mg BD or Tab.Dexamethasone 8 mg OD for 10days. Inj. LMWH. 40 mg SC OD or uHeparin 5000 SC BD for 10 days (if wt > 100 kg Inj. LMWH 60 mg SC OD or uH 5000 units SC TDS)

PROTOCOL C and D for SpO2 < 93, who need O2 support in various forms, we will put them on Inj.Steroids (Inj. MPS 1- 2 mg/kg OD) and Inj. LMWH Or uHeparin (based on body weight) for 10 days

Covid profile has to be repeated every 3 days once.

Role of Tociluzumabis questionable but we have to be careful when prescribing because it is immunosuppressive and careful monitoring of LFT and TC, NLR should be done.

Trans placental transmission is almost NIL during the study done at IOG with almost 700 samples of placental site swab, placental tissue, nasopharyngeal swab, cord blood and amniotic fluid on day 1 and Breast milk and nasopharyngeal swab on day 3.

TAKE HOME MESSAGE:

- All pregnant and lactating mothers must be vaccinated.
- It is safe to breastfeed after vaccination.
- It is very safe to breastfeed the baby even if the mother is COVID positive.
- Follow up of Antenatal and Post-natal mothers can be done through teleconsultation.

- T. Aspirin 150mg OD should be continued for 6 weeks in postnatal COVID positive mothers.
- It is better to postpone vaccination for 3 months if they are positive for COVID RT PCR.

ARTICLE 18

ASSISTED VAGINAL BIRTH - VACUUM

Dr. Vijayalakshmi Gnanasekaran, M.D

Associate Professor, A.C.S. Medical College & Hospital, Chennai

It is an instrumental device designed to assist delivery by creating a vacuum.

(Negative pressure) between itself and the fetal scalp.

The various types of vacuum cups in use are

1. Metal cup- Original Malmstrom
2. Bird's Cup
3. Soft Silicone cups
4. Hand held Vacuum devices with Mushroom shaped or bell-shaped cups
5. Kiwi cup

Vacuum and Forceps have their own advantages and disadvantages.

Comparison

Forceps Delivery	Vacuum Delivery
Does not require maternal effort	Require some maternal effort as need to synchronize with uterine contraction
Equipment less complex	Less expertise required
Less incidences of cephalhematoma	More incidences of cephalhematoma
Can be used in preterm	Cannot be used in preterm
Can be used in non-cephalic presentations	Can be used in partially-rotated head. Not used in non-cephalic presentations.
Less injuries to infant, higher morbidity for mother	Less maternal injuries, higher morbidity for infant
Need for anesthesia/analgesia	No need for anesthesia
Takes less time in fetal distress, quicker delivery	Higher failure rate

Various studies have been done to prove the efficacy of Vacuum and Forceps to determine the better instrument. But both have stood the test of time and proven their efficacy. I just want to share some of the NEWER points from the NICE guidelines- 2020 on the usage of these instruments.

Assisted Vaginal Birth Green-top Guideline No. 26 April 2020

When should assisted vaginal birth be recommended/contraindicated?

Suspected fetal bleeding disorders or a predisposition to fracture are relative contraindications to assisted vaginal birth. [New 2020]

Blood borne viral infections in the woman are not an absolute contraindication to assisted vaginal birth. [New 2020] D

The use of a vacuum is not contraindicated following a fetal blood sampling procedure or application of a fetal scalp electrode. [New 2020] B

Operators should be aware that there is a higher risk of subgaleal haemorrhage and scalp trauma with vacuum extraction compared with forceps at preterm gestational ages. Vacuum birth should be avoided below 32 weeks of gestation and should be used with caution between 32+0 and 36+0 weeks of gestation. [New 2020]

What instruments should be used for assisted vaginal birth?

Operators should be aware that forceps and vacuum extraction are associated with different benefits and risks; failure to complete the birth with a single instrument is more likely with vacuum extraction, but maternal perineal trauma is more likely with forceps. [New 2020] A

Operators should be aware that soft cup vacuum extractors have a higher rate of failure but a lower incidence of neonatal scalp trauma. [New 2020] A

When should vacuum-assisted birth be discontinued and how should a discontinued vacuum procedure be managed?

Discontinue vacuum-assisted birth where there is no evidence of progressive descent with moderate traction during each pull of a correctly applied instrument by an experienced operator. [New 2020]

Complete vacuum-assisted birth in the majority of cases with a maximum of three pulls to bring the fetal head on to the perineum. Three additional gentle pulls can be used to ease the head out of the perineum. [New 2020]

If there is minimal descent with the first two pulls of a vacuum, the operator should consider whether the application is suboptimal, the fetal position has been incorrectly diagnosed or there is cephalopelvic disproportion. Less experienced operators should stop and seek a second opinion. Experienced operators should re-evaluate the clinical findings and either change approach or discontinue the procedure. [New 2020]

Discontinue vacuum-assisted birth if there have been two 'pop-offs' of the instrument. Less experienced operators should seek senior support after one 'pop-off' to ensure the woman has the best chance of a successful assisted vaginal birth. [New 2020]

The rapid negative pressure application for vacuum-assisted birth is recommended as it reduces the duration of the procedure with no difference in maternal and neonatal outcomes. [New 2020

Obstetricians should be aware of the increased risk of obstetric anal sphincter injury (OASI) following sequential use of instruments. [New 2020]

When should attempted forceps birth be discontinued and how should a discontinued forceps procedure be managed?

Discontinue attempted forceps birth where the forceps cannot be applied easily, the handles do not approximate easily or if there is a lack of progressive descent with moderate traction. [New 2020] B

Discontinue rotational forceps birth if rotation is not easily achieved with gentle pressure. [New 2020] B

Discontinue attempted forceps birth if birth is not imminent following three pulls of a correctly applied instrument by an experienced operator. [New 2020] B

If there is minimal descent with the first one or two pulls of the forceps, the operator should consider whether the application is suboptimal, the position has been incorrectly diagnosed or there is cephalopelvic disproportion. Less experienced operators should stop and seek a second opinion. Experienced operators should re-evaluate the clinical findings and either change approach or discontinue the procedure. [New 2020]

Obstetricians should be aware of the potential neonatal morbidity following a failed attempt at forceps birth and should inform the neonatologist when this occurs to ensure appropriate management of the baby. [New 2020]

Obstetricians should be aware of the increased risk of fetal head impaction at caesarean birth following a failed attempt at birth via forceps and should be prepared to disimpact the fetal head using recognised manoeuvres. [New 2020]

REFERENCE

Murphy DJ, Strachan BK, Bahl R, on behalf of the Royal College of Obstetricians Gynaecologists. Assisted Vaginal Birth. BJOG 2020;127:e70–e11

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference - Workshop

19th JUNE 2021

Medicolegal & Research Workshop Hall -A (19th June 2021)

09.30am to 1.00pm	**Co-ordinator** : Dr. Meena Mahalingam	
09.15am -09.30am	**INAUGURATION**	
09.30am -09.45am	Documentation	Dr Raghulvani
09.45am -10.00am	MTP amendment ACT 2020 - what Gynaecologists should know?	Dr M.C. Patel
10.00am -10.15am	Death on Table	Dr. Hitesh Bhat
10.15am -10.25am	Q&A	
10.25am-11.25am	**Panel Discussion**	
	Breaking medicolegal myths - controversial issues **Moderator :** Dr. Geetendra Sharma	**Panelists:** Dr. Hitesh Bhat Dr. Rahulvani Dr. M.C.Patel Dr. A.R.Shanthi Dr. Shaanthi Gunasingh TK Dr. Vivek Mady
11.30 am - 12.40pm	**Chairpersons** Dr. Senthiru Ramachandran & Dr. Savitri Ramesh	
11.30am -11.45am	Every Clinician is a Researcher	Dr. Revathy Janakiram
11.45am-12.00noon	Do you wish to do research on Indian data ?	Dr. Jaydeep Tank
12.00noon-12.15pm	How to write a research methodology paper ?	Dr. Seetha Panicker
12.15pm -12.30pm	Why do research paper get rejected ?	Dr. Suvarna Khadilkar
12.30pm- 12.40pm	Q &A	
01.00pm-01.30pm	**Lunch**	

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference - Workshop

19th JUNE 2021

PPH Workshop HALL B (19th June 2021)

09.30am -1.00 pm	**Co-ordinators** : Dr. Sumathi Senthil Kumar & Dr. Saravana Kumar	
09.30am-09.45 am	**INAUGURATION**	
Session 1	**Chairpersons**: Dr. Kalpana Sampath & Dr. Sujatha	
09.45am -10.15am	Management of PPH- An overview	Dr. Sumathi Senthil Kumar
10.15am -10.45am	Medical management of PPH	Dr. Sornam R.M
Session 2	**Chairpersons**: Dr. Shubha. S & Dr. Kalaiselvi. R	
11.00am-11.30 am	Non surgical methods in the management of PPH	Dr. Shanmuga Vadivu
11.30am-12.00 noon	Conservative surgical methods in the management of PPH	Dr. S.Vidhya Prabhakar
Session 3		
12.00 noon-01.00 pm	**Panel Discussion**	
	PPH case scenarios	
	Moderators – Dr. Sumathi Senthil Kumar & Dr. S. Vidhya Prabhakar	**Panelists** Dr. Saravana Kumar Dr. Sornam.R.M Dr. Shanmugavadivu Dr. Bhavani Dr. Sathya
01.00pm-01.30pm	**Lunch**	

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference - Workshop

19th JUNE 2021

Infertility Workshop Hall C (19th June 2021)

09.30am-01.00pm	**Co-ordinators** Dr. Poornima Saravanan & Dr. Laxmikrishna	
09.30am-09.45am	**INAUGURATION**	
Session1	**Chairpersons:** Dr. Parvadhavardhini Dr. Ambigaimeena & Dr. Nirmala Vijayakumar	
09.45am-10.00am	Ovulation Induction in PCOS	Dr. Fessy Louis
10.00am-10.15am	Obesity & Infertility	Dr. Chitra. S
10.15am-10.30am	Role of AMH in management of Infertility	Dr. Kanthi Bansal
Session2		
10.30am-11.00am	**Keynote Address**	
	Chairpersons: Dr. Jothi Sundaram & Dr. Krishna Surendran	
	Future Management of Human Resource in ART	Dr. Kamini R Rao
Session3	**Keynote Address**	
11.00am-11.30am	**Chairpersons:** Dr. T. Ramani Devi & Dr. Revathy Janakiram	
	Selection of cases for IUI & Stimulation protocols	Dr. Maruf Siddique
	Debate	
11.30am-12.00 noon	**Judge**	Dr. Asha Rao
	Ideal Management of Endometrosis treatment in an infertile woman	
	Medical	Dr. Jeyarani Kamaraj
	vs	
	Surgical	Dr. Damodar Rao
12.00 noon-01.00pm	**Panel Discussion**	**Panelists:**
	Male infertility	Dr. Laxmi Prabha. S
	Moderators: Dr. T. Ramani Devi & Dr. Kalapana Balamurugan	Dr. Deepa. J Dr. Vani Pujari Dr. Srinivas Dr. Chandra Ponnusamy
01.00pm-01.30pm	**Lunch**	

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference - Programme

HALL-A, 19th JUNE 2021

Time	Topic	Speaker
	Co-ordinator - Dr. Nancy	
01.30pm-03.30pm	**Infections in Pregnancy**	
	Chairpersons: Dr. E. Chitra, Dr. Kasturi.V Dr. Sheba Rosatte Victor, Dr. Mary Anne Raja	
01.30pm -01.45pm	UTI in Pregnancy	Dr. Shyjus Nair .P
01.45pm-02.00pm	Chickenpox in Pregnancy	Dr. Uma Pandey
02.00pm-02.15pm	Covid in Pregnancy	Dr. S. Vijaya
02.15pm-02.30pm	Bacterial Vaginosis in Pregnancy	Dr. Priyankur Roy
02.30pm-03.30pm	**Panel Discussion**	
	Difficult situations in LSCS	
	Moderator - Dr. A.Jaishree Gajaraj	**Panelists**
		Dr. Anita Catherine
		Dr. Nivedita Bharathy.K
		Dr. Elsy Thomas
		Dr. Narmadha
		Dr. Kiruthiga Manivannan
		Dr. Rani P.R
03.30pm-04.30pm	**Yuva Session : Myths -demystified**	
	Chairpersons : Dr. Saroja Velusamy, Dr. Rohini.G Dr. Banumathy Satyaseelan, Dr. S. Bebincy Suneer	
03.30pm - 03.45pm	Delayed Cord Clamping	Dr. Tarun Joseph
03.45pm-04.00pm	Stem Cell Banking	Dr. R. Keerthana
04.00 pm-04.15 pm	Pregnancy after Bariatric Surgery	Dr. Niranjana Asokan
04.15 pm-04.30 pm	Immunization in Pregnancy	Dr. Sravani Chithra

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference - Programme

HALL-A, 19th JUNE 2021

Time	Topic	Speaker
04.30 pm-05.00 pm	**Debate**	
	Instrumental Delivery **Judge:** For Forceps For Vacuum Delivery	Dr. Jayashree K Srinivasan Dr. Sampath Kumari.S Dr.Vijayalakshmi Gnanasekaran
	Chairpersons: Dr. Hephzibah.N Kirubamani & Dr. Revathy Jankiram	
05.00 pm-05.30pm	**Keynote Address**	
	Intrapartum Care bundle to improve clinical outcome'	**Prof.Sir S Arul Kumaran**
06.00pm-06.30pm	**Inauguration**	
06.30pm	**Entertainment**	

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference - Programme

HALL-B, 19th JUNE 2021

Time	Topic	Speaker
	Co-ordinator - Dr. Swarnam R.M	
01.30 pm - 02.30 pm	**Screening in Women**	
	Chairpersons: Dr. Chandra Ponnusamy Dr.Selvapriya Saravanan Dr.Abinaya, Dr. Aarti	
01.30 pm - 01.45 pm	Cancer Cervix Screening	Dr. Priya Ganesh Kumar
01.45 pm - 02.00 pm	PMB Evaluation	Dr. R. Premalatha
02.00 pm - 02.15 pm	Breast Cancer Screening	Dr. Nirmala Jayasankar
02.15 pm - 02.30 pm	Vaginal Discharge	Dr. M.G. Dhanalakshmi
02.30 pm - 03.30 pm	**Panel Discussion**	
	Ovarian Mass **Moderator**: Dr. Kawita Bapat	**Panelists** Dr. Kalaiselvi .R Dr. Uma Velmurugan Dr. Geetha Narayanan Dr. Narmadha. D Dr. Lilly Verghese Dr. Vairamani.R.
03.30 pm - 04.30 pm	**Yuva Session - Deficiencies made efficient**	
	Chairpersons : Dr. Thamilkothai.R Dr. Vani Pujari, Dr. Asha Jenkins, Dr. Geetha.D	
03.30 pm - 03.45 pm	Palm Coein	Dr. Kirthika Janakiram
03.45 pm - 04.00 pm	PCOS - Rotterdom	Dr. Sneha Sethumadhavan
04.00 pm - 04.15 pm	POPQ	Dr. Meena.M
04.15 pm - 04.30 pm	Myths and misconception about fertility	Dr. Madhumitha Sekaran
04.30 pm - 05.00 pm	**Debate**: **Judge** :	Dr. C. Sumathi Surendran
	For Medical Abortion	Dr. Kundavai Shankar
	For Surgical Abortion	Dr. Lakshmi Shanmuga Sundaram
05.00 pm-05.30 pm	**Plenary Session HALL A** **Keynote Address** **Inauguration & Entertainment**	**Prof.Sir S Arul Kumaran**

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference - Programme
HALL-A, 20th JUNE 2021

Time	Topic	Speaker
	Co-ordinators - Dr. Sadhanadevi.T , Dr. Nelofer	
09.00am - 10.00am	**When is it necessary in Pregnancy ?**	
	Chairpersons : Dr.Amala Devi J. Dr. Pethukani.S Dr. Thendral.V, Dr. Lekha V Nambiar	
09.00am - 09.15am	Low dose -Aspirin	Dr. Rajasri.S
09.15am - 09.30 am	Cervical Cerclage	Dr. Deepa Mukhundhan
09.30am - 09.45 am	Progesterone in RPL	Dr. Baskar Pal
09.45am - 10.00 am	Thyroid Supplementation	Dr. Basab Mukherji
10.00am - 11.00am	**Panel Discussion**	
	Twins - Labour Management **Moderator** : Dr. Rekha Kurian	**Panelists** Dr. Sadhanadevi.T Dr. Dhavashree. V Dr. Chitra, S Dr. Sumathi Baskaran Dr. Premalatha .P.B. Dr. Gomathi. T Dr. Thangamani.M
11.00am-12.00noon	**TNFOG Oration**	
	Chair persons : Dr. Anjalakshi Chandrasekar & Dr. Sampathkumari.S	
	"Obstet-Tricks"- then to now	**Dr.Kurian Joseph A**
12.00noon-01.00pm	**ICOG Session**	
	Chair persons : Dr.Mandakini Megh, Dr. Usha E Dr. Vijayalakshmi Seshadri	
12.00noon - 12.15 pm	Breech when & How to deliver	Dr. V.P. Paily
12.15 pm - 12.30 pm	Persistent OP tricks & tips	Dr. Priti Kumar
12.30 pm - 12.45 pm	IUGR Monitor & deliver how & when ?	Dr. Uday Thanawala
12.45 pm - 01.00 pm	RH Isoimmunization when &How to Manage	Dr. Aparna Sharma
01.00pm - 01.30 pm	**Lunch**	

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Mid-year E Conference - Programme
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Time	Topic	Speaker
	Co-ordinator: Dr. Rekha Rajesh	
01.30pm-02.30pm	**Chair persons :** Dr.Jeyarani Kamaraj & Dr. Ramani Devi. T	
01.30pm-02.00 pm	**Keynote Address -** Adolescent PCOS	Dr. Hema Divakar
02.00pm-02.30 pm	**Keynote Address -** ART -Present, Past & Future	Dr.Hrishikesh D. Pai
02.30pm-03.00 pm	**Chairperson :** Dr.Madhini.V	
02.30 pm-02.50 pm	Myoinositol	Dr. Anjalakshi Chandrasekar
02.50pm - 03.00pm	Securra -Mothercare Platform	Dr.Jaishree Gajaraj . A
03.00pm - 03.45pm	**IMAGING**	
	Chairpersons : Dr. Malathy G. Prasad, Dr. Revathy, Dr. Divya Ranjith, Dr. Kalpana Sampath	
03.00pm - 03.15pm	Scar Pregnancy	Dr. Suma Natarajan
03.15pm - 03.30pm	Intrapartum USG	Dr. Gigi Selvan
03.30pm - 03.45pm	Foetal Echo	Dr. Chinmayee Ratha
03.45pm - 04.45pm	**Quiz on Labour Management**	
	Quiz Masters	Dr. T. V. Chitra & Dr. M. Meena
04.45pm	**Valedictory**	

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference - Programme

HALL-B, 20th JUNE 2021

Time	Topic	Speaker
	Co-ordinators: Dr. Jothilakshmi V, Dr. Janet Anit	
09.00am-10.00am	**FOGSI FAMILY WELFARE COMMITTEE-** **The promise of LARC in the Pandemic**	
	Chair persons: Dr.Shaanthy Gunasingh T.K Dr.Sumathi Baskaran, Dr.Shantha Devi Sambath	
09.00am-09.15am	PPIUCD Ensuring Follow up and Continuation	Dr. Jyothi Sachdeva
09.15am-09.30am	The injectables - A woman's Best Friend	Dr. Parag Biniwale
09.30am-09.45am	Implants -The Novel Device	Dr. Shobha N Gudi
09.45am-10.00am	Discussion	
10.00am-11.00am	**Panel Discussion**	
	Fibroid **Moderator:** Dr. N. Palaniappan	**Panelists:** Dr. Meenakshi Sundaram Dr. Nirmala Vijaykumar Dr. Archana Ambujan Dr. Usha Thiagarajan Dr.Gnanasanker .N Dr. Vinothini Jegan.P Dr. Rama Rajesh
11.00 am - 12.00 noon	**Plenary Session** - (Hall A)	
	TNFOG Oration : "Obstet-Tricks"- then to now	**Dr.Kurian Joseph A**
	Panel Discussion	
	Chair person: Dr. Rashmi Ajit	
12.00 noon - 01.00 pm	Challenging cases in Bladder and Bowel disorders - MDT inputs. **Moderator:** Dr. A. Tamilselvi	**Panelists:** Dr Ajay Rane Dr.Sanjay Pandey Dr. Adhiti K Dr. S. Arun Dr.Kalaivani Ramalingam
01.00 pm - 01.30 pm	**Lunch**	

Tamilnadu Federation of Obstetricians and Gynaecologists

Mid-year E Conference - Programme

HALL-B, 20th JUNE 2021

Time	Topic	Speaker
01.30pm-02.00 pm	**Plenary Session** - (Hall A)	
	Keynote Address - Adolescent PCOS (Hall A)	**Dr. Hema Divakar**
02.00pm-02.30 pm	**Keynote Address ART -Present, Past & Future (Hall A)**	**Dr.Hrishikesh D. Pai**
	Co-ordinator: Dr. Priya Kannappan	
02.30 pm - 03.30 pm	**Panel Discussion**	
	RCOG Sessions	
	Chairpersons : Dr. Uma Ram, Dr.Sooriyakala Sreekumar	
	Situational awareness in emergency situations: case based discussion	
	Moderators : Dr.Sumana Manohar, Dr.Bhuvana. S, Dr.AnbuSubbian	**Panelists**: Dr.Priyanka Mehta, Dr.Sudha Ramakrishnan, Dr.Asma, Dr.Deepa Thiagarajamurthy, Dr.Runa Benjamin, Dr.Shobana Mahadevan
03.30 pm - 03.45 pm	PPH Prophylaxis: Understanding the role of Carbetocin RTS	Dr. N.Palaniappan
03.45 pm - 05.00 pm	**Plenary Session Hall A** Quiz & Valedictory	
04.45pm - 05.00pm	**Valedictory**	

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