Pune Ob-Gyn Society Estd. 1953

CONNECT

The Newsletter ♦ Issue 3, June 2021

LOVE YOURSELF - FOR THE WOMAN IN YOU!

PREVENTIVE ASPECTS IN OBGYN

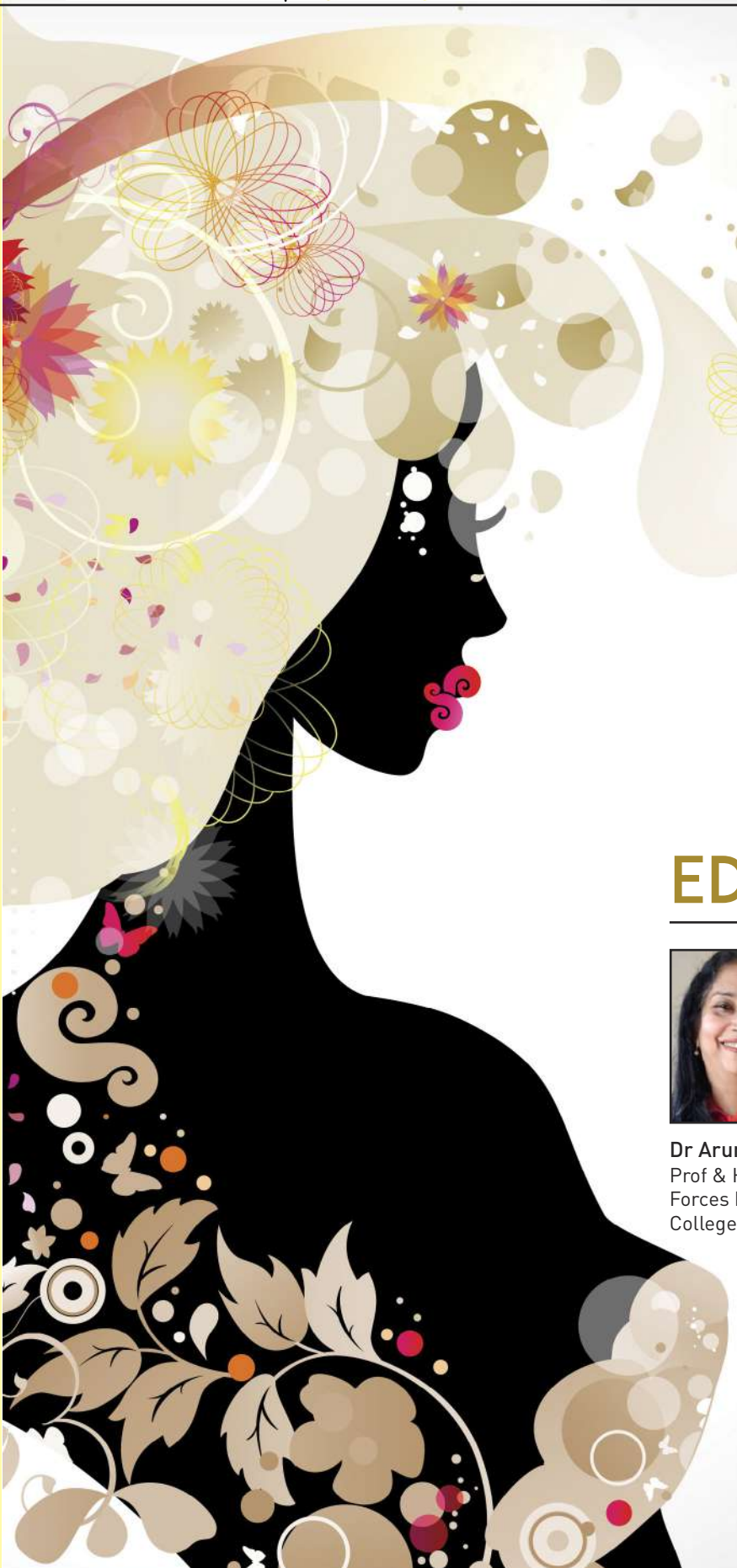
She... The STAR

Sassy • Talented • Ageless • Resilient

Dr Vaishali Korde-Nayak
General Secretary, POGS

Dr Sunita Tandulwadkar
President, POGS

Dr Nilesh Balkawade
Clinical Secretary, POGS



SHE - THE STAR

♦ Sassy ♦ Talented ♦ Ageless ♦ Resilient

EDITORIAL TEAM

Dr Aruna Menon
Prof & HOD Armed Forces Medical College, Pune

Dr Milind Dugad
Consultant Obstetrician & Endoscopic Surgeon, Dugad Hospital, Pune. Past General Secretary, POGS

Dr Rahul Argade
Consultant Obstetrician and Gynecologist Kothrud, Pune. Managing Committee Member, POGS

> "An ounce of prevention is worth a pound of cure."
>
> Benjamin Franklin

CONTENTS

TOPIC	PAGE NO
1. President's message	04
2. General secretary's message	05
3. Conception to Completion	06
4. Editorial Team's message	07
5. Maternal & foetal problems in GDM- Can we prevent it?	08
6. Inverting The Pyramid of Care	13
7. Preventing Twin Trouble	24
8. Preventing The Gap In Education	28
9. Yes it is Possible: Dr Taru Jindal	33
10. A Case of Fibroid Uterus with Uterine Inversion	37
13. General Secretary's Report – May 2021	40

PRESIDENT'S MESSAGE

"Team-work makes dreams work"

Dear POGSians,

"True prevention is not waiting for bad things to happen, it's preventing things from happening in the first place."

And all things are difficult before they are easy!

So is preventive Obstetrics and Gynecology. We, as clinicians,play a crucial role in preventive stratergies.

I am sure you all have been enjoying our monthly POGS connect News Bulletins. The theme for this month js Preventive Obstetrics and Gynecology.

The Bulletin is an interesting read, with various topics on how prediction and prevention as the first hand strategy can be more effective and economical rather than treating problems in Obstetrics and Gynecology.

For any novel idea to be incorporated, we need to be convinced of its effectiveness and ease of acceptance.

This, comes with research; as the President of this dynamic organization, I sincerely request you all to research and publish, so that the society can benifit from your work. Kindly notify POGS about your esteemed publications. We will be happy to note them, and spread your work to as many beneficiaries as possible.

So, this month, we present to you - "The art of prevention!"

And as Bill Gates said, **"Treatment without prevention is simply unsustainable."**

Happy reading 😊

DR SUNITA TANDULWADKAR
President, POGS 2021-22

GENERAL SECRETARY'S MESSAGE

Dear Friends,
Greetings from Pune !
Hope you all are taking good care of yourself & your family. With all the precautions we are taking & the magnanimous vaccination drive being run in our country, we are seeing the decline in covid cases. We all are very eager to go out & enjoy this rainy season with our families & friends. With our strict compliance to necessary care, very soon we will be able to meet in person.
This situation will improve soon, the virus outside will be tamed, but taming our mind will still be difficult to achieve. For which 'Manache shlok' will guide us. Suggestions, recommendations, and instructions we should give to our mind for being in a healthy, happy, and peaceful state.

| Jai Shri Ram |

नको रे मना क्रोध हा खेदकारी।	Nako re mana krodh ha khedkari
नको रे मना काम नाना विकारी।	Nako re mana kaam nana vikari
नको रे मदा सर्वदा अंगिकारु।	Nako re mada sarvada angikaru |
नको रे मना मत्सरु दंभ भारु।। ६।.	Nako re mana matsaru dambh bharu || 6 ||

Oh my mind, never get angry. Try to stay away from anger because it will finally result in sadness, distress, and frustration.
Oh my mind, never get engrossed in vices, greed, and bad desires. Try to stay away from vices because they will always create multiple problems.
Oh, my mind, never be arrogant and never be proud of whatever you are doing or you have achieved.
Oh my mind, never be jealous of anything or anybody and never brag about or exaggerate about whatever you do or whatever you possess. || 6 ||

मना श्रेष्ठ धारिष्ट जीवी धरावे।	Mana shresth dharisht jivi dharave |
मना बोलणे नीच सोसीत जावे	Mana bolane nich sosit jaave |
स्वयें सर्वदा नम्र वाचे वदावे।	Swaye sarvada namr vache vadave |
मना सर्व लोकांसि रे नीववावे।। ७।	Mana sarv lokansi re nivavave || 7 ||

Oh my mind, always stick to what is noble, courageous, and pure in life.
Oh my mind, learn to bear with bad, sick, or evil dialogues by others. Be patient with others and do not give a reaction immediately. Responding is always a better choice than reacting.
No matter what others say, you always be humble and polite when you converse or respond to others.
Oh my mind, irrespective of how people talk, you try to be gentle, peaceful, and good with people so that in the end they are pacified with your talk. ||7||
(English translation by Prof Kunte.)

Let's Pray we can conquer our minds.
Love

DR VAISHALI KORDE-NAYAK
General Secretary, POGS 2021-22

"Ask & you shall receive" is the Rule !
But you must learn ...
How to ask & How to receive."

CONCEPTION TO COMPLETION

"You yourself, as much as anybody in the entire universe, deserve your love and affection."

– Buddha

Love Yourself More - For the Woman in you!

Dear Friends,

Love makes the World go around and it starts first with self-love. Stop self-criticism, continuous negative thinking and comparing yourself to others.
You are unique and special and that is your superpower!
Preventive aspects in OBGYN is one such topic where you respect your womanhood. Here's to strong women: May we know them, may we be them, may we raise them! An ounce of Prevention is worth a pound of cure!
Prevention of anaemia & high risk conditions before a woman ventures into pregnancy is extremely important in reducing Maternal morbidity & mortality. The program of "Anaemia Chale Jao" was popularized by Past President POGS Dr Shirish Patwardhan. Many POGS members and POGS President Dr Sunita Tandulwadkar herself have contributed immensely to prevention of high risk Obstetric situations. Inverting the pyramid of ANC care is also the changing dimension in Obstetric care.
Also Important is prevention in Gynaecology by techniques of primary prevention such as HPV vaccination, Pap smear screening, prevention of adolescent anemia & other health isuues.
A Doctor's Experiments In Bihar by Dr Taru Jindal is beautifully written by Dr Rahul Argade. Also stories on management of GDM & Preventing twin trouble are of relevance in current context as these cases are on the rise!
In these times of Covid pandemic, the article on "Preventing the knowledge gap through online teaching.... for better tomorrow" is again beautifully penned by Dr Aruna Menon which would be helpful for UG as well as PG students.
The Editorial trio of Dr Milind Dugad, Dr Aruna Menon & Dr Rahul Argade have taken huge efforts to make this News Bulletin contemporary and immensely useful for all
True prevention is not waiting for bad things to happen, it's preventing things from happening in the first place.

Happy Reading!

DR NILESH BALKAWADE
Clinical Secretary, POGS 2021-22

EDITORIAL TEAM'S MESSAGE

Hello friends.

'An ounce of prevention is worth a pound of cure'

Attributed to Benjamin Franklin, this age-old saying is worth its weight in gold when it comes to medicine. And to any of speciality including our own.

We have just battled a devastating second wave of Covid -!9 and are up and about once again after the blow. Hence there is probably no better time to dwell on the preventive aspect of comprehensive health care.

We have also tried to bring a multicuisine flavour to our endeavour by dwelling on varied topics from Obstetrics to teaching with inputs from esteemed guests as well as contributions from closer home. Stalwarts have written on GDM, prevention of complications in twins, inverting the AN care pyramid, all eternal dilemmas in Obstetrics. These articles rub shoulders with articles on a brave Gynecologist who has taken proactive action in preventing medical mishaps in remote Govt Hospitals and on online teaching and prevention of any knowledge gap. The latter articles are by contributors from closer home. We also have an interesting case and its management being discussed in the PG speak.

These are supplemented by the regular and popular features where we have inspiring messages from the dynamic President POGS and her untiring willing team. Dr Sunita Tandulwadkar interviews the iconic Dr Meera Agnihotri which is sure to be a source of learning as well as inspiration. A brief overview of the POGS activities during the month gone by and a capsule of what is to come, awaits you in the pages of the newsletter.

So, what are you waiting for? Go ahead and update yourselves about the new and happening role of POGS not only in Pune, but in Maharashtra and across state FOGSI societies to whom we have started to connect on various levels.

May the coming month be as productive professionally, academically as well as health wise for every member of POGS!!

Our role as care givers is not just in treating the disease or the situation once it occurs, but in preventing it from happening in the first place. Come let us arm ourselves with the knowledge to do this in every field, in our own sphere of influence.

Happy Reading!

Dr Aruna Menon

Dr Milind Dugad

Dr Rahul Argade

Dr Uday J Thanawala
Chairperson, ICOG

Maternal & fetal problems in GDM- Can we prevent it?

The International Diabetes Federation (IDF) reports that 20 million (16%) of the pregnancies worldwide are associated with some form of Hyperglycemia in Pregnancy (HIP) and 84% of that is due to Gestational Diabetes Mellitus (GDM). In India alone, 6 million estimated pregnancies are affected by HIP. [1]
This article discusses the various complications which can occur in the mother and the unborn child in utero if exposed to hyperglycemia. Maintaining a normal sugar level during pregnancy is important for both the mother and the fetus. It will prevent the short term complications in pregnancy - and also will prevent the intrauterine programming of the fetus - which can lead to diabetes in adult life. Diagnosing GDM and managing it effectively will result in a healthier Gen X.

MATERNAL PROBLEMS OF DIABETES IN PREGNANCY

1) **Covid and Diabetes -** A significant number of women in their reproductive years have type1 or type 2 diabetes. Women diagnosed to have gestational diabetes in their previous pregnancy could have progressed to overt diabetes or develop gestational diabetes during the current pregnancy making them potentially a high risk group for Covid 19 infection and serious maternal and perinatal outcomes.
2) They have a higher incidence of abortions, congenital malformations, PIH, fetal Growth disorders in pregnancy.
3) May develop a macrocosmic baby or hydroamnios - leading to over distended uterus which can lead to dysfunctional labour and post partum hemorrhage.
4) If Sugar not controlled may have complications like diabetic ketoacidosis & nephropathy
5) **Future Diabetes -** 50% of women diagnosed with GDM progress to become diabetics within 5 years of that pregnancy. (thus postpartum care and follow up is important).

FETAL PROBLEMS OF HYPERGLYCEMIA IN PREGNANCY

The Placenta allows free transfer of excessive maternal glucose to the fetus, with subsequent stimulation of the fetal pancreas. This hyperglycemia triggers fetal hyperinsulinemia, which precipitates short-term complications (i.e. macrosomia and neonatal hypoglycemia), in the fetus and programmes the fetal pancreas in utero causing long-term consequences -development of diabetes in later life.

1) Congenital abnormalities - In the First trimester there is a higher risk of congenital anomalies. Pregnancies compromised by PGDM (Types 1 and 2) have a 3–4 fold increased incidence of congenital anomalies compared to the general obstetric population. The frequency of congenital anomalies among diabetic offspring at birth is estimated at 6–10%. A higher proportion of CNS, CVS and kidney malformations reported. The incidence of cardiac anomalies in the infants of diabetic mothers is three times higher as compared in the general population. The most common cardiac anomalies seen in fetuses of diabetic mothers are transposition of the great vessels, ventricular septal defects and coarctation of the aorta, single ventricle. The incidence of neural tube defect is approximately 20/1000 compared with 1 – 2/1000 in the non-diabetic obstetric population.

2) Abnormal Growth and Development -

a) Macrosomia - Excessive glucose load leads to metabolic changes in the fetus as mentioned earlier and cause increased fetal fat deposition and weight .
Problems of macrosomia -
• Difficult vaginal delivery , Perineal tears

• Risk of injury to the baby (Brachial Plexus Injury with long term consequences)
• More chances of operative delivery
• Inability of the neonate to maintain blood sugar levels after delivery - and many need NICU care
Definition of macrosomia - fetal weight above the 90th centile for that particular centre . In Indian settings generally above 3.8- 4kg

Problems in ascertaining Birth Weight antenatally -

Is USG Superior to Clinical weight estimation?

All modalities (clinical palpation, SFH and ultrasound) are equally (in)accurate in estimation of birth weight at term. [2]
On USG - the calculation of birth weight that includes the measurement of fetal abdominal circumference seems to have the best predictive value, particularly in LGA infants. [1]This parameter is found to be decreased in SGA or increased in LGA fetuses relative to the head of the fetus and reflects the nutritional state of the fetus. Sonographic estimation of LGA infants seems to be as predictive as clinical estimation. The sensitivity of either method is low (45–65%) for screening purposes and depends on personal experience of the physician.[3,4,5]
The error of estimation increases with increased birth weight and the presence of maternal diabetes such that the weight of large infants will be either underestimated or overestimated as a result of the increased fetal fat mass.
It was shown that when AC was greater than the 90th percentile, macrosomia was present in approximately 78% of neonates.[5]

Ultrasound accuracy for identifying fetus > 4500 g	Sensitivity	Specificity	Negative predictive value
	22 to 44%	99%	97 to 99%

Is birth weight is the appropriate parameter to identify fetuses that are receiving an excessive supply of nutrients that will result in mechanical and metabolic problems at the time of birth?

Because a large proportion of these affected newborns will have a normal weight (< 4,000 g or < 90th percentile), the focus has shifted to evaluating the fat layer, which is the insulin-sensitive tissue located in the subcutaneous layer of the skin in fetuses and infants.The identification of fetal macrosomia was expanded with the inclusion of morphometry by studying subcutaneous fat thickness surrounding the trunk and upper extremities during the third trimester. Humeral soft tissue measurements > 13 mm at term were significantly more predictive of LGA infants when compared with usual EFW formulae or body proportionality indices such as FL/AC.It has been confirmed that humeral soft tissue thickness is more sensitive than EFW in predicting macrosomia and shoulder dystocia in infants with a large ponderal index.
Fetal fat, and in particular the truncal fat layer, has a stronger correlation with maternal glycemic control than does estimation of birth weight . Ultrasound-assessed increased fetal body fat, and particularly the truncal fat layer, is a sign of a hyperinsulinemic fetus. [6,7]
When body measurements of the fetus, especially the shoulders and the abdomen, exceed the head measurement, the risk of shoulder dystocia increases not only in LGA fetuses but also in normal-weight fetuses. Shoulder dystocia can occur even during caesarean section. [8,9] Ultrasound may over diagnose macrosomia but it can also help to rule out the problem in suspected cases Fetal Hypoxia Sudden intrauterine death & Brachial plexus injury.
Furthermore, unlike intrauterine growth restriction, in diabetes metabolic derangements in the fetus may lead to acidemia without hypoxemia. Therefore, the classic redistribution seen in fetal hypoxemia due to uteroplacental insufficiency may not occur even in severely compromised fetuses, and it is therefore important not to be misled by apparently normal fetal Doppler results.

b) FGR in GDM -

In pregnancies complicated by diabetes, and particularly those involving vascular disease, impairment of placental perfusion will typically lead to asymmetric or disproportional growth retardation of the fetus. [10] Asymmetrical or disproportional growth retardation typically starts at the beginning of the third trimester. The sonographic estimation of fetal size in this situation is superior to clinical estimation by palpation or fundal height measurement. Biweekly sonographic and Doppler studies of the uterine and umbilical vessels should be used for follow-up of SGA fetuses once picked up. If Doppler results indicate that a fetus is beginning to decompensate delivery should be planned regardless of the fetal age.

Impedance to flow is related to maternal glycemic control?

Whether impedance in the uterine and umbilical arteries can provide useful prediction of subsequent development of preeclampsia and/or intrauterine growth restriction in the same way that it does in nondiabetic pregnancies?
Bracero et al. - found a significant association between impedance to flow and maternal serum glucose concentration. Furthermore, high impedance was associated with an increased number of stillbirths and neonatal morbidity. It was suggested that maternal hyperglycemia causes placental vasoconstriction by impairing prostacyclin production.[11]
Thus in SGA - Doppler is a good surveillance tool to judge and predict the turning point at which the decreased perfusion–adapted fetus decompensates and delivery is necessary. In contrast, for LGA fetuses, with which the placenta is usually large as well, there is an increased blood flow present, and the wave curve is normal, such that the usual perfusion indexes fail to predict placental insufficiency.[12]
A measured amniotic fluid < 2 cm is considered to be significantly reduced and should prompt delivery. Relative hydroamnois which may occur in HIP may mask fetal compromise
Because of the limitations in the predictive power of most of the fetal monitoring methods and the lack of randomized, controlled trials to support fetal monitoring methods, there is no agreement on the best way to monitor fetal health in diabetic pregnancies

Cardiac myopathies -

Infants of diabetic mothers are at increased risk of hypertrophic cardiomyopathy.
Fetal cardiomegaly which affects the cardiac diastolic function- may be the consequence of increased insulin sensitivity of the fetal myocardium. Diabetic cardiomyopathy occurs in about 30% of the newborns of diabetic mothers and is characterized by disproportional thickening of the septum, resulting in a transient hypertrophic subaortic stenosis with left ventricular out- flow obstruction and congestive heart failure.
Septal hypertrophy and cardiomegaly do not necessarily impair cardiac function. As a result, infants born with septal or myocardial hypertrophy may be completely asymptomatic. Typically the transient myocardial hypertrophy is resolved within 2 – 4 weeks after delivery and certainly within 6 – 12 months of postnatal life in both GDM and PGDM.[13,14]

PREVENTION OF MATERNAL & FETAL RISKS

A strict control of the blood sugar level goes a long way in preventing Maternal and Fetal complications.
For diabetic women it is important to control their sugar before embarking on a pregnancy. An uncontrolled diabetic state increases the chances of congenital defects in the fetus. The prevalence of malformations appears to increase with the degree of diabetic severity. Hba1c level till 6.5% has not been associated with a increased risk and that's why NICE Guidelines suggest a HbA1c of less than 6.1 preconception. At a value of <8% there is a 5% increased risk and if HbA1c is >10% the risk goes up to 25 %. Thus the patient should be counseled accordingly - and if want to prevent these - the sugar control should be achieved before a pregnancy is attempted.
Once pregnant today with advanced USG machines a complete anatomical survey can be achieved in 64% of abdominal scans and 82% of TVS at 11-13 weeks gestation and if found abnormal a safe termination can be advised.
Most GDMs (those developing abnormal sugar after 26 weeks) can be controlled on diet and exercise. A diet chart and exercise regime is all that is needed. If this does not achieve the target values of Fasting 90mg/dl and Post prandial of <120mg/dl then one can think of pharmacotherapy and these days Metformin orally can be offered. Few women would require injectable insulin if the sugars are still high . The target values in pregnancy are lower than the non pregnant state - because normally in pregnancy the sugar values are low and a high sugar level is detrimental to the developing

fetus. Self monitoring of blood sugar should be encouraged in all women with GDM because it helps in better control and management.

A Proper Antenatal care and follow up is important for these women -

• A First trimester uterine artery doppler is useful to predict preeclampsia - because these patients are prone to PIH. If abnormal, Aspirin 150 mg every night is started and continued till 36 weeks.

• Normally a Downs Syndrome screening is recommended at this stage with a NT Scan, but in diabetics median PAPA, is reduced and a special mention of the maternal diabetic status is needed to apply a correction factor or else a wrong combined screening will result .[15]

• This is followed by an early Anomaly Scan at 18 weeks where the detailed anatomy is again evaluated and confirmed to be normal, especially the fetal echo.

• Growth scan are done more frequently in GDM patients to pick up growth abnormalities and to monitor fetal health (as described above). Sonographic signs of fetal macrosomia will help to identify those women with GDM who require more aggressive early treatment.

WHEN TO DELIVER THESE WOMEN ?

For women with well-controlled diabetes, whether pregestational or gestational, a late preterm or early term birth, i.e., before 39 completed weeks of gestation, is NOT indicated. In a setting of poorly controlled diabetes, an individualized decision aiming for late preterm or early term delivery (before 38 weeks + 6 days gestation) is recommended. An early term or term delivery (38–39 weeks + 6 days gestation) is suggested if vascular complications are present in women with pregestational diabetes. These are the recommendations from the American College - but is it easy to always follow guidelines? In practice, however, these gestational ages may be difficult to attain. It must also be remembered that these recommendations assume 24/7 availability, accessibility, and affordability of optimal maternal and fetal monitoring, including seven-point glycemic profiles and regular cardiotocography for all women with GDM. They also take certain attributes of physical environment, such as ease of travel and communication, for granted. Early induction of labor may be appropriate for women who find it difficult or expensive to travel repeatedly to the healthcare center, or who are unable to adhere to the recommended frequency of follow-up. Though even the GOI guidelines say for uncomplicated GDM one can deliver at 39 weeks - many of us in practice would tend to interfere at 38 weeks - partly due to fear of sudden unexplained still birth in these patients.

Delivery of a big baby - Risks to the baby and mother are infrequent but if a injury occurs the impact on future life can be profound - like brachial palsy thus as everything else in obstetrics its Balanced obstetric decision making … as usual !

CONCLUSION

• It is important to diagnose GDM - Universal screening and proper glucose challenge test (one step DIPSI Test recommended by GOI)
• Manage the sugar in a GDM woman well - Diet , exercise and if necessary pharmacotherapy.
• How well should be the glycemic control ?
• The fetus should not come to know that the mother is a diabetic - that's the secret to prevent any complication in the mother and the fetus .

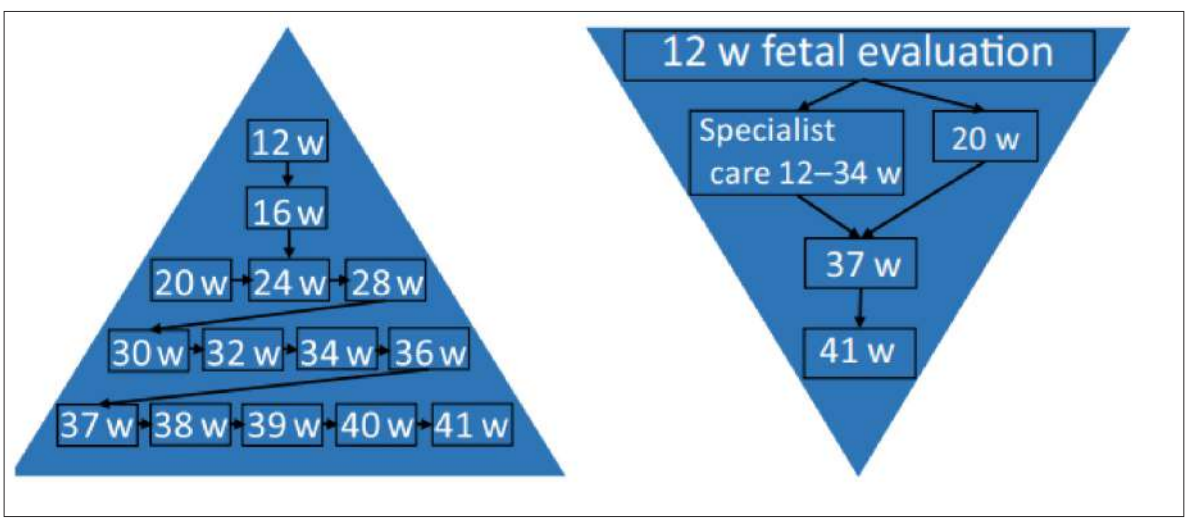
References -

1) Usha Sriram - Finding the Sweet Spot in Screening, Diagnosis & Follow-up During and beyond the COVID-19 Pandemic (in publication)
2) Tamura RK, Sabbagha RE, Depp R, Dooley SL, Socol ML. Diabetic macrosomia: accuracy of third trimester ultrasound. Obstet Gynecol 1986
3) Noumi G, Collado-Khoury F, Bombard A, Julliard K, Weiner Z: Clinical and sonographical estimation of fetal weight performed during labor by residents. Am J Obstet Gynecol 192:1407 –1409, 2005Medline)
4) O'Reilly-Green C, Divon M: Sonographic and clinical methods in the diagnosis of macrosomia. Clin Obstet Gynecol 43:309 –320, 2000CrossRefMedline)
5) Colman A, Maharaj D, Hutton J, Tuohy J: Reliability of ultrasound estimation of fetal weight in term singleton pregnancies. N Z Med J119 : U2146,2006)
6) Humphries J, Reynolds D, Bell-Scarbourgh L, Lynn N, Scardo J, Chauhan S: Sonographic estimate of birth weight: relative accuracy of sonographers versus maternal fetal medicine specialists. J Matern Fetal Neonatal Med 11:108 –112, 2002)
7) Smith G, Smith M, McNay M, Flemming J: The relation between fetal abdominal circumference and birth weight: findings in 3512 pregnancies. J Obstet Gynaecol 104:186 –189, 1997
8) Catalano P, Thomas A, Huston-Presley L, Amini S: Increased fetal adiposity: a very sensitive marker of abnormal in utero development. Am J Obstet Gynecol 189:1698 –1704, 2003)
Landon M, Gabbe S: Fetal surveillance and timing of delivery in pregnancy complicated by diabetes mellitus. Obstet Gynecol Clin North Am23 : 109–123,1996
10) Maulik D, Lysikiewicz A, Sicuranza G: Umbilical arterial Doppler sonography for fetal surveillance in pregnancies complicated by pregestational diabetes mellitus. J Mat Fet Neonatal Med 12:417 –422, 2002
11) Bracero L, Schulman H, Fleischer A, Farmakides G, Rochelson B. Umbilical artery velocimetry in diabetes and pregnancy. Obstet Gynecol 1986;68:654–8
12) Rochelsen B, Coury A, Schulman H, Dery C, Klotz M, Shmoys S: Doppler umbilical artery velocimetry in fetuses with polyhydramnions. Am J Perinatol7 : 340–342,1990
13) Rizzo et al. examined 40 well-controlled insulin-dependent diabetic pregnancies at 20–38 weeks of gestation and reported a significant increase in fetal interventricular septal thickness
14) Veille JC, Hansom R, Sivakoff M, Hoen H, Ben-Ami M. Fetal cardiac size in normal, intrauterine growth retarded, and diabetic pregnancies. Am J Perinatol 1993; 10: 275 – 279.
15) First trimester maternal serum free b-human chorionic gonadotropin and pregnancy-associated plasma protein A in pregnancies complicated by diabetes mellitus MD Savvidou,a,b A Syngelaki,b M Muhaisen,b E Emelyanenko,b KH Nicolaidesb,c Academic Department of Obstetrics and Gynaecology, Imperial College School of Medicine, London, UK Accepted 14 November 2011.

Inverting The Pyramid Of Care

Dr Pooja Vaziraani
Consultant
Fetal Medicine
Specialist
Mumbai

In 1929, the Ministry of Health in the UK issued a Memorandum on Antenatal Clinics recommending that women should first be seen at 16 weeks, then at 24 and 28 weeks, fortnightly thereafter until 36 weeks and then weekly until delivery (Figure 1) (Ministry of Health Report, 1929). Recently we have seen a movement of fetal and maternal investigations to the first trimester of pregnancy.
Some especially important complications that occur later in pregnancy can be predicted in the first trimester; thus, it is necessary to increase the focus of clinical evaluations in early pregnancy, thereby, inverting the pyramid of prenatal care (Fig. 1). By triaging pregnancies that are at the highest risk for complications occurring in the later in gestation and by identifying those that are at very low risk, a prenatal care plan can be developed that is tailored to individual patients.



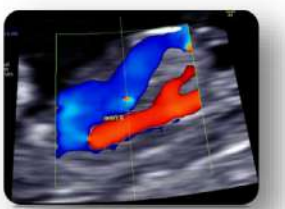
It has become apparent that most major aneuploidies can be identified at 11 to 13+6 weeks' gestation by a combination of maternal characteristics, ultrasound findings and biochemical testing of maternal blood. An integrated first visit at 11 to 13+6 weeks combining maternal characteristics and history with findings of biophysical and biochemical tests can define the patient-specific risk for a wide spectrum of pregnancy complications, including miscarriage and fetal death, preterm delivery, preeclampsia, small for gestation, gestational diabetes, macrosomia

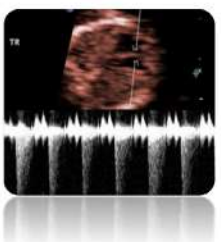
1. FIRST-TRIMESTER ESTIMATION OF GESTATIONAL AGE:
First-trimester crown-rump length measurement represents the most accurate method for establishing the gestational age in the general population. Accurate gestational age is a critical piece of information that influences essentially all decisions , including such basic aspects of prenatal care as evaluating fetal growth and timing of delivery.

2. FIRST-TRIMESTER SCREENING FOR FETAL ANEUPLOIDY:
Foetal aneuploidy is a major cause of perinatal morbidity and mortality as well as long-term disabilities. a screening test that has the highest possible detection rate and lowest false-positive rate is of critical importance.

MOST EFFECTIVE METHOD OF SCREENING FOR TRISOMY 21– COMBINED FTS

- COMBINATION OF MATERNAL AGE + NT +SERUM BIOCHEMISTRY AT 11-13+6 WEEKS – DR OF 90% WITH 5%FPR
- ADDITION OF NB, DV DOPPLER & TR INCREASES THIS DR TO 95% WITH FPR OF <3%

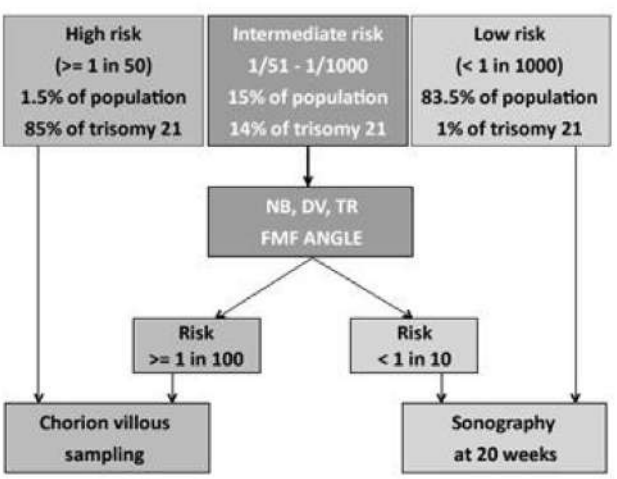




Maternal age+ NT+ Serum PAPPA +Free Beta HCG -- Sensitivity -90% with 5% FPR.

Free beta–human chorionic gonadotropin (hCG) and pregnancy-associated plasma protein A (PAPP-A) were first used to screen for trisomy 21, but later they were also found to be useful in screening for trisomies 18 and 13 and triploidy.

Addition of FHR,nasal bone, DV flow and TR can increase the detection to 95% with 2.5 % FPR.

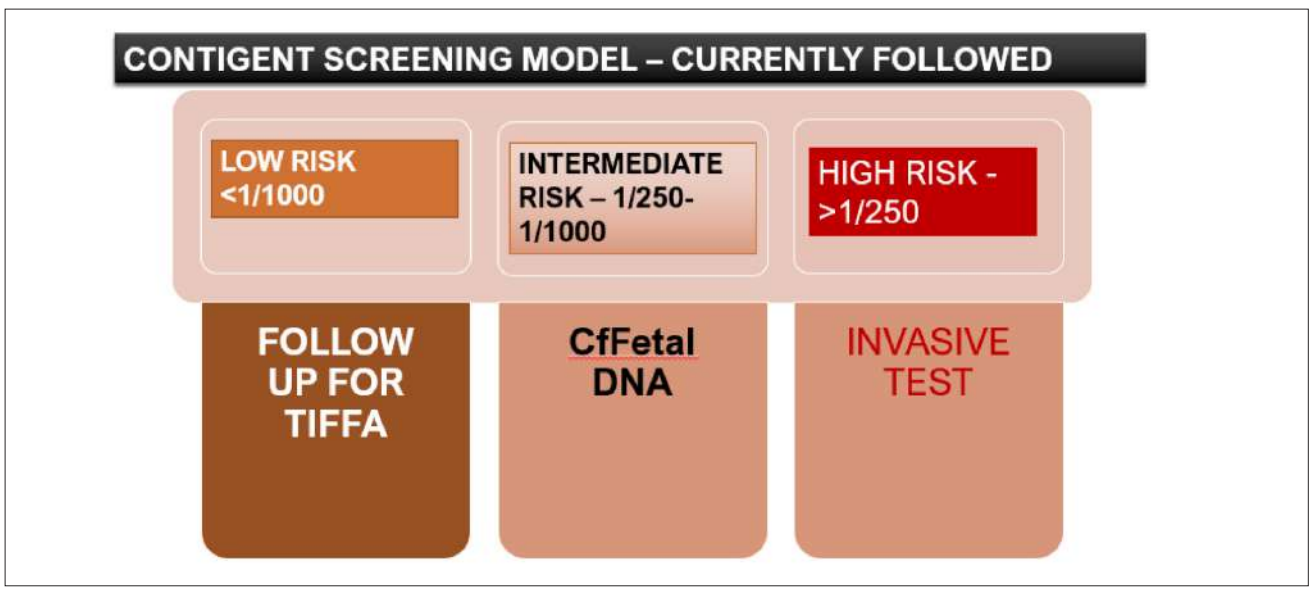


If CVB is missed then amniocentesis at 16 weeks and beyond.

cffDNA FOR SCREENING OF ANEUPLOIDY :

There is an ongoing debate regarding how cell-free DNA (cfDNA) screening can best be incorporated into current prenatal screening algorithms for chromosomal abnormalities.

Cell-free (cf) DNA analysis of maternal blood provides effective screening for fetal trisomies 21, 18 and 13 with reported detection rates (DR) of 99%, 96% and 91%, respectively, at an overall false-positive rate (FPR) of 0.35%.



The above screening risk cut off is 1/250,as we are having our FTS reported high risk with this risk cut off. The Fetal Medicine Foundation uses 1/50 in earlier studies and the latest cut off used for cell free DNA is 1/10 .However we need to upgrade our screen +ve cut off according to national incidence and prevalence of Down syndrome, till then we are using 1/250 as screen +ve in combined FTS module .

First trimester combined screening serves as a triage examination for determining whether cfDNA analysis is required.

• Depending on the computed risk for trisomy 21 (T21) and the presence of major defects, the pregnancy is classified as:

- High risk
- Low risk
- Intermediate risk.

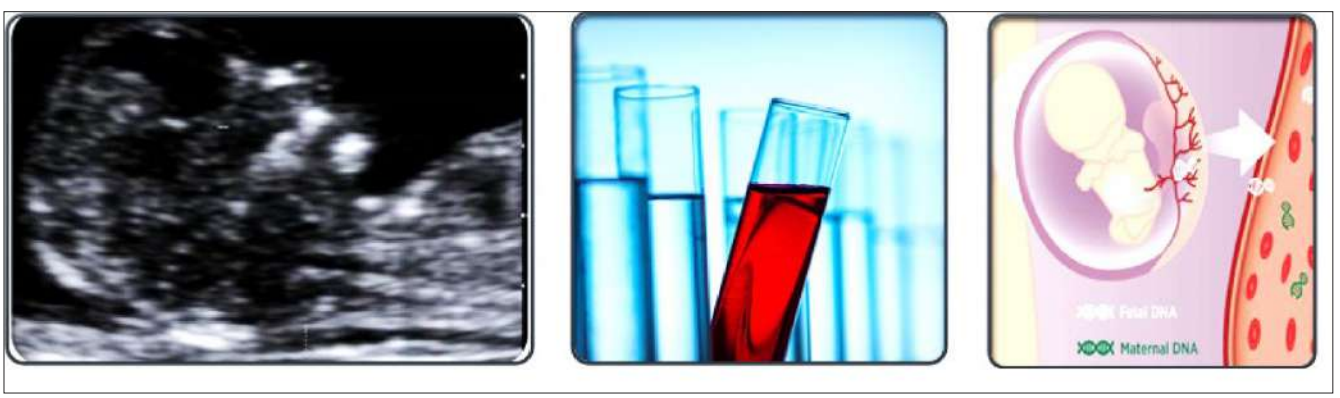
The recommendation to proceed straight to invasive diagnosis in the high-risk group is justified especially with abnormal USG markers and anatomy :

- Increased NT
- Fetal structural defects.

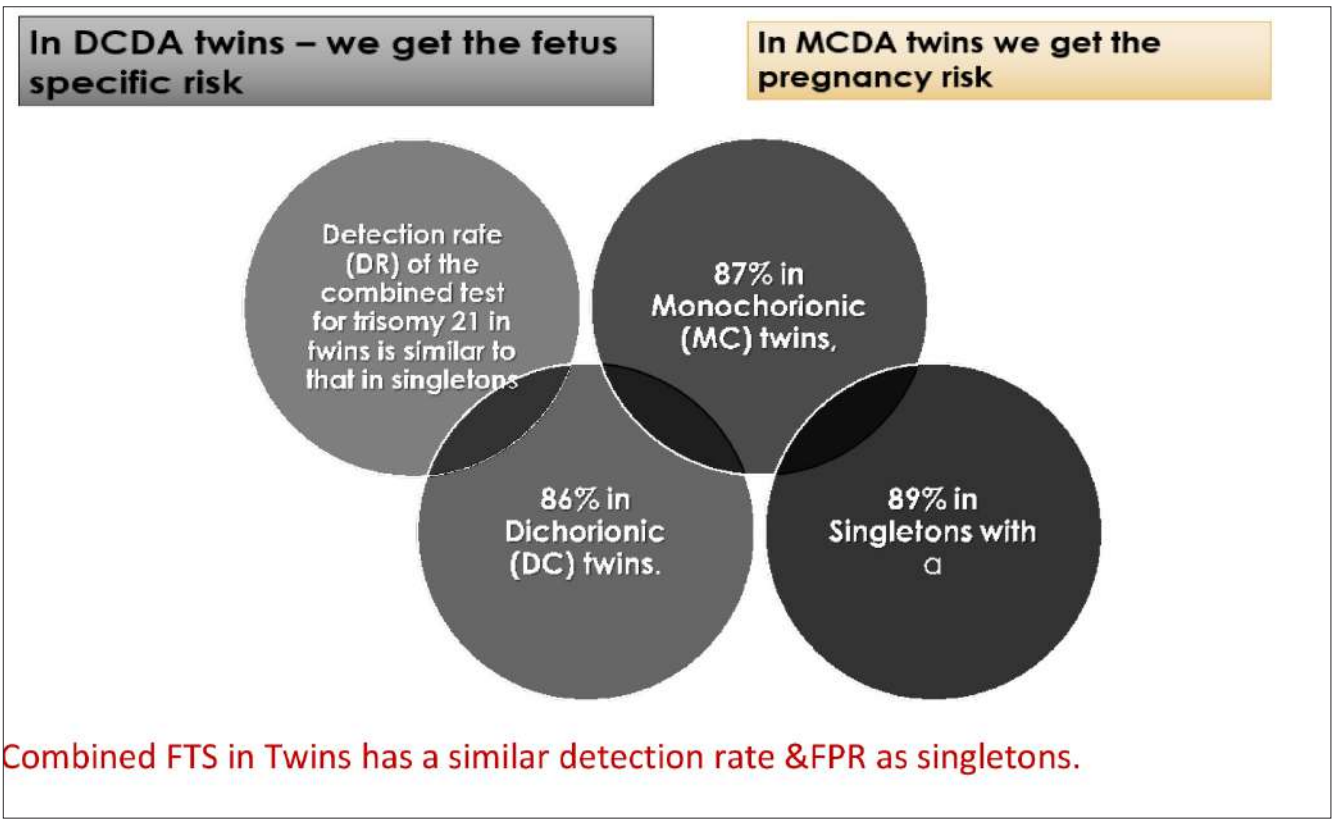
This group includes a significant number of fetuses that have a chromosomal abnormality that is detectable only through invasive testing and not by cfDNA analysis.

3.ASSESSMENT IN MULTIPLE PREGNANCIES AND SCREENING FOR ANEUPLOIDIES.
Estimation of chorionicity in the first trimester allows accurate counseling regarding the risk of the pregnancy. In monochorionic-diamniotic twin pregnancies, a large difference between the NT measurements of the 2 fetuses or the presence of ductus venosus blood flow abnormalities may be helpful in identifying pregnancies with an increased risk for twin-twin transfusion syndrome.

Screening for aneuplodies in twins:



THE COMBINED TEST (MA+ NT+ serum free beta HCG + PAPPA) can be done in twin pregnancies – Dichorionic and Monochorionic pregnancies.

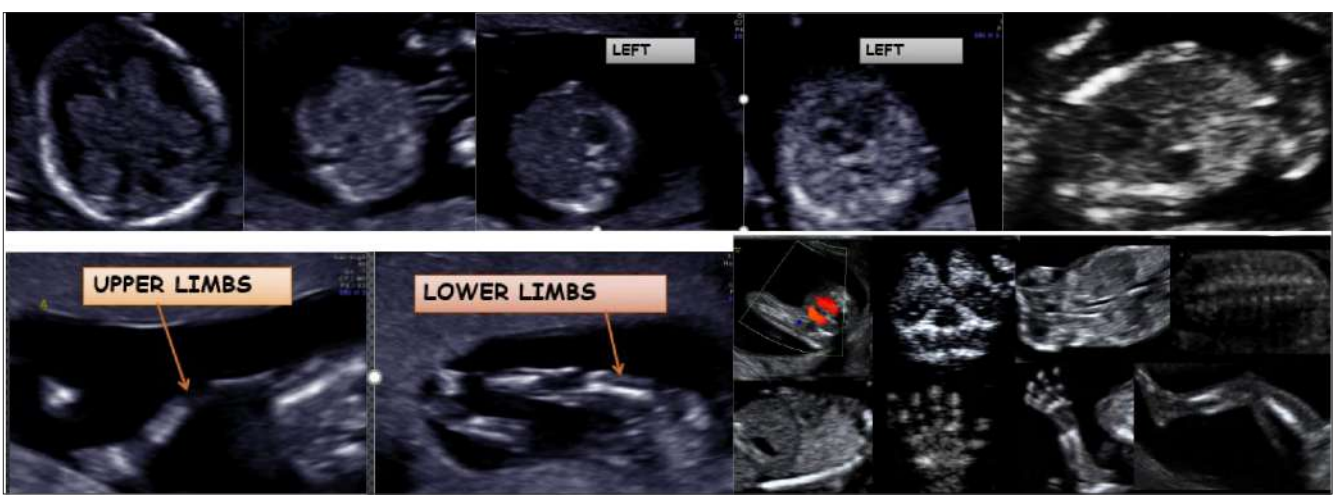


CELL FREE FETAL DNA FOR SCREENING IN TWIN PREGNANCIES:

In twin pregnancies cfDNA testing of maternal blood provides effective screening for trisomy 21.
This can be used either as a primary method of screening or contingent on the results from first line screening by the first trimester combined test and / or second trimester biochemistry test.
If cffDNA testing is adopted as a first line method of screening for trisomies in twin pregnancies, then women should be offered an 11-14 weeks scan to determine gestational age, chorionicity & whether the fetuses are alive and if there is high nuchal translucency thickness or major defects that would merit invasive testing.

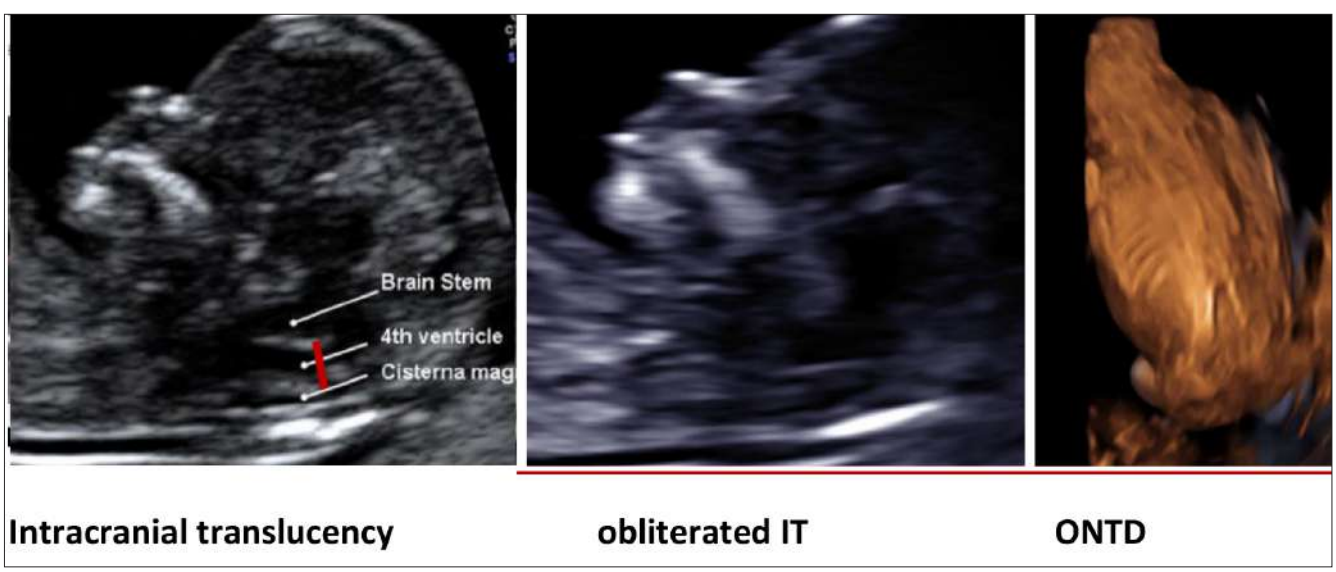
4.SCREENING FOR STRUCTURAL DEFECTS :

By doing a systematic survey of the fetus, we can detect major structural defects which are classified into always detectable.



Always diagnosable	
	Anencephaly
	Abdominal wall defects (omphalocele, gastroschisis, limb body wall complex)
	Alobar holoprosencephaly
	Ectopia cordis
	Encephalocele
Often diagnosable	
	Megacystis
	Diaphragmatic hernia
	Polydactyly
	Facial cleft
	Spina bifida
	Dandy–Walker malformation
	Limb reduction
	Major heart defects
	Lethal skeletal dysplasia
Never or rarely diagnosable	
	Echogenic lung lesions
	Agenesis of the corpus callosum
	Duodenal atresia
	Cerebellar hypoplasia
	Renal anomalies

5.SCREENING FOR OPEN NEURAL TUBE DEFECTS:

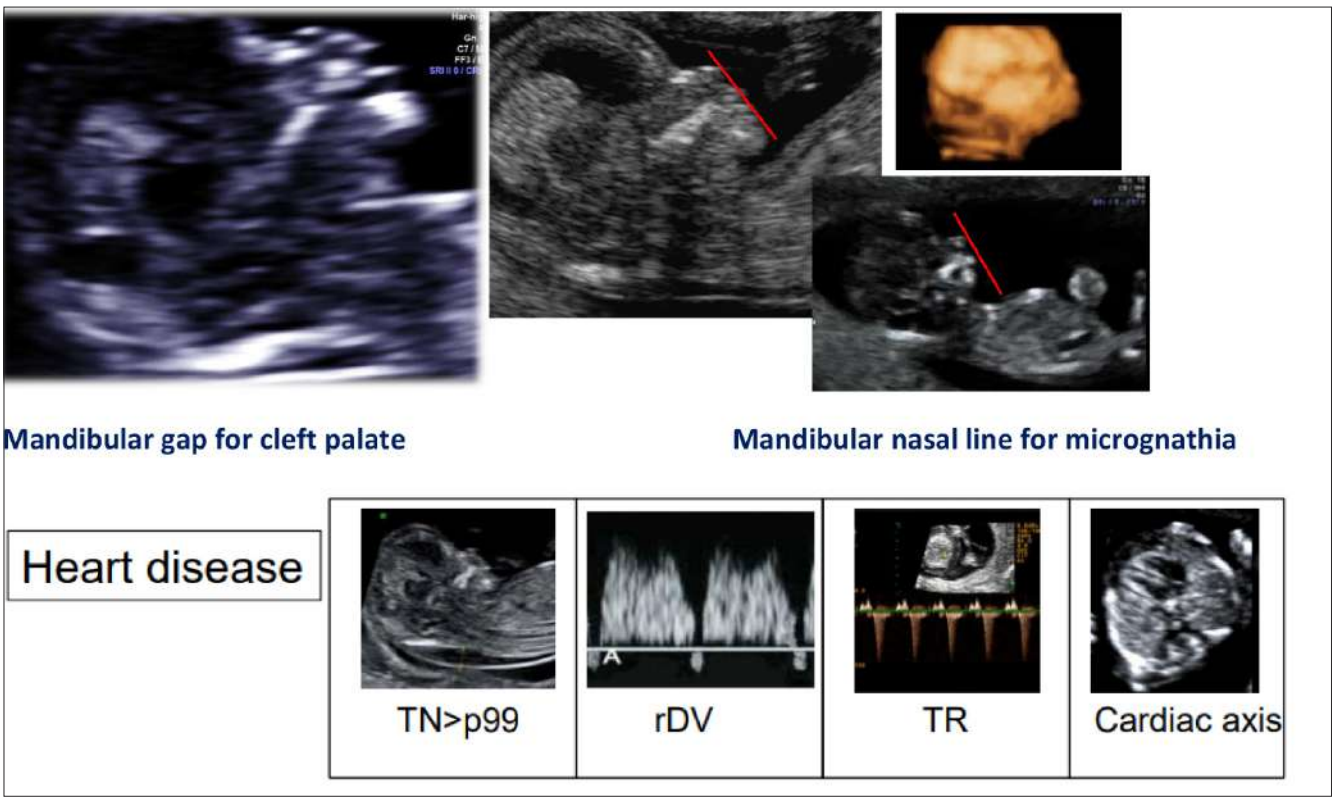


In order to assess changes in the posterior fossa objectively, a ratio of the thickness of the BS estimated by a measurement from the sphenoid bone to the floor of the fourth ventricle to a measurement from the floor of the fourth ventricle to the inner edge of the occipital bone (BSOB) was developed. A ratio that is greater than the 95th percentile of a gestational age–adjusted normal range was associated with the presence of ONTDs in 97% of the cases.

FIRST TRIMESTER MARKER FOR EVOLVING POSTERIOR FOSSA CYSTIC PROBLEMS:

The use of the BS/BSOB ratio has now expanded beyond simply screening of ONTDs. It has been suggested that if the ratio is less than the fifth percentile (ie, the opposite of what occurs with ONTDs), the risk of abnormalities that originate in the posterior fossa (Dandy-Walker malformation, partial vermian dysgenesis, and Blake cyst) is increased; but further research is necessary in this field

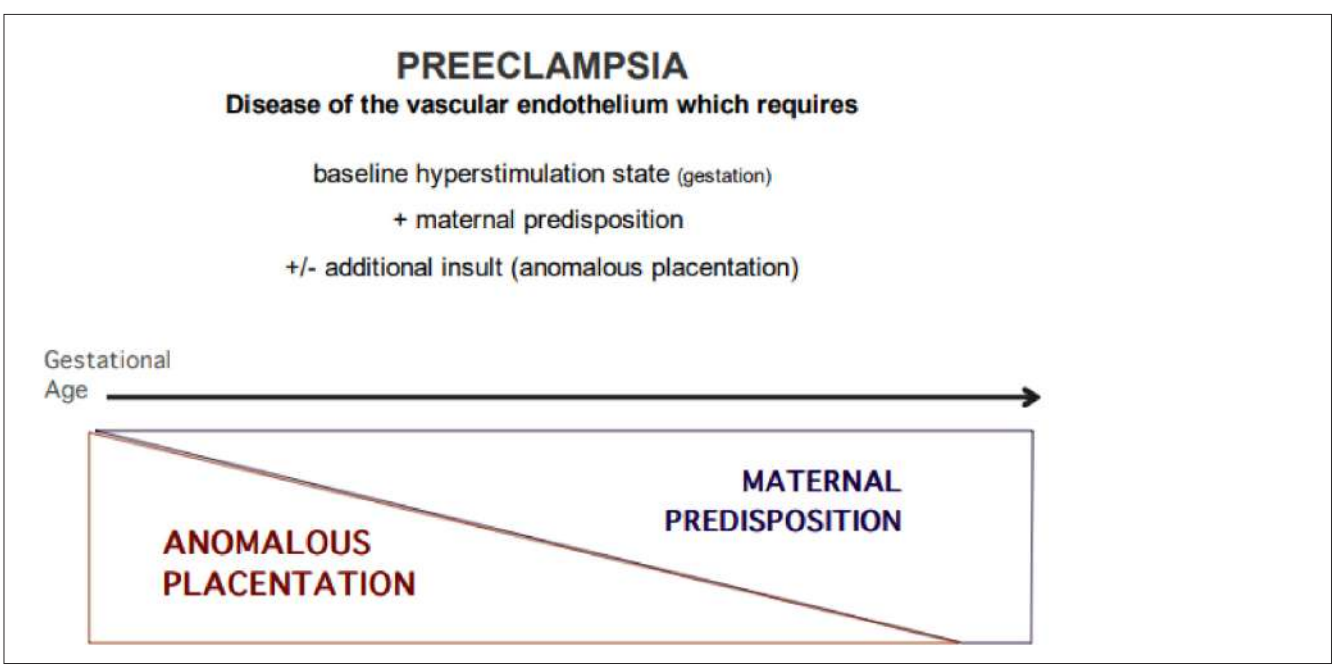
Newer markers for potentially detectable anomalies :



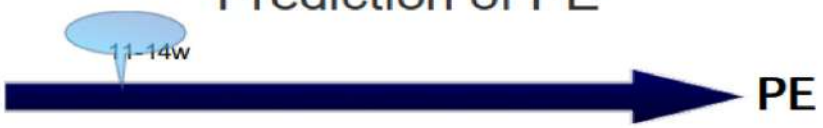
The 4 chamber and arches in B mode and colour helps to screen and suspect major cardiac malformation.

6. SCREENING FOR PREECLAMPSIA

Maternal and fetal complications that are related to abnormal placentation are much more common than both problems combined. Most placental architecture, including placental maternal blood circulation, is established by the end of the first trimester; no further anatomic modifications are evident after the fourth month of pregnancy.

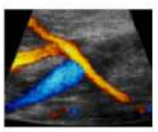


Prediction of PE



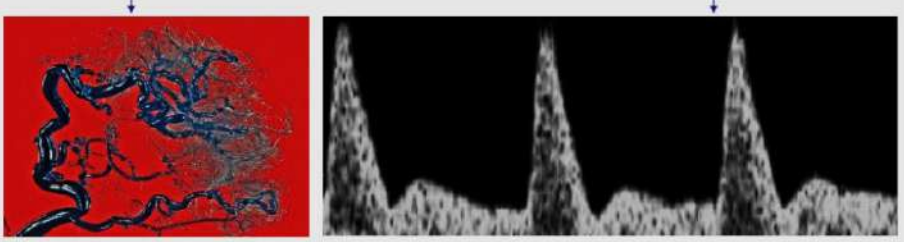
INTEGRATED FIRST TRIMESTER APPROACH

maternal + UtA Doppler + biomarkers


Detection Rates (for FPR 10%)	
EARLY PE	LATE PE
80-90%	25-50%

Uterine Doppler	What is risk?
90 % PE < 34 weeks 30 % PE > 34 weeks	70 % IUGR < 34 weeks 30 % IUGR weeks



	Detection rate for 10% FPR
PE/IUGR	~25%
Early PE/IUGR	**~50%**

✓Limited detection rate

✓Allows prophylactic intervention?

ASPRE TRIAL:
Tab aspirin 150mg OD at bedtime till 36 wks to be given in all high risk patient <16 weeks, significantly reduces the risk for PE < 34 weeks – 50%.
The Fetal Medicine Foundation (FMF) algorithm suggests that, for a false-positive rate of 10%, detection of early PE (requiring delivery before 34 weeks' gestation) would be approximately 90% based only on historical factors, maternal blood pressure measurement, and uterine artery PI. The addition of PAPP-A and PlGF levels increases the detection rates to 96%

7.SCREENING FOR SMALL FOR GESTATION FETUSES:
Screening for SGA without PE has shown some benefit. The risk is increased with an increase in the uterine PI and maternal mean arterial pressure. Decreased maternal serum PAPP-A, free beta-hCG, PlGF, placental protein 13 (PP13), and A disintegrin and metalloproteinase 12 (ADAM12) also increase the risk of SGA.
For a falsepositive rate of 10%, the combination of these markers along with maternal characteristics could identify approximately 75% of SGA fetuses delivering before 37 weeks' gestation and 45% that deliver at term
It has been shown that early administration of low-dose aspirin reduces the incidence of intrauterine growth restriction as well as its related pregnancy and neonatal complications. Using the same FMF screening algorithm mentioned earlier in screening for PE, the estimated detection rates for early onset PE, late-onset PE, preterm SGA, and term SGA were 95%, 46%, 56%, and 44%, respectively, with an overall falsepositive rate of 11%

8.FUTURE APPLICATIONS OF FIRST-TRIMESTER SCREENING PROTOCOLS:
Screening for preterm delivery
Cervical length measurement obtained transvaginally and adhering to strict guidelines in combination with maternal characteristics is likely to be used in the future to select a high-risk group that may benefit from close follow-up and possible treatment.
First-trimester screening for gestational diabetes mellitus (GDM):
It is possible using maternal serum biochemistries. Adiponectin and sex hormone–binding globulin are reduced and visfatin is increased in association with increased risk for GDM. Combination of maternal characteristics and biochemical markers can identify about 75% of pregnancies that will develop GDM for a 20% false-positive rate.
Screening fetal macrosomia/large for gestational age (LGA) :
The risk of LGA increases with increased NT measurement, increased levels of maternal serum free beta-hCG and PAPP-A, and a decreased level of adiponectin. For a 10% false-positive rate, the combination of these factors and maternal characteristics can detect approximately 40% of LGA fetuses.

REFERENCES:
1. 1.Ministry of Health Report. 1929 Memorandum on antenatal clinics: their conduct and scope. London: His Majesty's Stationery Office; 1930. 2.
2. Nicolaides KH. A model for a new pyramid of prenatal care based on the 11 to 13 weeks' assessment. Prenat Diagn 2011;31:3–6.
3. Kagan KO, Wright D, Baker A, et al. Screening for trisomy 21 by maternal age, fetal nuchal translucency thickness, free beta-human chorionic gonadotropin and pregnancy-associated plasma protein-A. Ultrasound Obstet Gynecol 2008; 31:618–24.
4. Souka AP, Kaisenberg Von CS, Hyett JA, et al. Increased nuchal translucency with normal karyotype. Am J Obstet Gynecol 2005;192:1005–21.
5. Hyett J, Perdu M, Sharland G, et al. Using fetal nuchal translucency to screen for major congenital cardiac defects at 10-14 weeks of gestation: population based cohort study. BMJ 1999;318:81–5.
6. Syngelaki A, Chelemen T, Dagklis T, et al. Challenges in the diagnosis of fetal non-chromosomal abnormalities at 11-13 weeks. Prenat Diagn 2011;31:90–102.

7. Benn P, Cuckle H, Pergament E. Non-invasive prenatal diagnosis for Down syndrome: the paradigm will shift, but slowly. Ultrasound Obstetrics Gynecol 2012; 39:127–30. 13.
8. Nicolaides KH. Turning the pyramid of prenatal care. Fetal Diagn Ther 2011;29: 183–96
9. Chaoui R, Nicolaides KH. Detecting open spina bifida at the 11-13-week scan by assessing intracranial translucency and the posterior brain region: mid-sagittal or axial plane? Ultrasound Obstet Gynecol 2011;38:609–12
10. Volpe P, Contro E, Fanelli T, et al. Appearance of the fetal posterior fossa at 11-14 weeks in foetuses with Dandy-Walker complex or chromosomal anomalies. Ultrasound Obstet Gynecol 2015.
11. Khalil A, Rodgers M, Baschat A, et al. ISUOG practice guidelines: the role of ultrasound in twin pregnancy. Ultrasound
12. Poon LC, Nicolaides KH. First-trimester maternal factors and biomarker screening for preeclampsia. Prenat Diagn 2014;34:618–2
13. Inverted Pyramid of Care , Clin Lab Med 36 (2016) 305–317,Jiri D. Sonek, MD, RDMSa, *, Karl Oliver Kagan, MD, PhDb , Kypros H. Nicolaides, MDc

Dr Aswath Kumar
National Coordinator
FOGSI PG Program

Dr Shyama Devadasan

Preventing Twin Trouble

Multiple pregnancies are one of the most severe complications of ovulation induction (OI) therapies and assisted reproductive technologies, resulting in considerable medical risks for the mother and neonate, as well as increased financial burden to the family. When looking across all age groups, the incidence of multiple pregnancies through OI and IVF is roughly 20-30%, with large majority of those being twin pregnancies. It is at a higher rate than in women who conceive naturally. The primary etiology for iatrogenic multiple pregnancy (IMP) is treatment of reduced fecundity, some but not all of which is associated with specific lifestyle changes of women. As a result, there has been growing debate on the need to prevent this major health problem world-wide.

ORIGIN OF THE PROBLEM

1. Indications for infertility treatment: The potential beneficiaries for infertility treatment are couples whose infertility is either involuntary (with disease states that reduce infertility) or voluntary (deliberately postpone childbirth to an older age). In both these categories, the relatively free and unregistered access to potent OI drugs like clomiphene citrate is a culprit. Commonly, this medication is used injudiciously and carelessly for menstrual regulation, or given by physicians or their proxies to 'improve' fertility in women who are by no means infertile but impatient for a natural conception.

2. Defining success of infertility treatment: ART are scientifically demanding and labour intensive and therefore costly procedures. To justify the costs, success is defined as live birth per cycle. This was primarily enhanced by increasing the number of embryos in an ART cycle, resulting in an inevitable increase in multiple pregnancies and births.

EXTENT OF THE PROBLEM

Twin pregnancy is associated with increased maternal and perinatal morbidity; prolonged hospitalization due to the same.

• Maternal complications associated with IMP- (seven fold increase than singletons)

The most serious complication is hypertension especially preeclampsia which has a much worse prognosis. Iron deficiency aggravates the dilutional anemia of pregnancy in these cases. The increased incidence of premature rupture of membranes, abruption, postpartum haemorrhage, operative delivery, uterine rupture and preterm labour shows the need for increased surveillance in twin pregnancies.

Maternal complication associated with iatrogenic multiple pregnancies-

1. Hypertensive diseases- Pre-eclamptic toxemia , HELLP syndrome , Acute fatty liver , Pregnancy-induced hypertension , Chronic hypertension , Eclampsia
2. Anemia
3. Gestational diabetes mellitus (?)
4. Disease states related to more advanced age
5. Premature contractions and labor - Complications associated with tocolysis
6. Delivery associated complications - Cesarean section, Operative delivery, Premature rupture of membranes, Postpartum endometritis , Placental abruption

• Fetal- neonatal complications associated with IMP- (four fold increase than singletons)

The extent of perinatal complications largely depends on the placentation. Fetal growth restriction is frequent in twins especially ones with monochorionic placentae. Apart from this; aneuploidy (associated with advanced maternal age), complications of monozygosity like structural malformations, twin to twin transfusion syndrome and single fetal demise (SFD) can also occur. SFD especially in twins with monochorionic placentas, may result in severe end-organ damage in the survivor. Preterm birth is directly associated with an increased risk of neonatal death and morbidity. Major causes of preterm birth are preterm delivery, premature rupture of membranes, maternal conditions (hypertension, diabetes, placental abruption) and fetal conditions that lead to preterm delivery (FGR, fetal distress, the death of one twin). Morbidity associated with preterm birth refers mainly to respiratory distress, intraventricular hemorrhage and necrotizing enterocolitis. Neonatal morbidity seems to be more important when there is weight discordance between both fetuses, with a higher likelihood of intracranial hemorrhage and patent ductus arteriosus. Long term consequences in multiple births are also seen due to these perinatal complications and prematurity.

Fetal–neonatal complications of iatrogenic multiple pregnancies-

1. Complications associated with limited uterine capacity- Prematurity, Low birth weight, Intrauterine growth restriction, Growth discordance
2. Complications associated with advanced maternal age- Aneuploidy
3. Complication associated with monozygosity/ monochorionicity- Structural malformations, Twin–twin transfusion syndrome, Fetal embolization syndrome
4. ART-related malformation- chromosomal and musculoskeletal defects

RATIONAL STRATEGIES TO REDUCE IMPACT OF IMPS

1. Reduction in number of multiple pregnancies –

i. Induction of ovulation-

In cases of anovulatory infertility, drugs should aim to select single follicle for ovulation. The first line treatment drugs like clomiphene increases the incidence of twins to 10%. Further, there is a considerable increase (25%) in twin pregnancy by the conventional 'step up' regimens with gonadotropins. Hence, regulating prescriptions and judicious use of OI drugs by trained experts is the need of the hour. Use of letrozole and the low dose 'step up' or 'step down' regimens result in monovulation and is considered safer than the conventional methods.

ii. Intrauterine insemination (IUI) with ovulation induction-
In couples with unexplained infertility and male subfertility, IUI along with OI will increase pregnancy rates but with added increase in the incidence of multiple pregnancies. Hence, in such cases, ultrasound follicle growth monitoring is essential. When more than one ripe follicle is expected to ovulate, it is better to abort these hyperstimulated cycles by avoiding insemination and advising the couple to abstain from intercourse. Another alternative is to convert the OI cycle to an ART cycle.
iii. IVF-
The pregnancy rate per cycle can be increased can be increased by replacing more than one embryo in the uterus after collecting many oocytes from multiple follicles. But here, the probability of multiple pregnancies increased with the number of embryos transferred. Thereby came into play, elective single embryo transfer (eSET) or transferring fewer embryos in ART cycles. Cryopreservation plays a major role with the remaining 'spare' embryos frozen and replaced in subsequent cycles if pregnancy does not occur. Transfer of day 3 embryos or transfer after extending the culture to blastocysts is also being done wherein, only top quality embryos are used.

2. Confront the adverse outcome of iatrogenic multiples by reducing the number of multiple births-
Instead of dealing with the iatrogenic etiology of 'surplus successes', Multifetal pregnancy reduction (MFPR) was invented- a procedure regarded by many as the ultimate paradox.

3. Optimising perinatal care- All these pregnancies should be considered as high risk and followed as closely as possible to reduce adverse perinatal outcomes.

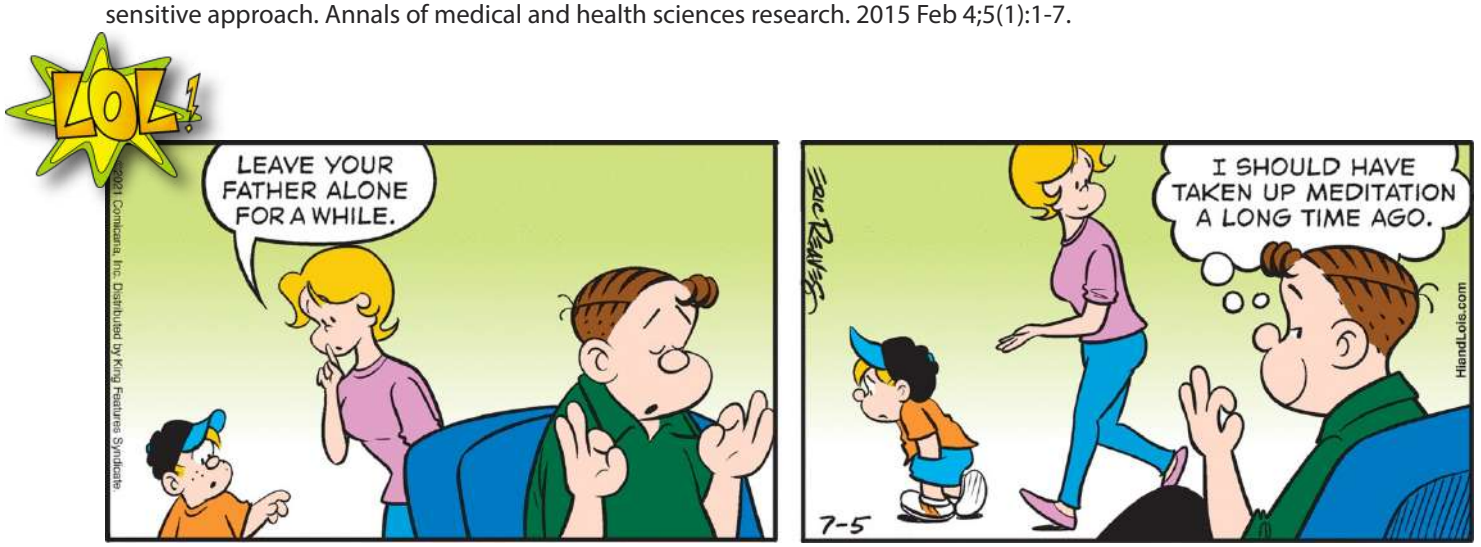
ELECTIVE SINGLE EMBRYO TRANSFER (ESET)-
Elective SET is defined as the transfer of a single embryo at either the cleavage or blastocyst stage of embryo development that is selected from a larger number of available embryos. It is defined in the Society for Assisted Reproductive Technologies (SART) reporting guidelines as "an embryo transfer in which more than one high-quality embryo exists but it was decided to transfer only one embryo." Multiple reports of increased eSET utilization have confirmed the reduction of multiple gestation rate and maintenance of pregnancy and birth rates.
Elective SET is most beneficial when selectively applied according to patient characteristics and embryo quality. It is most appropriate for those with a good prognosis: age < 35 yrs, years, more than one top-quality embryo available for transfer, first or second treatment cycle, previous successful IVF, and recipient of embryos from donated eggs. Women aged 35–40 years may be considered for eSET if they have top-quality blastocyst-stage embryos available for transfer. Elective SET is most applicable to transfers of blastocyststage embryos, because these tend to have higher implantation rates than those at the cleavage stage. However, even embryos transfered at the cleavage stage, if morphologically high quality (with 7 or 8 cells, no multinucleation, and minimal fragmentation), may implant at rates of 50% or more. Hence, transfer of even two embryos of this quality puts patients at high risk of multiple gestation.
Successful implementation of eSET depends on the ability to select the most viable embryos in any cohort. The selection of the best embryo(s) for transfer continues to rely on morphologic evaluation, which has recognized shortcomings. Many morphologically high-quality embryos fail to implant, and some seemingly poor-quality embryos result in healthy live births. Genomic evaluation through preimplantation genetic screening has the theoretic potential to increase the ability to identify the most competent embryos and consequently increase treatment success rates, but is still debatable in practice.
Decisions regarding eSET of cryopreserved embryos should take into consideration- prognosis, embryo quality, and success rates of the individual cryopreservation program. Challenges to increased use of eSET exist. These include provider and patient education, financial considerations, embryo selection, and successful cryopreservation. Stake holders should recognize that the optimal outcome of an IVF cycle is the birth of a healthy singleton. Reduced financial burdens for IVF through insurance coverage or risk-sharing programs have been shown to improve patient acceptance of eSET. Selection and successful cryopreservation of the embryos with the highest IR will facilitate wider use of eSET.

CONCLUSION

Since, assisted conceptions are costly interventions, current numbers of IMPs represent a balance between the need to maximize success rates and the desire to minimize the untoward outcome rates. The best method to reduce the impact of iatrogenic pregnancies is to re-define our concept of success after infertility therapy—from live birth (of any number of fetuses) to singleton live birth per treatment—and to adopt a conscientious and rational approach to achieve it.

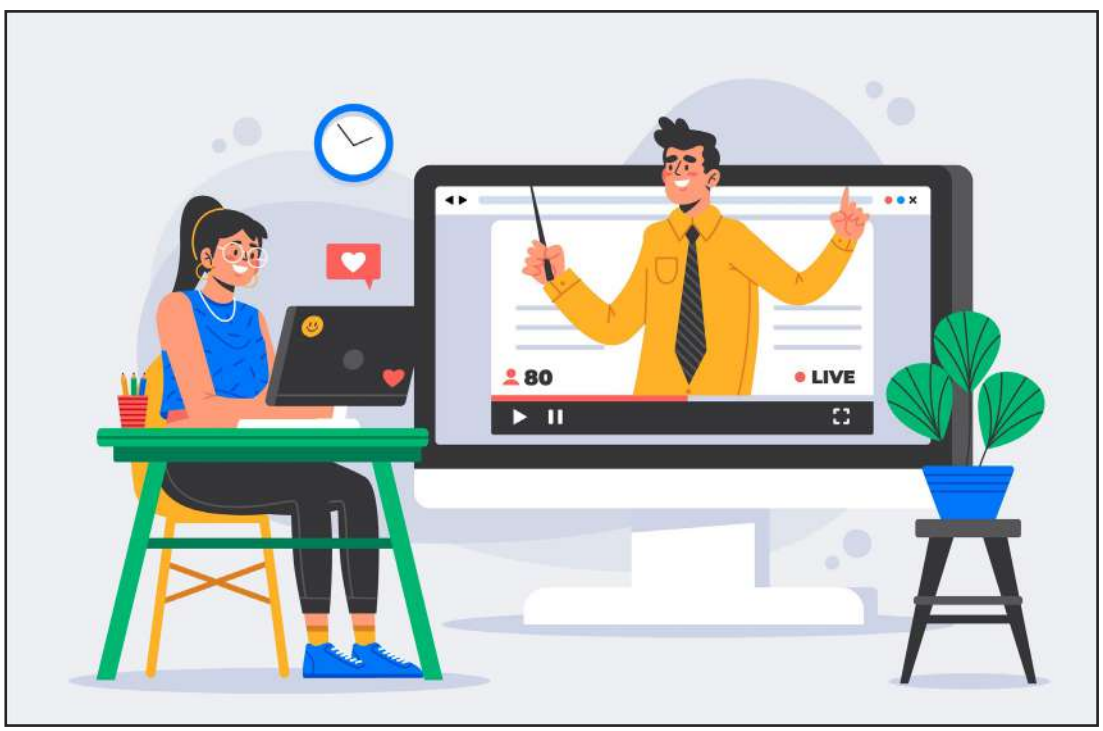
References-

1. Gurgan T, Demirol A. Why and how should multiple pregnancies be prevented in assisted reproduction treatment programmes?. Reproductive BioMedicine Online. 2004 Jan 1;9(2):237-44.
2. Blickstein I. The worldwide impact of iatrogenic pregnancy. International Journal of Gynecology & Obstetrics. 2003 Sep 1;82(3):307-17.
3. De Sutter P, Van der Elst J, Coetsier T, Dhont M. Single embryo transfer and multiple pregnancy rate reduction in IVF/ICSI: a 5-year appraisal. Reproductive BioMedicine Online. 2003 Jan 1;6(4):464-9.
4. Gerris J, De Neubourg D, Mangelschots K, Van Royen E, Vercruyssen M, Barudy-Vasquez J, Valkenburg M, Ryckaert G. Elective single day 3 embryo transfer halves the twinning rate without decrease in the ongoing pregnancy rate of an IVF/ICSI programme. Human Reproduction. 2002 Oct 1;17(10):2626-31.
5. Emperaire JC, Edwards RG. Time to revolutionize the triggering of ovulation. Reproductive biomedicine online. 2004 Jan 1;9(5):480-3.
6. ESHRE Capri Workshop. Infertility revisited: the state of the art today and tomorrow. Human Reproduction. 1996 Aug 1;11(8):1779-807.
7. Fauser B, van Heusden AM. Manipulation of human ovarian function: physiological concepts and clinical consequences. Endocrine reviews. 1997 Jan 1.
8. Vilska S, Tiitinen A, Hyden-Granskog C, Hovatta O. Elective transfer of one embryo results in an acceptable pregnancy rate and eliminates the risk of multiple birth. Human Reproduction. 1999 Sep 1;14(9):2392-5.
9. White DM, Polson DW, Kiddy DE, Sagle PE, Watson HA, Gilling-Smith CA, Hamilton-Fairley DI, Franks ST. Induction of ovulation with low-dose gonadotropins in polycystic ovary syndrome: an analysis of 109 pregnancies in 225 women. The Journal of Clinical Endocrinology & Metabolism. 1996 Nov 1;81(11):3821-4.
10. Practice Committee of the Society for Assisted Reproductive Technology, Practice Committee of the American Society for Reproductive Medicine. Elective single-embryo transfer. Fertility and sterility. 2012 Apr 1;97(4):835-42.
11. Ezugwu EC, Van der Burg S. Debating elective single embryo transfer after in vitro fertilization: a plea for a context sensitive approach. Annals of medical and health sciences research. 2015 Feb 4;5(1):1-7.



Preventing The Gap In Education - Lessons in Online Teaching

Brig Aruna Menon
Prof & HOD
Armed Forces Medical College, Pune



The world woke up to WHO alerting it to the outbreak of a severe atypical pneumonia in Wuhan, China populated by over 11 million people in December 2019. By Mar 2020, it had been declared a global pandemic. Nationwide lockdowns and shutdowns were imposed which meant the closure of schools, universities and medical schools. The ongoing pandemic has impacted the delivery of all education and medical education in particular, to an unprecedented degree. Never has a disease affected education on such a global scale. This article is an attempt to look at the various methods employed by the teachers and students across the medical education spectrum during the past year and a half.

THE CHALLENGES

The shifting of medical education to online mode could not be done in a hurry. It involved setting up of online platforms in medical colleges, familiarising of the faculty and the students with online platforms and technology with respect to teaching.

The usage of online tools in medical colleges was limited as medical education always relied on hands-on clinical education and colleges depended on traditional methods like lectures and clinical rotations and discussions to impart learning, the world over.

Even though the students were more tech savvy than the faculty they too were just not used to the

idea of online learning and teaching. The challenge was therefore to devise systems that caused minimum damage by the lack of clinical exposure while maximising the benefits of online teaching.
Though the pandemic has affected all spheres of learning, medical students are doubly impacted as the access to patients was in itself posing a risk to them while not being able to see or examine patients was severely restricting their knowledge. Besides one of the most important skills a budding doctor needs is soft skills and communicating with the patient. The scope of imparting or imbibing this art was greatly restricted by the limits placed on clinical rotations.
India is in the process of imparting Competency Based Medical Education in its quest to make the IMG, Indian Medical Graduate as well versed in his/her practical approach to the profession as possible. This is being rolled out in phases and it was ironical that as we made lesson plans and identified areas and skills which were a "must know" for an Indian Medical student, the very process of schooling the students in this method hit a formidable and almost insurmountable roadblock in the form of a global pandemic.

THE BENEFITS AND BARRIERS

Having said that, as a prelude, it is important to acknowledge some of the obvious benefits of having online medical teaching. The first advantage that comes to mind is the variety of resources available. As the period of online learning and teaching gets extended by the nature of the pandemic, more and more interactive forms of virtual teaching are being developed. Open-access teaching with medical teachers has also been instrumental in keeping students abreast of latest research and recent advances in the field of medical and surgical specialities.
The barriers that need to be overcome are poor technical skills on the part of the medical faculty, provision of the necessary infrastructure by the institutions and the lack of institutional strategies especially at the beginning of the pandemic. Poor communication, engaging the students at various levels and being unable to have the cornerstone of traditional teaching, namely eye contact with the audience are the other disadvantages of online teaching.
The aim of writing this article is to identify the gaps that can occur when there is a paradigm shift in the methodology of imparting knowledge and training and how to best minimise these gaps in future.

LACK OF SKILLS

This was one of the first challenges that needed to be overcome during the shift in gears. A general negative attitude and impression that online teaching can never replace traditional teaching cannot be denied and possibly is not totally out of place either. It was therefore the responsibility and endeavour of the institutional heads as well as the respective Heads of Departments to dispel this attitude. It is also incumbent on them to provide the necessary infrastructure and the framework required to develop teaching modules and evolve innovative methods to impart learning without compromising on the quality of the knowledge being shared.

TIME CONSTRAINTS

Medical faculty as such are constrained for time, given their clinical engagements at various levels. Shifting to an online delivery system from traditional methods involved reworking the content suited for a regular classroom or bedside teaching to acceptable and effective online methods and to keep the students engaged during online classes. Many of them also needed to brush up on technical skills to operate in the online mode. Preparing content in this manner took a further toll on the time.

INFRASTRUCTURE AND RESOURCES

This capacity building aims at training the faculty and providing a platform to implement relevant teaching. It should also be made more robust by constant reviewing and post implementation feedback to identify and address any gaps that may develop in the infrastructure. Maintaining communication with the students and providing lessons timetables as well as study materials would[also help the students manage their learning and reduce stress. Shared prerecorded videos are also useful to make the student familiar with the curriculum planned for the day. This however is not as easy if the students are at their homes in India as the urban-rural divide is another factor to be kept in mind. At

the last report by Digital India 54% of urban and only 12% of the rural population above 12 years has access to internet.

COLLABORATION

The virtual platforms are a big boon for collaboration not only between Departments in the same College but also between colleges nationwide and even across countries. There is ample opportunity to harness talent and knowledge without any physical barriers. Master classes can be organised across specialities, colleges and universities across the world, thereby making experts and talents available to our students. This trend is evident in conferences as well especially for Post Graduate students who get an opportunity to listen to experts as well as pit their knowledge and skills against the best in the country and the world.

Table Viva in Progress : Candidate In Delhi

ASSESSMENTS AND EVALUATIONS

This was another area that required innovative methods. The fact that this came later, by which time most of the faculty at the institutional as well as the national level had become oriented to the fact that the virtual method was here to stay as the pandemic chooses to stay much longer than expected earlier! Assessments were now planned with online question papers, online invigilation and scanned answer papers being put up for evaluation. Whereas the theory could be managed effectively, it was another ballgame altogether to have assessments of the clinical skills and work. So, we had to evolve methods for this as well without compromising on the fair and accurate assessment of the students.

Having cited the background for virtual and online medical education in India, we can focus on the specifics of imparting the learning. We have to understand that the traditional "teacher-centric" system has transited to the "student-centric "methodology.

UNDERGRADUATE TEACHING

The first step in our college was to ensure the presence of a robust platform for delivery of classes, conducting tutorials especially regarding the new Competency Based Medical Education. This was of paramount importance in the Undergraduate teaching.

Lectures were aided by the Chat-box, a particularly useful tool for interactive sessions with the students who are not "visible" to the faculty. Breaking the monotony is important for both the teacher as well as the learner. To this end, making smaller "break-out" groups to facilitate group activity and exchange of ideas proved to be especially productive.

The importance of simulators cannot be over emphasised at this juncture. It is an invaluable tool to enhance lectures. In Obstetrics, the availability of a birthing simulator, models and mannequins go a long way in enhancing the real life situations which are not available to the medical student of today. On feedback, it has been confirmed that classes that used these aids were much more stimulating as well as educative and informative. The Surgical Departments must be equipped with teaching/training videos too which can be downloaded from the internet – YouTube or other open-source resources with due credit being given wherever due to avoid copyright issues. Practice drills have also been conducted for eclampsia and PPH.

The medical student is placed in an unique situation where the patients he needs to learn to treat, themselves pose a threat to acquiring infection in the current pandemic. Besides, resorting to the increasing use of technology and machine learning may rob the students of empathetic and communication skills which is so much an essential tool that it cannot be replaced with anything else in the medical profession. The addiction to mobiles, laptops and social media amongst young adults and student population is an evil that has been spoken about often. Yet in the present scenario they are amongst the most important tools we have.

However, all is not bleak on the horizon. Artificial Intelligence and machine learning are two tools that can be har-

nessed to their full potential in aiding the young medical graduate in clinical Emergency situations. These aids would also go a long way in standardising medical education by adopting and innovating methods that can be taught across the country through nationwide common training programs.

MOOCS (Massive Open Online Courses) is a highly underutilised and underrated method that lays the flexibility of learning at the student's door so that learning can happen at a time place and convenience chosen by the student. However, as a resource,it needs to undergo capacity building. Our own College is now doing that across specialities and subjects. It is of immense help not only to Undergraduate students but also to young Medical Officers in far flung areas who may not have access to coaching or refresher courses. Having a collection of such teaching modules which are complete in themselves and can also be updated as and when necessary, provides a treasure trove of material. The material can be accessed at his/ her convenience and requirement in totality or even in parts or subtopics as the felt need may be.


Masterclass in Progress

POST GRADUATE TEACHING

We found online teaching a good adaptable tool for PG teaching. We could address many issues which may not have been possible in traditional teaching methods. For one, we could cater to a much larger group across the nation where Post graduate students were being trained in other AFMS teaching hospitals. We at AFMC had the resources to create a structured teaching program whether it meant clinical case discussions, Journal Clubs, Seminars, and other programs. The fact that we could share this in real-time with all the other teaching hospitals had a huge impact on the overall PG teaching. Besides this, we also had POGS spearheading some PG teaching programs where we had the first Masterclass in May with Professors from AIIMS and other prestigious colleges quizzing our students in a mock exam which enriched the participating students as well as the ones who had logged in for the session. We also had our students going to different parts of the country on COVID duties. These students could also be part of the teaching program whenever they could and even present topics as per the regular teaching schedule thereby maximising their participation.

That brings us to the definitive advantages of online or virtual teaching methods. We have had collaborative topics across the specialities and therefore had a comprehensive overview of a topic. We had cadaveric dissections in association with Anatomy, Psychological advice and evaluation of patients in conjunction with the Psychiatry Dept, presentations on Social Obstetrics from Community medicine. Masterclasses from Dept of Medicine and Anesthesia on management of COVID in mild moderate and severe ICU patients was one of the informative and relevant topics enhanced our understanding of the disease and its management in a contemporary and current way.

The reach and scope of Conferences and Webinars are also a definite positive fall out of the shift to online medium. All conferences could have contributions from leaned experts all over the world. This frequent interaction would have been next to impossible if it was to be done in person and would have involved extensive traveling and increased the cost of listening to these experts monumentally.

SUGGESTIONS THAT CAN BE IMPLEMENTED IN ALL MEDICAL SCHOOLS

1. All Medical Institutions should prepare in advance for disruptions in face-to-face teaching by developing alternative methods through online Synchronous or Asynchronous learning modules in each Department
2. Train the faculty as well as the Students to be supportive of e-learning methods and modules.
3. Put an IT infrastructure in place to cater to situations like pandemics
4. Not only learning, Administration, finance and other activities also need to shift online and the IT needs to support these systems as well to prevent crashes when the servers are used for learning as well as day to day working of the

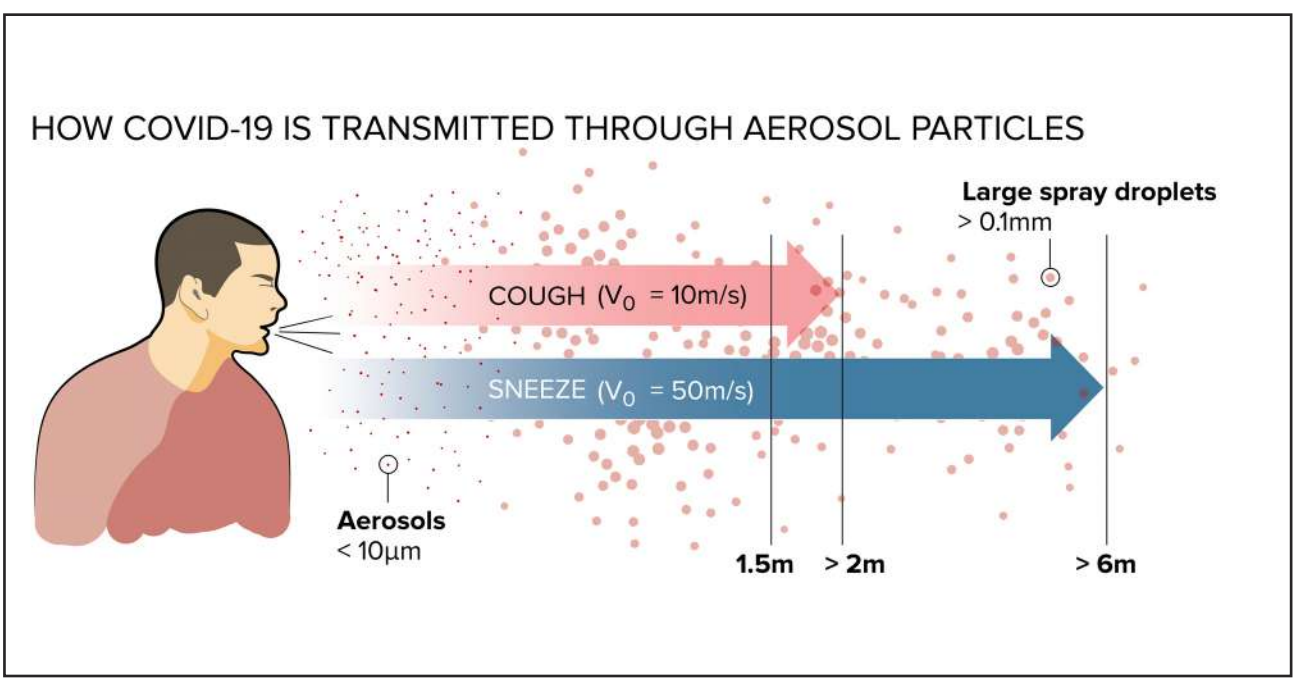
Grand Rounds with minimal students relayed to others via Google Meet on Mobile

institution.
5. The faculty also needs to be oriented and trained to use tested platforms like Zoom, Google Meet, Skype etc to prevent straining the colleges network capacities.
6. Other requirements like care of mental health support systems and counselling to allay the anxiety faced by the healthcare workers also need to have mechanisms in place.
7. Encourage small group learning methods to encourage social interaction and support during the online learning periods.
8. Develop robust and fool proof methods of evaluation assessment to monitor student achievements and feedback
9. Identify already existing teaching resources that are available free online and build upon them or update the content rather than build every class and module from scratch to save time.
10. Liberal use of simulation, videos, mannequins and innovative techniques to bring the real world situations to the online platform to give the feel of clinical rotations to the tsudents wherever possible.

CONCLUSION

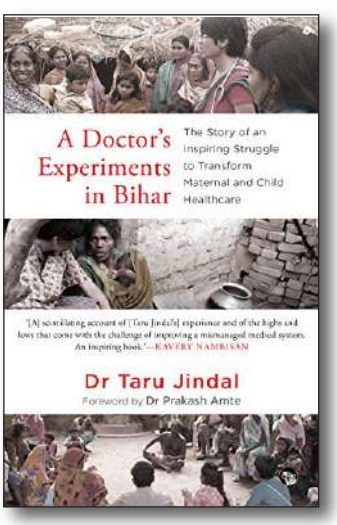
The ongoing pandemic has made us innovate and evolve new methods of online or virtual teaching to overcome the constraints placed on traditional teaching by the social distancing norms and other practices mandated by the pandemic. The innovation and discovery of alternative methods has been explosive in growth and is still in process.

While there is no doubt that traditional bedside clinical acumen and clinical skills can never be replaced by online teaching, the pandemic has shown us there are certain benefits of the virtual world as well. Perhaps we would now appreciate the advantages offered by the online methods and progress to a hybrid method even after the pandemic restrictions are lifted.
With a fervent hope that the pandemic will end soon and our students will return to the physical classroom, it can be concluded that at least a part of online teaching methods are here to stay.



YES it is Possible: Dr Taru Jindal

Dr Rahul Argade
Consultant Obstetrician and Gynecologist
Kothrud, PuneManaging Committee Member, POGS



Today with great pleasure I am presenting the inspirational work of Dr Taru Jindal. Many of you might know her as well because she is an alumnus of BJMC. Since college days she would talk about wanting to serve the rural people and immediately after her MS she walked her talk. What resulted is something very inspiring. Dr. Taru Jindal was sensitive towards the needs of the poor right since college days.

During her diploma, it pained her to see that the ward attendants would charge money from patients for a bucket of hot water and hence many poor patients would choose to not bath. Rather than feeling like a helpless spectator, she decided to take a stand, object to this assertively, appealed to the department authorities and gave her support to the patients to deal with this injustice. During MS, she couldn't tolerate to see the patients in labour room shiver on the steel cots with liquor on it, while the AC was on. For some reason the department had not been able to procure mattresses. Again, she decided to do something about it rather than just criticising the system. She regarded herself to be a part of the system. She appealed to her friends and relatives; and within few weeks she ensured that patients would have mattresses to deliver on.

During her MS days, she realised that in spite of all her training, she was unable to help few women with their breast feeding problems. In her ward, she happened to see a lactation counsellor often talking to patients. She sought her guidance and through her got in touch with BPNI (Breast feeding Promotion Network of India). She came to know about the miracle of breast crawl and wondered why was it not being implemented in any of the medical colleges she had

Addressing a group of mothers of malnourished kids

worked in till then. Her HOD was very supportive of the idea but the labour room nursing staff feared increase in work load. During her neonatology posting she pursued this idea with zest and facilitated more than 100 breast crawls within just 2 weeks, giving those mothers and babies a chance to experience the warmth and benefits of breast crawl. Her enthusiasm brushed off on student nurses as well and many of them would assist her when their seniors were not watching.

Morning visits to villagers homes to understand local health needs

Immediately after her bond completion, she decided to take up an assignment in Bihar, where 'CARE India' along with 'Doctors For You' was working on improving the quality of care being provided to mothers in government hospitals. Her job was to train the gynaecologists there in latest techniques of LSCS, so that the LSCS rate in the government hospitals there would improve. Going there she soon realised that more than lack of skill, prob-

lem was lack of intention. The doctors were busy with their private practice. The state of affairs in the labour room was appalling. For instance, on her 1st day there she saw a sweeper stitch the vaginal tear with some random knots as if she was stitching a piece of cloth.
The things she saw there made her cry and she decided to come back. But then she thought, "If I go away, I will escape from this situation. But what about the plight of mothers who are delivering in such conditions?"
So she stayed back. She started developing rapport with the nursing and administrative staff, training them, scrubbing the operation theatre along with them, bringing about change in the protocols, etc. For personal reasons she had to leave after a few months. But the hospital staff and CARE-India team maintained the reforms; and a few months later the Motihari district hospital received the 'Kayakalp Award' for being the best district hospital in Bihar. In a matter of few months the worst had become the best! The trials and tribulations of her team have been captured wonderfully in her book, 'A doctor's Experiments in Bihar'. It is a book every medico must read.

Reaching out to pregnant women in other villages

Then during the earthquake in Nepal she had gone there as a part of 'Doctors For You' team. Nepal has a wonderful system wherein nurses and health assistants are trained well in all necessary skills, so that even in peripheral areas new-borns receive vacuum delivery and resuscitation when necessary, pregnant women in hilly areas are cared for by nurses visiting them with portable sonography machines, etc.
Since the system was handling the situation well, she asked the Gynaecologist there if she can be of any help. He was not into private practice and was dedicated to serving the community. But since he didn't know hysterectomy and Internal Iliac ligation, he was not able to help women with prolapse or those with uncontrolled bleeding. Some would die on the way to Kathmandu. He was open to learn and she passed on her skills. 18 months later, Dr. Madhukar informed her that he had successfully performed more than 150 hysterectomies by then and saved lives of many bleeding mothers!
Though she had returned to Maharashtra, her heart yearned to do more for the poor in Bihar. So she again went there to set up a primary health centre in a remote village in Bihar, along with 'Doctors For You' team. The level of poverty she saw there and status of women in rural India was very disturbing. Through multiple community intervention she started providing them medical care, as well as worked on empowering the local girls and women. After initial suspiciousness, the villagers developed trust and she started enjoying to serve them. Today this small healthcare centre has turned in a 100 bedded hospital by the efforts of the volunteers of "doctors For you" who kept on working even when Dr Jindal had to leave Bihar because of a brain tumour.
Dr. Taru had to return for treatment. But during this difficult time, she started giving breast feeding awareness talks for mothers and conducting training workshops for gynaecologists, paediatricians and labour room staff of various hospitals. Like her own experience, many senior gynaecologists and neonatologists acknowledged after her training that they were also not aware about some of the recent advances in breast feeding. After her trainings many hospitals reported dramatic decrease in the number of babies that required to be given formula feeds. Her awareness talks on this issue can be viewed on her YouTube channel **'Dr Taru Jindal'.**
Because of her breast crawl campaign and her work with mothers in Bihar, 'World Association for Breast Feeding' had sponsored her for a 2 week training programme in breast feeding. Now that she couldn't work in hospitals, she decided to start working on passing on the advanced training in breast feeding she had received.
Along with working as a lactation consultant she has now started helping women with Vaginismus as well. The recovery journey is very stressful for many women and dropout rate is high. So, along with 'Proactive for Her' she has

संडे प्रभात खबर नेटवर्क

प्रभात खबर

पटना, रविवार 10.07.2016 15

मसाढ़ी के इस 'कुएं' में उतरीं मुंबई की डॉ तरू जिंदल

लेकर ले कामयाबी

यह ऐसी नौजवानी की कहानी है, जो महानगरों से निकल कर किसी पैथिक नमी-गिरमी जगह पर जा सकते थे. पैकेज के हिसाब-किताब में उलझ सकते थे, पर इस आम चलन के उलट उन्होंने अपनी राह चुनी.

अजय कुमार ▸ मसाढ़ी (पटना)

डॉ तरू जिंदल मुंबई की हैं. निवेदिता बेंगलुरु की रहने वाली हैं. जैकब ओमन अपनी पत्नी सुसन के साथ हैं और वे केरल के हैं. अगर इनसे आपकी मुलाकात पटना से पच्चीस किलोमीटर दूर एक गांव में हो, तो आपको कैसा लगेगा? आप हैरान होंगे और खुद से सवाल करेंगे, क्या हम अपना घर-बार छोड़ कर ऐसे किसी दूर-दराज के इलाके में रह सकते हैं? अपरिचित लोग, अनजान समाज. दरअसल, यह ऐसे नौजवानों की कहानी है, जो महानगरों से निकल कर किसी पैथिक नमी-गिरमी जगह पर जा सकते थे. पैकेज के हिसाब-किताब में उलझ सकते थे. पर इस आम चलन के उलट उन्होंने अपनी राह चुनी. पटना से सटे फतुहा ब्लॉक में एक गांव है मसाढ़ी. ग्यारह सौ घर वाले इस गांव की एक खास पहचान बन गयी है. इसकी वजह है वहां चलने वाला हेल्थ सेंटर. सात महीने पहले वह सेंटर खुला. सामान्य बीमारी, डिलिवरी और कुपोषण पर इन नौजवानों की टीम ने काम शुरू किया. अब तक पांच हजार मरीज देखे जा चुके हैं. 13 महिलाओं की डिलिवरी हो चुकी है. आसपास के 32 गांवों के लोग वहां आते हैं. डॉ तरू बताती हैं, हर दिन 40 से 50 मरीज तो आ ही जाते हैं. वह सेंटर किसी भी मानक पर दूसरे हेल्थ सेंटर से कमतर नहीं है. वह सेंटर डॉक्टर्स फॉर यू नामक संगठन को और से चलाया जा रहा है. इसे मुंबई की एनएम चुघानी ट्रस्ट आर्थिक सपोर्ट करता है. सेंटर से आधी कीमत पर दवाएं मिलती हैं. जेनरिक दवाएं मुंबई से थोक में मंगायी जाती हैं. इससे उसकी कीमत और कम हो जाती है.

पढ़ी भी दे रहे तरु का रहत : डॉ तरू के पति डॉ धरुव शाह ने निम्हांस से मनोचिकित्सा की पढ़ाई की है. इन दिनों वह भी मसाढ़ी में से हैं. वह कहते हैं, डॉ तरू की भावनाओं के हम साथ हैं. उन्हें लगता है कि बिहार के समाज को हमारे जैसे लोगों की बहुत जरूरत है.

जैकब, सुसन और निवेदिता ने सीखी हिंदी : जैकब ओमन ने इंटरनेशनल अफेयर और पीस में पोस्ट ग्रेजुएट की पढ़ाई की है. फिलिपिंस में काम किया, पर मन लगा नहीं. वे सोसाइटी के लिए कुछ करना चाहते थे. डॉक्टर्स फॉर यू के संपर्क में आने बाद वह भी मसाढ़ी गांव आ गये. साथ में उनकी पत्नी सुसन भी हैं. ये दोनों यहां चलनेवाले सामुदायिक विकास कार्यक्रम से जुड़े हैं. यहां बच्चों की पढ़ाई के लिए एक केंद्र चलता है. पहली से लेकर छठी तक बच्चे यहां पढ़ते हैं. जब हम इस केंद्र में पहुंचे बच्चों की क्लास लग चुकी थी. अलग-अलग क्लास में सादे तीन सौ बच्चे हैं. उन्हें पढ़ाने के लिए गांव के ही कुछ नौजवानों की सेवाएं ली जा रही हैं. निवेदिता हेल्थ केयरकर्ता सेंटर से जुड़ी हैं. उन्होंने मास्टर साहब ठीक से नहीं पढ़ाते. यहां पढ़ने वाले बच्चे आगुंतकों को देख कर खड़े होते हैं. उनका कुछ महीनों में यहां रहते हुए ठीक-ठाक हिंदी बोलना सीख लिया है. जैकब के मुताबिक, गांव के लोगों को हम कौशल विकास से जोड़ रहे हैं, ताकि उन्हें भी आमदनी के मौके मिले. गांव के लोग हों, बच्चे हों, सभी के लिए यह अनूठा अनुभव है. एक बच्चा कहता है, हमारे स्कूल में चौरसमी नॉर्सिंग की पढ़ाई एमपीएच कर्नाटक से की है. तीनों पहली बार बिहार आये और थोड़े समयेत स्वर उभरता है, नमस्कार अंतिथि.

ऐसे इंधाकर हो रहीं लड़कियां : डॉ तरू बताती हैं, सेंटर के लिए चार मेडिकल स्टॉफ की जरूरत थी. हमने कई डिग्रीधारी को बुलाया. उनका इंटरव्यू लिया. उनके पास डिग्री तो थी, पर काम नहीं आता था. यह हमारे लिए जबरदस्त झटका था. हमने रास्ता निकाला कि मसाढ़ी और आसपास के गांवों की लड़कियों से बात करेंगे. हमने ऐसा ही किया. मधु, रिन्झुन, अनामिका, संगीता, रोहित वगैरह की रुचि देखी, अपने साथ जोड़ा और उन्हें ट्रेनिंग दी. आज ये बेहतर काम कर रही हैं. इस टीम में शामिल संगीता गांव के ही मुसहर समाज की बेटी है.

झाड़-फूंक वाले करते हैं उलटा प्रचार : गांव में झाड़-फूंक वालों का अपना नेटवर्क है. जब से सेंटर खुला है, उनका धंधा कुप्रभावित होने लगा. उन्होंने प्रचार कराया, सेंटर पर चिमटा से बच्चा निकाला जाता है, जांच के नाम पर खून निकाल लिया जाता है, वगैरह-वगैरह. डॉ तरू कहती हैं, कई बार महिलाओं ने उन्हें अपमानित किया. पर मुझे पता है, इन्हें गरीबी-अशिक्षा ने घेर रखा है. उस कुएं से उन्हें निकालना आसान नहीं है.

केरल-कर्नाटक से आकर गांव में कर रहे काम युवाओं की टीम से मिल रहा हौसला

मुंबई से चंपारण, फिर मसाढ़ी

मुंबई के अंधेरी इलाके की रहनेवाली डॉ तरू जिंदल ने सिंघन हॉस्पिटल से गायनोलॉजी में एमबीबीएस और एमडी की पढ़ाई 2013 में पूरी की. उनके पिता एटॉमिक रिसर्च सेंटर में इंजीनियर थे. पढ़ाई पूरी होने के बाद डॉ तरू केयर इंडिया के जरिये राज्य के चंपारण पहुंचीं. उन्होंने वहां के अस्पतालों में छह महीने हेल्थ केयर को लेकर ट्रेनिंग दी. फिर डॉक्टर्स फॉर यू से जुड़ीं और मसाढ़ी गांव आ गयीं. घर-परिवार के सवालों ने डॉ तरू को लौटने पर मजबूर कर दिया. यह 2015 के जनवरी की बात है. वह लौट कर वर्धा के सेवाग्राम में बतौर असिस्टेंट प्रोफेसर पढ़ाने लगीं. लेकिन, मसाढ़ी की तसवीर उनके मन से नहीं मिट रही थी. वह कहती हैं, मुझे हर बार यही लग रहा था कि वहां के गांववालों को मेरी जरूरत है. फिर एक दिन उन्होंने मसाढ़ी लौटने का फैसला किया. वह कहती हैं, मैं भी किसी कॉरपोरेट कॉलेज या हॉस्पिटल को ज्वाइन कर सकती थी. लेकिन, मुझे यह लग रहा था कि मेरी सबसे अधिक जरूरत किस समाज को है.

इस मुहिम को आकार देने वाले डॉ रविकांत

डॉ रविकांत इसी गांव के हैं. पटना के सरकारी स्कूल में पढ़े. मेडिकल की तैयारी की तथा सेलेक्ट हुए. मुंबई के कैम मेडिकल कॉलेज से एमबीबीएस और एमडी की. पढ़ने के दौरान ही कुछ दोस्तों के साथ मिल कर डॉक्टर्स फॉर यू नाम से संस्था बना ली थी. पढ़ाई पूरी होने के बाद कम्युनिटी हेल्थ की ओर रुख किया. अपने घर से इसकी शुरुआत की. घर में ही सेंटर खोल दिया. वह बताते हैं, जगह को लेकर मुश्किल थी. वह भी गांव में ठीक-ठाक जगह खाली थी. वह हमारे पास थी. रिटायरमेंट के बाद पैतृक घर को पिता जी बनवा रहे थे. हमने यह प्रस्ताव दिया, तो वह तैयार हो गये. आज 20 लोगों की टीम इस सेंटर पर काम कर रही है.

प्रभात खबर Sun, 10 July 2016
epaper.prabhatkhabar.com/c/11606920

started an online group therapy programme for women dealing with Vaginismus, so that women feel supported and inspired by each other. One thing most participants of her programme report is having very painful experiences with the gynaecologists they had visited. Many would say something like, "Everything is fine. Just do it". Still worse, some would criticise out of good intentions, "You must co-operate. You are an adult now". Such experiences would increase their guilt and not give them any direction. Hence she has now started making presentations on this issue in Gynaecology CMEs and training others in helping women dealing with this issue.

It is a truly remarkable journey and an eye opener. It is difficult to get the sleepy government machinery to work. But once it gets going, it really gets the job done. I would sincerely urge one and all to read her book. It has been translated in Marathi as well by the name "haan yeah mumkin hai". It is indeed fascinating to read this book. It is healthcare outside big cities like Mumbai and Pune that needs a boost from the grassroots level. Let us come together and start a drive to reach out to the most downtrodden who are in desperate need of quality healthcare. And who knows, after reading her inspirational journey, we might find a Taru hidden in each of us.

Here are some links about the work of Dr. Taru Jindal

Book on Bihar: http://bit.ly/DrTaruJindal-A-Doctors-Experiments-In-Bihar
TEDxtalk: http://bit.ly/DrTaruJindal-TEDxBandra-At-what-age-should-you-start-the-life-of-contribution
Breastfeeding trainings: https://youtube.com/playlist?list=PLRYFn0Jc3KfW60QQzZGGqm2HW-1E54gRI
Talks on Vaginismus: https://youtube.com/playlist?list=PLRYFn0Jc3KfXu_QhgU_LYoKWqm7Jweo2g

PG SPEAK

A Case of Fibroid Uterus with Uterine Inversion

Major Vipin Prajapati
PG student,
AFMC, Pune

ABSTRACT

Non-puerperal uterine inversion is an extremely rare event, and the diagnosis is made during vaginal examination or exploratory laparotomy. We report a case of complete uterine inversion in a 46-year-old multipara, postmenopausal lady. She had presented with post-menopausal bleeding, diagnosed as endometrial polyp and planned for hysteroscopic polypectomy.Subsequently she developed sudden increase in size of polyp massassociated withprofuse vaginal bleeding and lower abdominal pain for which she was admitted to the hospital. Chronic uterine inversion was diagnosed clinically and further confirmed at surgery where correction of inversion by vaginal route and then abdominal hysterectomy was carried out. Pathological examination confirmed its benign nature. Uterine inversion is a rare condition not encountered by most gynecologists. Diagnosis and treatment could thus be challenging. The literature on non-puerperal uterine inversion regarding the evaluation and management is reviewed here.

INTRODUCTION

Inversion of the uterus may be classified into puerperal or non-puerperal [(1)]. According to the degree of inversion, inversion may be further classified as

a. Incomplete: when the uterine fundus protrudes into the uterine cavity, but not through the external cervical os.

b. Complete: when the uterine fundus extends through the cervical os.

c. Total inversion: when the uterus & part or all of the vagina protrude through the introitus [(2).]

Most uterine inversions occur in the puerperal period. Non-puerperal uterine inversions are rare. Predisposing factors for a non-puerperal uterine inversion are tumors located at the uterine fundus, which exert traction force to cause inversion, although some cases may be idiopathic [(3)]. Non-puerperal uterine inversion is difficult to diagnose clinically especially if vaginal examination is compromised. Here, we report a case of complete uterine inversion in a multiparous woman secondary to a uterine fibroid and diagnosed clinically.

CASE DETAILS

A 46-year-old P_2L_2 lady, post-menopausal for last 4 years with co-morbidities of obesity (BMI 30.3 Kg/m2), schizophrenia for past 5 years on anti-psychotic medications and type II Diabetes mellitus on OHAs and insulin with poor glycemic control. She presented with complaints of post-menopausal bleeding (PMB) for 1 year duration with mass descending per vaginum and vaginal discharge for last 4 month. She was diagnosed as acase of endometrial polyp and was kept on follow up in Gynae OPD with plan to do hysteroscopy and polypectomy, however the surgery was deferred due to COVID pandemic.

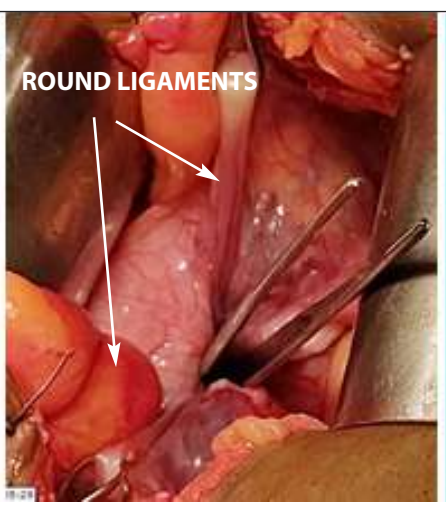
She had gradual increase in her severity of symptoms over the past 3 months andshe pre-

sented in Gynae OPDwith increase in size of mass with heavy bleeding per vaginum and pain lower abdomen of 05 days duration.
Patient had pallor on examination withnormal vital parameters. Local examination revealed that the mass has increased to thrice in size from previous clinical examination a week back and was of 11 x 8 x 7 cm size protruding from vagina. Its surface was congested and was firm in consistency and it wasn't bleeding on touch. The mass was not reducible and no cough impulse was present. Uterine sound test confirmed it as inversion of uterus and diagnosis of Uterine fibroid polyp with uterine inversion was made and patient was admitted for stabilization, bleed control and definitive surgery.

Prolapsed uterus with fibroid

Pre-op investigations revealed low Hb: 9.3 g%, and poor glycemic control as the HbA1c was 8.6% with Charlson Comorbidity Index of 3 (10-year survival rate 77%).It was a chronic inversion and the surgery was already planned for the patient, however it was deferred due to COVID pandemic. But this time patient had acute presentation, hence patient was taken for urgent surgery after complete pre-op evaluation. Patient was cleared for anesthetic clearance in ASA III. The surgery was planned in 2 steps: first vaginal approach and excision of fibroid polyp with attempt to reposition the uterus, secondly abdominal approach anddohysterectomywithB/Lsalpingo-oophorectomy.

Polyp excision after diluted vasopressin infiltration



Dimple at fundus of inverted uterus (marked with forceps)

Uterus (lt) and submucosal fundal fibroid (rt)

Patient was examined under anesthesia and findings of uterine inversion and fibroid were confirmed. Intra-op, using diluted vasopressin hydro-dissection was done and fibroid was excised from its base i.e. inverted fundus of uterus. Even after the fibroid was removed, inversion could not be corrected from vaginal end. Hence during abdominal approach, correction of inversion was first attempted using Huntington technique which was also unsuccessful because of tight constriction ring. Hence, Haultain technique was used incision was given on posterior aspect of constriction ring of uterus after which uterus could be repositioned back. Then total abdominal hysterectomy and bilateral salpingo-oophorectomy was done and tissue was sent for histopathological examination which ruled out

any malignant etiology. The recovery of the patient was in Grade I as per Clavien-Dindo Classification.
The initial impression of fibroid polyp only was incomplete in this patient and treating by polypectomy alone would have created complications intra-operatively.

DISCUSSION

Chronic uterine inversion is a rare condition.Due to its insidious onset and rare occurrence the clinicaldiagnosis of chronic uterine inversion is difficult, especially if inversion is incomplete. Its diagnosis requires a high index of suspicion when mass is palpable in vagina or seen out of introitus and uterine fundusis not palpable on bimanual examination. Chronic nonpuerperal uterine inversion is often associated with uterine pathology out of whichprolapsed fibroids tend to be the most common inciting factor with occasional reports of inversion associated with uterine neoplasm and endometrial polyps [4]. Three contributing factors proposed for uterine inversion are 1) sudden emptying of the uterus which was previously distended by a tumor 2) thinning of the uterine walls due to an intrauterine tumor, and 3) dilatation of the cervix [5]. The uterus when fully inverted generates tension on the vaginal wall, bladder and the urethra. This can cause the urethra to move from its normal anatomic location and brings it inferior to clitoris.
In cases of dilemma, USG pelvis / MRI can guide us with correct diagnosis. Sonographic characteristics of "Y"-shaped uterine cavity, in the longitudinal plane are seen in incomplete uterine inversions. The base of "Y" is the noninverted endometrial lining. In contrast to incomplete inversion, the longitudinal view in complete inversion shows a "U"-shaped configuration, with the limbs of the "U" representing the complete inverted endometrial lining extending both anteriorly and posteriorly. "U" shaped uterine cavity, a thickened and inverted uterine fundus on sagittal section, and a "bull's eye" configuration on an axial image are the described MRI findings of uterine inversion [6].
Uterine inversion has a good prognosis when managed in timely and correct manner. Surgical treatment of chronic uterine inversion depends upon patient's fertility, stage of inversion and associated pathology. Many abdominal and vaginal surgical approaches have been described to correct inversion. Spinell and Kustner are similar trans-vaginal surgical reposition techniques with the basic differences being that Spinell's approach is anterior and requires an anterior uterine wall incision, while Kustner's is a posterior approach with incision on the posterior uterine wall, which makes it a bit easier and safer [7]. Surgical repositioning can also be done through laparotomy using the Huntington procedure, holding the round ligaments and the uterus below the area of inversion and slowly pulling up repeatedly until the uterus is reinverted. Haultain's procedure uses a vertical incision in the posterior portion of the ring with gentle traction on the round ligaments [8].

References:

1. Pride GL, Shaffer RL. Nonpuerperal uterine inversion. Report of an unusual case. Obstet Gynecol. 1977;49:361–4.
2. Krenning RA, Dorr PJ, de Groot WH, de Goey WB. Non-puerperal uterine inversion. Case report. Br J Obstet Gynecol. 1982;89:247–9.
3. Adaji SE, Randawa AJ, Shittu OS. Idiopathic chronic uterine inversion in a nulligravida. Int J Gynecol Obstet. 2005;89:61–2.
4. Rocconi R, Huh WK, Chiang S: Postmenopausal uterine inversion associated with endometrial polyps. Obstet Gynecol. 2003, 102: 521-3.
5. Lascarides E, Cohen M: Surgical management of the nonpeurperal inversion of the uterus. Obstet Gynecol. 1968, Sep;32(3):376-81
6. Oguri H, Maeda N, Yamamoto Y, Wakatsuki A, Fukaya T. Nonpuerperal uterine inversion associated with endometrial carcinoma - a case report. Gynecol Oncol 2005; 97: 973-5.
7. Fofie C, Baffoe P. Non puerperal uterine inversion: a case report. Ghana Med J 2010; 44: 79-81.
8. Haultain F. The treatment of chronic uterine inversion by uterine hysterotomy. BMJ 1901; 2: 974-80.

PUNE OB-GYN SOCIETY
ESTD. 1953

POGS in May

GENERAL SECRETARY'S REPORT - MAY 2021

Greetings from the POGS team !
Team POGS is been working hard for our members & PG students in these hard times. Let me tell you about the events we had last month even in lockdown, under the strong leadership of our President Dr Sunita Tandulwadkar.

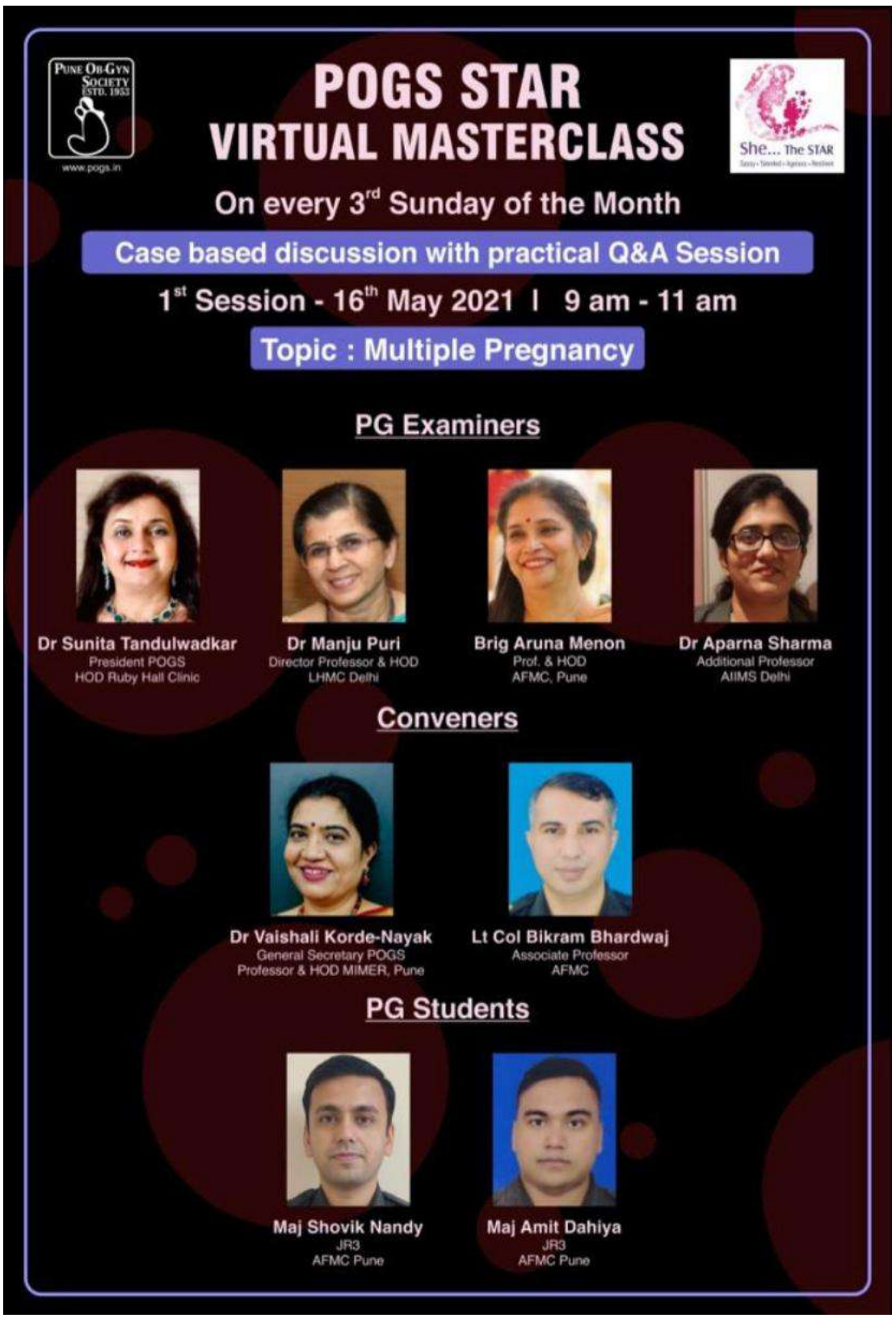
1. FIRST POGS STAR VIRTUAL MASTERCLASS was held on 16th May, Sunday @ 9 am on the virtual platform. It received a huge response from PG students & Consultants alike. On Sunday morning we had more than 180 delegates joining for the topic "multiple gestations". An idea as unique as "case Presentation" in a Virtual masterclass could only emerge through an academically sound organization like POGS. It was an effort to make our postgraduates reach a zenith of excellence in these covid times. Dr. Vaishali Korde-Nayak and Lt Col Bikram Bharadwaj were the conveners for this Masterclass. This class started with a case presentation by Dr. Shouvik Nandy (JR3 AFMC) and Dr. Amit Dahiya (JR3 AFMC). The academicians & great teachers like President POGS, Dr. Sunita Tandulwadkar (HOD Ruby Hall Clinic), Dr. Manju Puri (Director, Prof & HOD, LHMC, New Delhi), Brig Aruna Menon (Prof & HOD, AFMC), And Dr. Aparna Sharma (Additional Prof, AIIMS New Delhi) were the examiners. They asked many practical questions and gave expert comments which are helpful not just to PGs but even to the practicing consultants. The audience liked the program and we received many feedbacks of appreciation. This will be conducted henceforth on every 4th Wednesday 8-10 pm.

2. Usha Krishna Quiz - The Pune Round of the Usha Krishna Quiz was conducted, virtually, on the 21st May 2021 between 5-6 pm. Dr. Nilesh Balkawade & Dr. Amey Chugh were seasoned quiz masters. This quiz was for all MS and DNB students across Pune. The elimination round was conducted for a total of 54 participants (27 teams) to get the Top 4 teams. It was one of its kind as it was held on an advanced digital Kahoot platform.
The top 4 teams to qualify for the finals were from AFMC medical college, BJ Medical College, Ruby Hall clinic & Dr. DY Patil Medical College. Out of which, team AFMC emerged as the winner of the quiz & team Ruby Hall first Runner up.

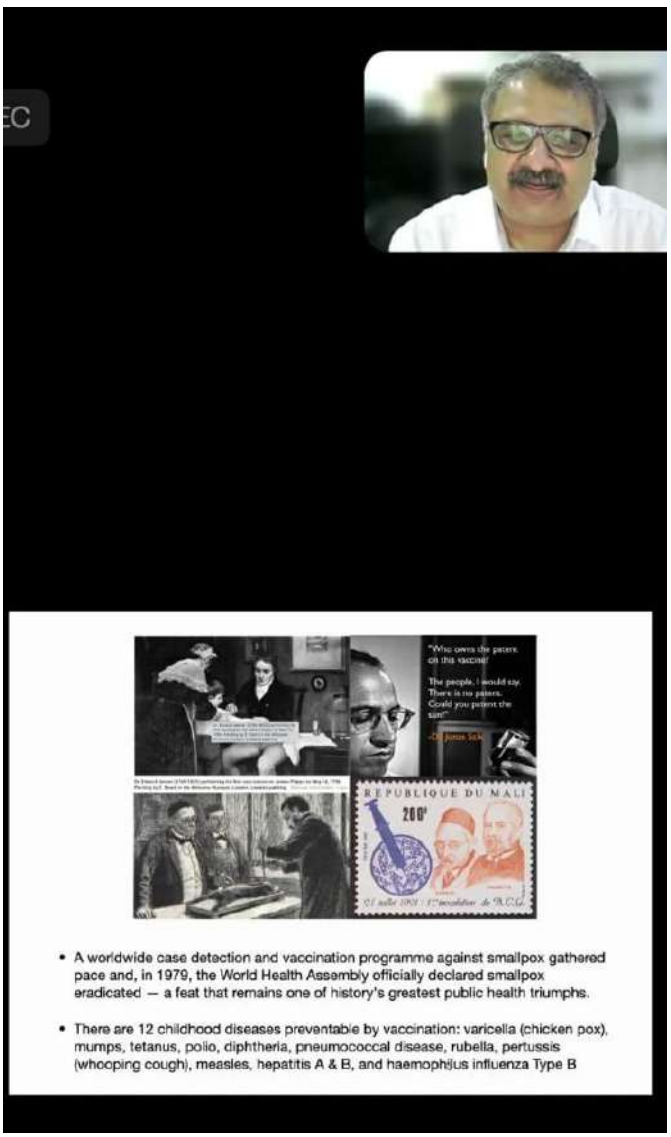
3. POGS PEARLS - On the "International Day of Action for Women's Health", on 28th May, POGS organized a unique program called POGS PEARLS to unravel the mystery with pearls of wisdom. This program was focused on 2 topics in ObGyn with 2 experts.
• ***Vaccination in Pregnancy and Lactation, Speaker - Dr. Jaydeep Tank***
Chairpersons - Dr. Sunita Tandulwadkar, Dr. Anand Bhalerao, Dr. Priti Kumar
• ***Pre and Probiotics in Vaginal Infections, Speaker- Dr. Vaishali Korde Nayak***
Chairpersons- Dr. Dilip Walke, Dr. Fessy Louis, Dr. Kalyan Baramade
This program was well appreciated by over 200 delegates as it aimed at 2 vital topics of women's health and had good take-home messages. As is the record, POGS has always been determined to focus on women's health and make it a success.

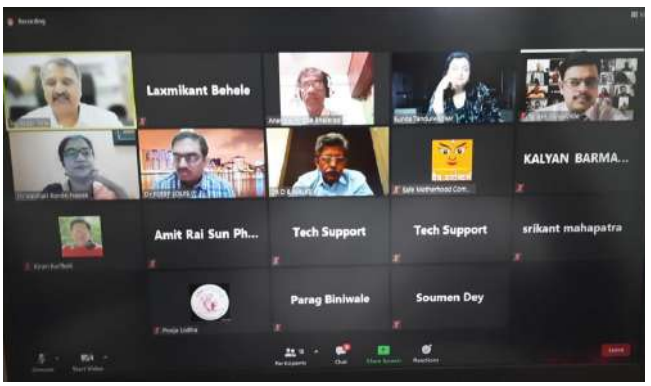
Happy Monsoon… Enjoy!

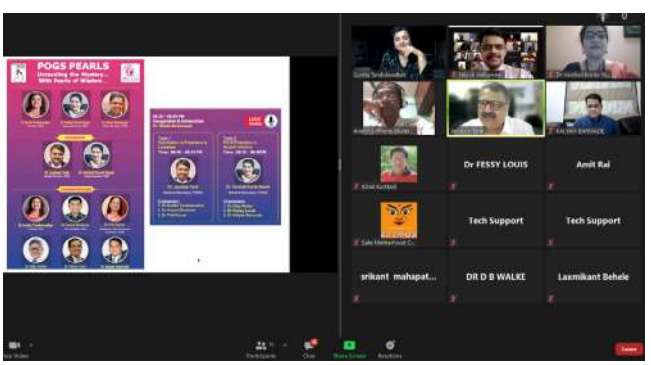
Dr Vaishali Korde-Nayak
General Secretary, POGS

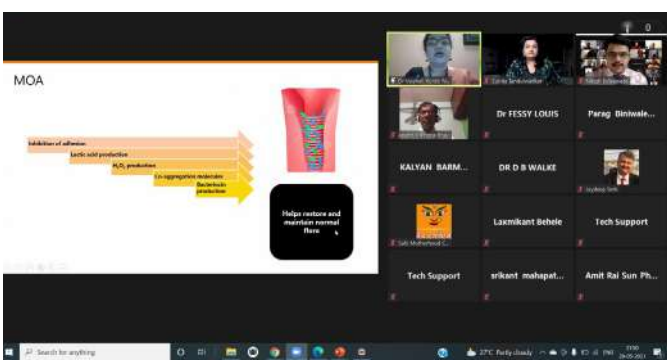

PUNE OB-GYN SOCIETY
STD. 1953
www.pogs.in
POGS STAR
VIRTUAL MASTERCLASS
She... The STAR
On every 3rd Sunday of the Month
Case based discussion with practical Q&A Session
1st Session - 16th May 2021 | 9 am - 11 am
Topic : Multiple Pregnancy
PG Examiners
Dr Sunita Tandulwadkar
President POGS
HOD Ruby Hall Clinic
Dr Manju Puri
Director Professor & HOD
LHMC Delhi
Brig Aruna Menon
Prof. & HOD
AFMC, Pune
Dr Aparna Sharma
Additional Professor
AIIMS Delhi
Conveners
Dr Vaishali Korde-Nayak
General Secretary POGS
Professor & HOD MIMER, Pune
Lt Col Bikram Bhardwaj
Associate Professor
AFMC
PG Students
Maj Shovik Nandy
JR3
AFMC Pune
Maj Amit Dahiya
JR3
AFMC Pune

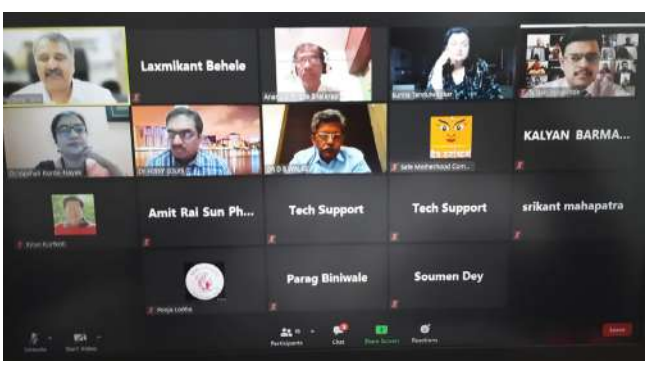
POGS PEARLS - MOMENTS TO CHERISH!





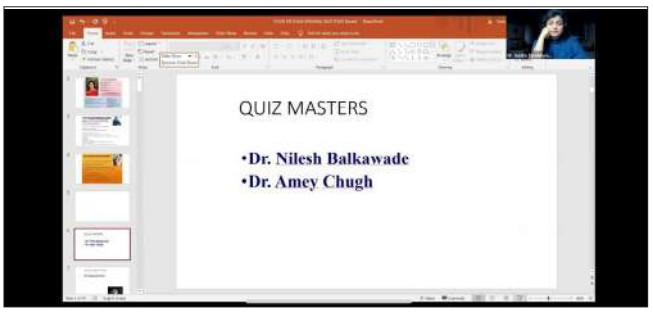


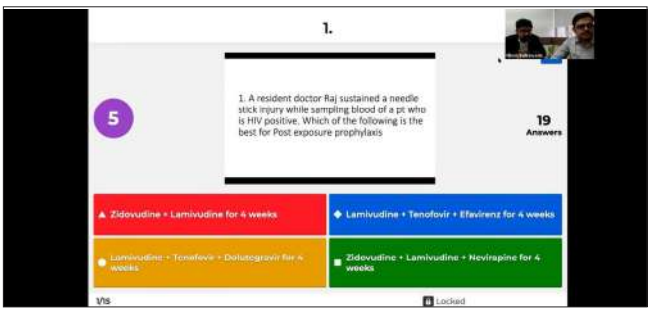


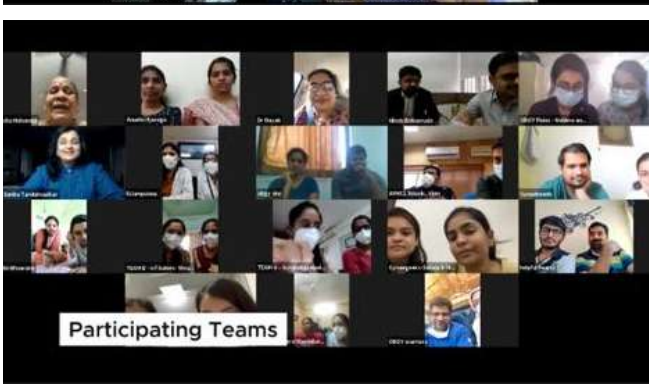



PUNE OB-GYN SOCIETY ESTD. 1953
www.pogs.in
FOGSI
USHA KRISHNA QUIZ
PUNE ROUND
She... The STAR
Date : 21/05/2021, Friday
Time : 5 pm - 6 pm I Venue : Virtual
Topic: Critical Care in Obstetrics
WINNERS participate in YUVA FOGSI
QUIZ TIME
RULES
+ The quiz is open to young members of FOGSI who have completed their internship on or after Feb 2012.
+ Each team should comprise of two members.
Kindly send the participant details (name, email id, mobile number) for the same.
Dr. Sunita Tandulwadkar
President, POGS
Dr. Vaishali Korde-Nayak
General Secretary, POGS
Dr. Nilesh Balkawade
Clinical Secretary, POGS
Dr. Amey Chugh
Convener

QUIZ MOMENTS CAPTURED








PUNE OB-GYN SOCIETY ESTD. 1953
www.pogs.in
FOGSI
USHA KRISHNA QUIZ
PUNE ROUND
She... The STAR
Topic: Critical Care in Obstetrics
21st May, 2021
Certification of Participation
This is to certify that
DR. SUMEET RANJAN TRIPATHY
is the Winner in FOGSI Usha Krishna Quiz on
Topic: Critical Care in Obstetrics
conducted by Pune Obstetric and Gynecological Society on 21st May 2021
Dr Sunita Tandulwadkar
President, POGS
Dr Vaishali Korde-Nayak
General Secretary, POGS
Dr Nilesh Balkawade
Clinical Secretary, POGS
Dr Amey Chugh
Convener & Quiz Master

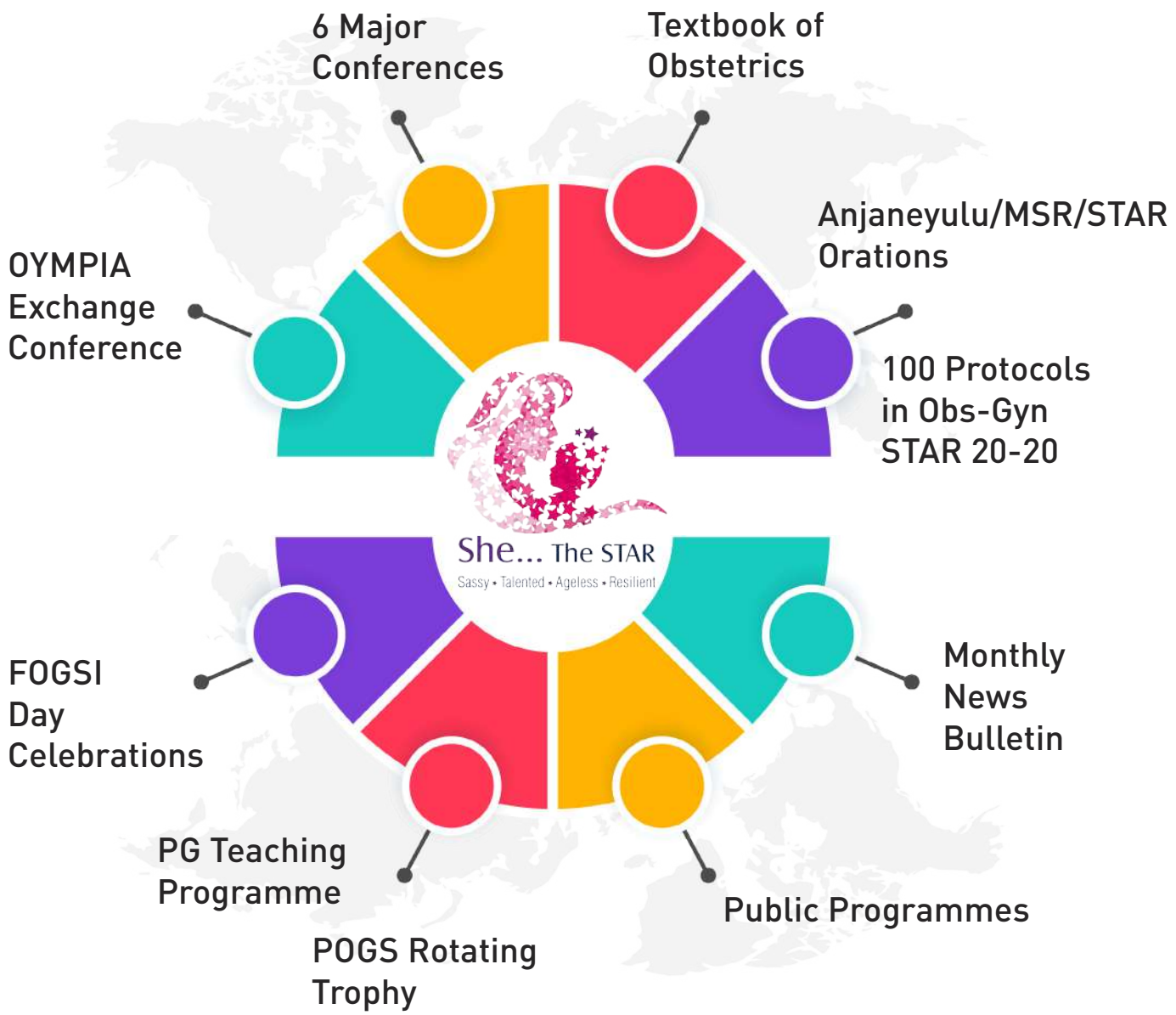
AFMC won

OUR THEME THIS YEAR

She... The STAR

Sassy ★ Talented ★ Ageless ★ Resilient

CALENDER OF THE YEAR



2021-2022 ACTIVITIES

6 MAJOR CONFERENCES

APRIL 2021

16th - 18th

POGS STAR-OG Global Virtual Conference on **Recent Trends**

AUGUST 2021

7th & 8th

POGS-FOGSI IOI -2 International Conferences on **Ovulation Induction**

OCTOBER 2021

8th - 10th

POGS- AMOGS Zonal Conference on - **Critical Care Obstetrics**

OCTOBER 2021

22nd - 24th

POGS-FOGSI STAR – LEGAL **National Medicolegal Conference**

DECEMBER 2021

11th & 12th

POGS-ISUOG FETOPANISHAD International **Fetal Medicine Conference**

FEBRUARY 2022

18th - 20th

POGS **Endoscopy Conference**

2021-2022 ACTIVITIES

Jan 2022

Exchange Conference "Olympia" organized by POGS in association with AMOGS and will be endorsed by many more societies from Maharashtra at DY PATIL Stadium, Navi Mumbai.

CONNECT Monthly Newsletter

- POGS Rotating Trophy
- Orations – Anjaneyulu , MSR & STAR Oration
- Social Programmes & Public Awareness
- PG teaching programs once in 3 months
- Text Book of Obstetrics
- STAR 20-20 - A practical book on 100 protocols in OBGY

FOGSI DAY CELEBRATIONS

April 11th FOGSI SAFE DELIVERY DAY
Dr Shubhlaxmi Kurtkoti

June 5th FOGSI INFERTILITY DAY (PLANT A TREE TODAY)
Dr Leena Patankar

July 1st FOGSI GIRL CHILD DAY
Dr Meenakshi Deshpande

Oct 18th FOGSI MENOPAUSE DAY
Dr Parag Biniwale

Nov 7th FOGSI PAP SMEAR DAY – PREVENT CANCER DAY
Dr Harshad Parasnis

PUNE OB-GYN SOCIETY ESTD. 1953

HOSTED BY PUNE OBSTETRICS & GYNAECOLOGICAL SOCIETY

AMOGS

ZONAL CONFERENCE OF THE ASSOCIATION OF MAHARASHTRA OBSTETRICS & GYNAECOLOGICAL SOCIETIES

DATES:
8TH, 9TH & 10TH OCTOBER 2021
VENUE:
HOTEL JW MARRIOT, PUNE

AMOGS 2021

She... The STAR

Sassy • Talented • Ageless • Resilient

Dr Pankaj Sarode
Organising Chairperson

Dr Nandita Palshetkar
President, AMOGS

Dr Sunita Tandulwadkar
Organising Chairperson-
President, POGS

Dr Kiran Kurtkoti
Organising Chairperson

PUNE OB-GYN SOCIETY
ESTD. 1953

POGS IOI-2 2021

INTERNATIONAL CONFERENCE OF OVULATION INDUCTION

EXCEL IN STAR FERTILITY

She... The STAR

Sassy • Talented • Ageless • Resilient

DATES: 7TH & 8TH AUGUST 2021
VENUE: JW MARRIOTT, PUNE

Dr Vaishali Korde-Nayak
General Secretary, POGS

Dr Sunita Tandulwadkar
President, POGS
Organizing Chairperson

Dr Kundan Ingale
Organizing Chairperson
Chair, Infertility Committee
FOGSI

Dr Nilesh Balkawade
Clinical Secretary, POGS

DATES:
22ND - 24TH OCTOBER 2021
VENUE:
JW MARRIOTT, PUNE

POGS STAR LEGAL

She... The STAR

Sassy • Talented • Ageless • Resilient

Dr Vaishali Korde-Nayak
General Secretary, POGS

Dr Sunita Tandulwadkar
President, POGS
Organising Chairperson

Dr Manish Machave
Chairperson Ethics &
Medicolegal Committee FOGSI
Organising Chairperson

Dr Nilesh Balkawade
Clinical Secretary, POGS

PUNE OB-GYN SOCIETY
ESTD. 1953

DATES:
11TH, 12TH DECEMBER 2021
VENUE:
JW MARRIOTT, PUNE

Fetopanishad

THE FETAL CONGRESS FOR ALL

She... The STAR

Sassy • Talented • Ageless • Resilient

HIGHLIGHTS

International Accreditations
Two Parallel Halls
Minus3Nine:
Fetal Medicine for Obstetricians
Fetus+:
Fetal Medicine for Practicing Fetal Medicine Clinicians

Hands-On Fetal Interventions
For Minus3Nine:
Aminocentesis, CVS
For Fetus+:
Fetal Shunt, Radio-Frequency Ablation, Bipolar Cord Coagulation, Laser for TTTS

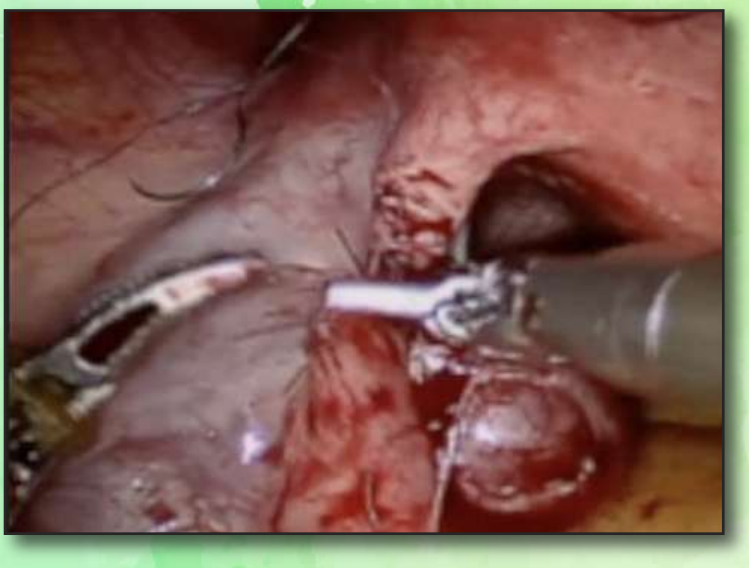
Dr Vaishali Korde-Nayak
General Secretary, POGS

Dr Sunita Tandulwadkar
President, POGS

Dr Pooja Lodha
Conference Director

Dr Nilesh Balkawade
Clinical Secretary, POGS

PUNE OB-GYN SOCIETY
ESTD. 1953



DATES:
18TH, 20TH FEBRUARY 2022
VENUE:
DR DY PATIL MEDICAL COLLEGE, PIMPRI, PUNE

POGS-Star Endoscopy Conference

She... The STAR

Sassy • Talented • Ageless • Resilient

Dr Vaishali Korde-Nayak
General Secretary, POGS

Dr Kiran Kurtkoti
Organising Chairperson

Dr Sunita Tandulwadkar
President, POGS

Dr Hemant Deshpande
Organising Chairperson

Dr Nilesh Balkawade
Clinical Secretary, POGS

Pune Ob-Gyn Society
Estd. 1953

She... The STAR

Sassy • Talented • Ageless • Resilient

OUR ACADEMIC PARTNERS

POGS Office Bearers

Dr Sunita Tandulwadkar
President, POGS

Dr Vaishali Korde-Nayak
General Secretary, POGS

Dr Parag Biniwale
President-Elect

Dr Pankaj Sarode
Vice President

Dr Kundan Ingale
Executive Vice President

Dr Nilesh Balkawade
Clinical Secretary

Dr Laxmikant Behele
Treasurer

Dr Madhav Kankawale
Joint Secretary

Dr Pooja Lodha
Joint Clinical Secretary

Dr JP Rath
Joint Treasurer

Managing Council Members

Dr Aarti Nimkar

Dr Amey Chugh

Dr Amol Lunkad

Dr Anita Gavali

Dr Archana Pungliya

Dr Chaitanya Ganapule

Dr Kapil Kanade

Dr Kiran Kurtkoti

Dr Leena Patankar

Dr Manjiri Valsangkar

Dr Meenakshi Deshpande

Dr Milind Dugad

Dr Nitin Sangamnerkar

Dr Rahul Argade

Dr Sabrina Bokil

Dr Shubhalaxmi Kurtkoti

Dr Uma Wankhede

Dr Vaishali Biniwale

Dr Veena Todkar

Co-opted Members

BRIG ARUNA MENON • LT COL BIKRAM BHARDWAJ • DR GS SHEKAWAT • DR HEMANT DESHPANDE • DR HEMANT DAMLE • DR MEENAL PATVEKAR • DR MEENAKSHI SURVE • DR PRASAD BHANAP • DR SHILPA NAIK • DR RAMESH BHOSALE • DR VAISHALI TARALEKAR • DR VIDYA GAIKWAD

Ex-Officio

Dr Ashwini Kale

Dr Prakash Kothavale

FOGSI Committee Chairpersons

Dr Kundan Ingale

Dr Manish Machave

Dr Meenu Agarwal

Dr Vaishali Chavan

AMOGS 2nd Vice President

Dr Kiran Kurtkoti

Past Presidents

Dr Harshad Parasnis

Dr Dilip Walke

Dr Bharti Dhore Patil

Dr Nishikant Shrotri

Dr Charuchandra Joshi