

*You Are  
Most Welcome!*





With Covid  
we have  
made to the  
Life Raft  
But dry land  
is still far  
away.

**INSTEAD OF  
SOCIAL  
DISTANCING  
LET'S CALL IT  
VIRTUAL  
CONNECTING!**



**DHEERA**  
NO TO VIOLENCE



PODS FOR ALL, ALWAYS

DHEERA

PROVIDING QUALITY EDUCATION



PODS



PODS FOR ALL, ALWAYS

DHEERA



PODS  
FOR ALL  
ALWAYS

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AW

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**Congratulations**

**Shanthakumari Sekaran**

**on being elected as Treasurer  
of the esteemed FIGO;  
another great milestone after  
FOGSI Presidency and a  
stepping stone for future  
FIGO Presidency.**

# Knowledge NUGGETS



- MBBS and DGO from LLRM medical college, Meerut .
- Clinical Director, Priyadarshi Hospital and Priyadarshi IVF and Kidney care
- President, PAHAL-ek prayas-Modinagar: an NGO dedicated towards clean and green city



# MANAGEMENT OF CESAREAN SCAR PREGNANCY

DR SARITA TYAGI

MBBS, DGO

CLINICAL DIRECTOR, PRIYADARSHI HOSPITAL AND RESEARCH CENTRE,  
PRIYADARSHI IVF AND KIDNEY CARE



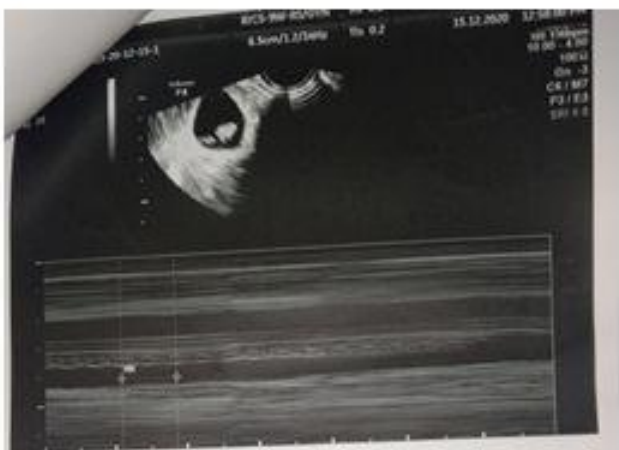
## CASE

- Mrs X, 32 years old, P2L2A1 with history of 3 weeks overdue, presented with complaints of nausea and vomiting
- TVS showed a low lying gestational sac near previous scar with increased vascularity on doppler with empty uterine cavity ( scar ectopic) with myometrial thickness 3mm

## CASE

- Sac size was 7 weeks and 2 days and cardiac pulsation was present
- Serum beta hcg was 1,02,000 mIU/ml.

## USG FINDINGS



## MANAGEMENT

- After high risk consent and baseline investigations, **systemic Methotrexate** was administered at the dose of 1.5mg/kg in RL over 2-3 hours (can be given IM also)
- Mtx in conventional dose (1mg/kg) wasn't effective in 2 other cases when cardiac pulsation was not present

## MANAGEMENT

- In another case when cardiac pulsation was not present, increased dose of Mtx (1.5mg/kg) was effective in terminating pregnancy. Hence our protocol.
- However in this case even after 24 hours the sac and cardiac pulsation were intact.
- The same picture was seen after 48hrs also . myometrium thickness was good

## MANAGEMENT

- 48 hours after first dose of Mtx we decided to give 600mg of **Mifepristone** followed by 48 hrs of observation
- After a gap of 48 hrs of mifepristone we gave **Misoprostol** 200 mcg sublingual and per vaginal each

## MANAGEMENT

- Cardiac pulsation was still present after 8 hours of monitoring
- We decided to insert an **intracervical foley's** (10 no) and the bulb was inflated with 5ml saline

## MANAGEMENT

- After 8 hours of foley's insertion it was gently pulled out confirming cervical dilatation.
- The bulb was deflated slowly with 1-2 ml saline remaining in the bulb
- However cardiac pulsation was still present on the scan



## MANAGEMENT

- A decision for local administration of methotrexate in gestational sac was taken.
- Patient was shifted to OT and given short GA
- 20mg injection **methotrexate was inserted in the sac** through intracervical route using an 18 no spinal needle under TAS guidance



## MANAGEMENT


- USG showed absent cardiac pulsation
- The patient was taken for **suction and evacuation**
- USG was done which confirmed the completion of procedure
- Patient was discharged in satisfactory condition

## INDICATION OF MEDICAL MANAGEMENT OF ECTOPIC PREGNANCY

- Serum beta hcg  $< 10,000$  mIU/ml
- Absent cardiac pulsation
- G sac size  $< 3$  cm



## OUR EXPERIENCE


- We managed a total of 10 cases at our center, and 5 cases were managed by other doctors under my guidance following the same protocol.
  - This protocol helped us avoid surgical intervention
- 

## TAKE HOME MESSAGE

- In patients with no cardiac pulsation Mtx can work in high dose
- However in cases with cardiac pulsation, we had to give Mtx, mifepristone, misoprostol, ballooning with catheter and then intrasac Methotrexate followed by suction evacuation



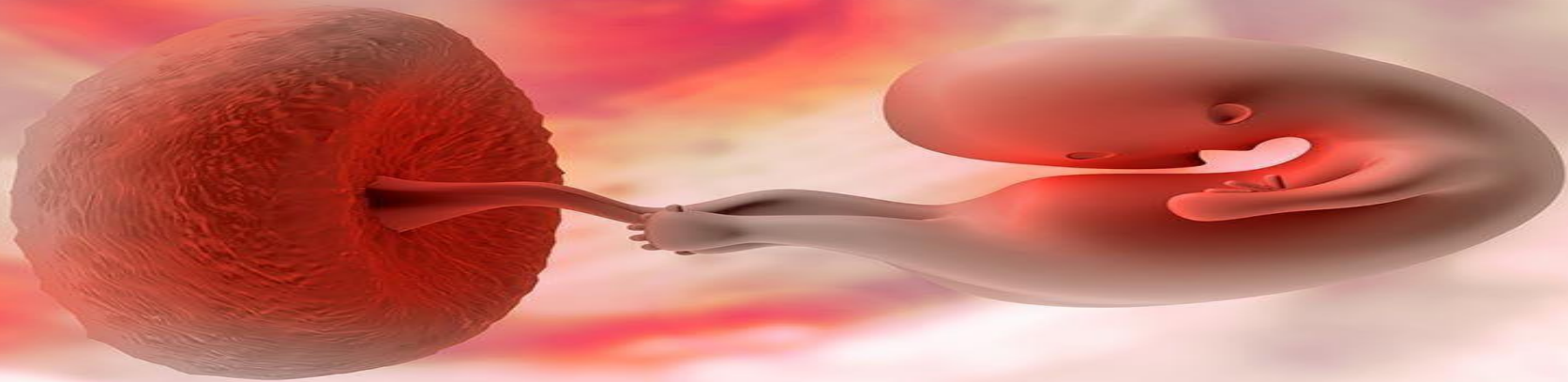
## TAKE HOME MESSAGE

- Don't give up hope if your first attempt or even third attempt does not work
  - There is no evidence based protocol and we must all learn from each other's experiences
- 

THANK YOU







*What Causes*  
**SLOW**  
**FETAL GROWTH**  
— DURING —  
**PREGNANCY?**

## DR. SHELLY AGARWAL M.B.B.S., M.S., FICOG

- Currently working as Professor, OBG ,  
School of Medical Science & Research , Greater Noida.
- Graduate & Post-graduate from M.L.B. Medical College ,  
Jhansi . ( Gold Medalist )
- Faculty in various national & international conferences.
- Numerous publications in various journals.
- AREA OF INTEREST : High Risk Pregnancy & Critical care .



### Dr Shilpi Singh

Trained in Fetal Medicine from–Indraprastha Apollo Hospitals , New Delhi

Fetal Medicine Foundation (FMF) ,UK,Certified

Consultant Fetal Medicine

Singhal Diagnostic Centre,Hapur

MBBS,DGO (ObGyn) Delhi University, Tr. Fetal Medicine ,Apollo Hospitals,N.Delhi.

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

- Training in Fetal Medicine from Indraprastha Apollo Hospitals , New Delhi ( 2018) , FMF UK Certified.
- Certification in one year Fetal Ultrasound programme ( 2017).
- Proficient and special interest at performing various advanced obstetric scans including Growth scans,dopplers,3D,4D and NT scans.
- 16 years of experience in performing obstetric and gynecological scans.
- Active member GOGS since 2006. Presently holding the post of Jt. Treasurer, GOGS
- Member- GOGS, IMA, IFUMB, SFM, FUP, FOGSI.
- Postgraduation – R & R, Army Hospital ( Delhi University), N.Delhi
- Graduation – LLRM Medical College, Meerut

## Dr Alpana Agrawal

Medical Superintendent  
Professor (Obs & Gyn)  
Santosh Medical College, Ghaziabad

### Special Awards & Achievements:-

Academic excellence award by Santosh University: 2015  
Transformational Leader award by Santosh University  
Best Scientific Activity award by IMA Gzb: 2015, 2017  
Member of UNESCO Bioethics Chair

### Publications :-

Teaching experience- 24 yrs  
Presented & Published several papers in national and international journals  
Contributed chapters in books  
Special interest- Fetal medicine, High risk pregnancy



## DR PARIDHI GARG

### • Associate Professor -

- Rama Medical College & Research Centre,  
Hapur

- M.B.B.S.(VMMC & SJH, N. Delhi), M.S.(Dr RML Hospital & PGIMER, N. Delhi)
- Published papers & reviewed articles in indexed National & International Journals
- Guest speaker as faculty in UPCOG 2017
- Special interest: Infertility & High Risk Obstetrics





## DR VANI PURI RAWAT

CONSULTANT OBSTETRICIAN AND GYNAECOLOGIST

NZ CO-ORDINATOR SEXUAL MEDICINE COMMITTEE FOGSI

SECRETARY GOGS – 2018-2019

TREASURER GOGS -2017-2018

SECRETARY IMA GHZIABAD - 2019-2021

JOINT TREASURER –IMA UP STATE

MEMBER OF CULTURAL COMMITTEE NATIONAL IMA



## MEGHA SHARMA



OBSTETRICIAN AND GYNAECOLOGIST,  
SAINT JOSEPH'S HOSPITAL, GHAZIABAD.

MBBS, MD (OBST & GYNAE).

DIPLOMA IN ASSISTED REPRODUCTIVE  
TECHNOLOGIES.

FELLOWSHIP IN MINIMAL ACCESS SURGERY,  
FELLOWSHIP IN ULTRASONOGRAPHY.

## Dr. Noopur Sharma

Gynaecologist

### QUALIFICATIONS

- MBBS
- M.S Gold Medalist
- Trained in IVF, Hysteroscopy and Laparoscopy

### FIELD OF INTEREST

- Infertility
- High Risk Obstetrics



## DR. APARNA ARYA TYAGI

❖ Consultant -Obs & Gynae (Yashoda Hospital Nehru Nagar)

❖ MBBS (L.H.M.C New Delhi)

❖ MS (OBG) (L.H.M.C New Delhi)

❖ DNB, MNAMS

❖ Fellowship in Colposcopy & Preventive Oncology

❖ Awards & Recognitions

✓- Awarded for Max. "Post Placental Cu-T Insertion" (200+)

✓- Awarded 3<sup>rd</sup> prize in "Paper Presentation" in FENIX (AIIMS- 2015)

✓- Awarded 2<sup>nd</sup> Prize in Debate on "WORLD POPULATION DAY"

❖ Special Interest In Laparoscopy & Hysteroscopy Surgeries & High Risk Obstetrics





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## Question 2



► What are the consequences of FGR and why are we so worried?

DR MEGHA



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### Question 3



► What are the various phases of fetal growth and how can we classify FGR?

DR SHILPI



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# NORMAL INTRAUTERINE GROWTH PATTERN



## STAGE 1

- 4 -20 wks
- Hyperplasia
- Increased DNA content

## STAGE 2

- 20 -28 weeks
- Hyperplasia & hypertrophy
- ↑ cell size

## STAGE 3

- 28 -30 weeks
- Rapid hypertrophy
- 95% fetal wt gain



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## Early and late onset FGR – main differences



Early-onset FGR (1-2%)	Late-onset FGR (3-5%)
<u>Problem: management</u>	<u>Problem: diagnosis</u>
Placental disease: severe (UA Doppler abnormal, high association with preeclampsia)	Placental disease: mild (UA Doppler normal, low association with preeclampsia)
Hypoxia ++: systemic cardiovascular adaptation	Hypoxia +/-: central cardiovascular adaptation
Immature fetus = higher tolerance to hypoxia = natural history	Mature fetus = lower tolerance to hypoxia = no (or very short) natural history
High mortality and morbidity; lower prevalence	Lower mortality (but common cause of late stillbirth); poor long-term outcome; affects large fraction of pregnancies



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Figuros F and Gratacos E. *Ultrasound Diagn Ther.* 2014; 36:86



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## Question 4

► What are the factors affecting fetal growth (etiology)?

DR APARNA

Shelly Agarwal's screen





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## Question 5

What are the Risk factors for SGA ?



DR PARIDHI



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## MAJOR FACTORS

Zoom MINOR FACTORS

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Maternal age >40 years.

Maternal age > 35 years

Smoker >11 cig/day , Cocaine

IVF Pregnancy

Paternal SGA

Nulliparity

Daily vigorous exercise.

BMI <20

Previous SGA/ Still birth.

BMI 25 -34.9

Chronic hypertension

Smoker <10 cigarettes / day

Diabetes with vascular disease

Previous pre-eclampsia

Renal impairment

Pregnancy interval < 6 months

APLA

Pregnancy interval >60 months

PAPP-A < 0.4 MOM



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## Question 6



Once U have identified major & minor risk factors ,  
What are the optimal screening methods?

DR NOOPUR



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## Optimum Screening



Rule of possibility of symmetric IUGR

Be vigilant during the course of pregnancy

DUAL MARKER  
PAPP-A  $<0.4$  MOM  
NBNT SCAN

TIFFA  
UTERINE ARTERY  
DOPPLER

Regular screening  
from 26-28 weeks of  
pregnancy



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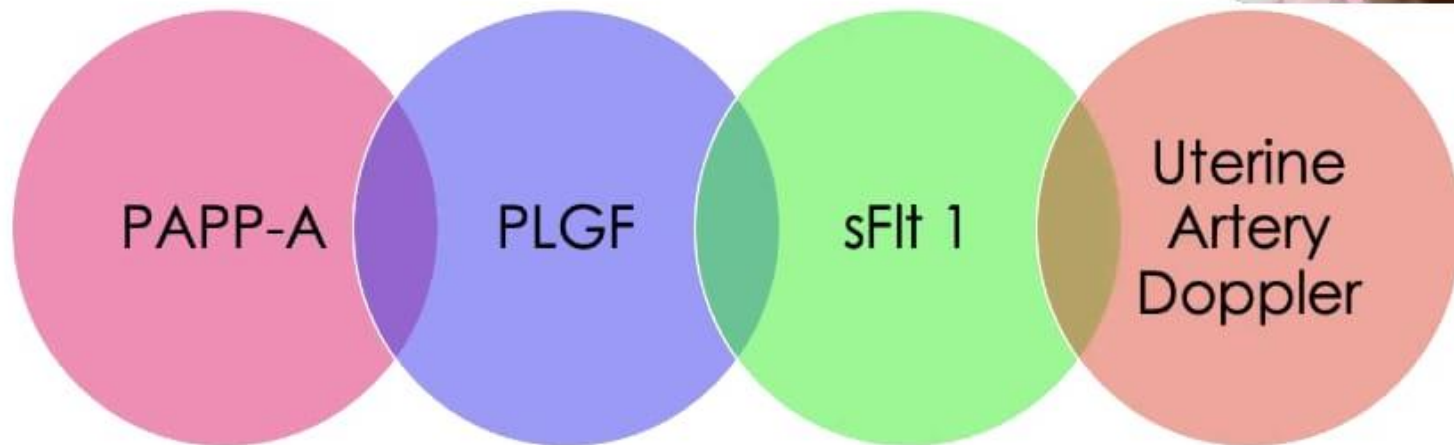


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# SCREENING METHODS



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### Booking assessment (first trimester)

**Minor risk factors**  
 Maternal age  $\geq 35$  years  
 IVF singleton pregnancy  
 Nulliparity  
 BMI  $< 20$   
 BMI 25–34.9  
 Smoker 1–10 cigarettes per day  
 Low fruit intake pre-pregnancy  
 Previous pre-eclampsia  
 Pregnancy interval  $< 6$  months  
 Pregnancy interval  $\geq 60$  months

**Major risk factors**  
 Maternal age  $> 40$  years  
 Smoker  $\geq 11$  cigarettes per day  
 Paternal SGA  
 Cocaine  
 Daily vigorous exercise  
 Previous SGA baby  
 Previous stillbirth  
 Maternal SGA  
 Chronic hypertension  
 Diabetes with vascular disease  
 Renal impairment  
 Antiphospholipid syndrome  
 Heavy bleeding similar to menses  
 PAPP-A  $< 0.4$  MoM

Women unsuitable for monitoring of growth by SFH measurement  
 e.g. Large fibroids, BMI  $> 35$



Consider aspirin at  $< 16$  weeks if risk factors for pre-eclampsia

**Reassess at 20 weeks**  
 PAPP-A  $< 0.4$  MoM (major)  
 Fetal echogenic bowel (major)



Uterine artery Doppler at 20–24 weeks



Assessment fetal size and umbilical artery Doppler in third trimester

Serial assessment of fetal size and umbilical artery Doppler from 26–28 weeks

Institute serial assessment of fetal size and umbilical artery Doppler if develop:  
 Severe pregnancy induced hypertension  
 Pre-eclampsia  
 Unexplained APH  
 abruption



Risk assessment must always be individualised (taking into account previous medical and obstetric history and current pregnancy history). Disease progression or institution of medical therapies may increase an individual's risk.



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## Question 7



- ▶ Mrs X. age 25 years presented to ANC OPD by
  - LMP POG – 10 wks 5 days
  - USG POG – 9 wks 1 days
- ▶ How will we date the pregnancy ?



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DR MEGHA

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## Question 8

- ▶ If same Mrs X. would have presented in early second trimester
- ▶ With POG of 17 wks 5 days by LMP
- ▶ By POG 16 wks 4 days by composite biometry on USG

# Dating?



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DR SHILPI  
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## Other Investigations:

- ▶ **Detailed fetal anatomy scan** for severe SGA, esp if identified before 18-20 weeks.
- ▶ **Karyotyping** for severe SGA fetus with structural anomalies, especially if identified before 23 weeks .
- ▶ **Serological screening** of mother for CMV, Toxoplasmosis.
- ▶ **Tests for syphilis and malaria** in high risk populations



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## Question 10



**What is the role of doppler in FGR?**

**Which vessels need to be studied ?**

**What are the various doppler indices?**

DR APARNA



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## Uterine Artery Doppler

**12 weeks**

- More accurate with PAPP-A + Maternal Age + BMI + Previous history
- Window of intervention

**20 weeks**

- Pre-eclampsia
- FGR
- IUFD

**28-40 weeks**





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## Question 15

- ▶ What interventions should be considered in prevention of SGA & interventions in preterm SGA?
- ▶ Is there any antenatal treatment?



DR VANI



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**be well,  
be safe.**

WE CAN GET THROUGH THIS 

