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MOGS NEWSLETTER

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BMC's medico is new President of Mumbai Obstetrics & Gynecological Society

Dr Niranjan Chavan, of the BMC's LTM College and S over as the 69th President of the 88-year-old Mumba Gynecological Society (MOGS) for 2022-2023, at the biggest post-pandemic medical congregation held Thursday.

IANS • April 21, 2022, 15:00 IST

दृष्टिक्षेपात

जागतिक मासिक पाळी स्वच्छता दिनानिमित्ताने एमओजीएसतर्फे जनजागृती

(जातमीदार) : फोर्ट येथील कामा अँड अल्ब्लेस रुग्णालयामध्ये ता दिनाच्या निमित्ताने एमओजीएसतर्फे आले होते. या कार्यक्रमाचे बेकर यांच्या हस्ते करण्यात देवसाचे महत्त्व, त्याचप्रमाणे

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India among worst-hit by anaemia, World Congress in Mumbai to discuss remedies

May 6, 2022

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मासिक पाळी स्वच्छता दिनानिमित्त कार्यक्रम

मुंबई, नवराष्ट्र न्यूज नेटवर्क.. कामा अँड अल्ब्लेस रुग्णालयामध्ये मुंबई ऑब्सटेट्रीक अँन्ड गायनॅकोलॉजिकल सोसायटी (एमओजीएस) तर्फे जागतिक मासिक पाळी स्वच्छता दिनाच्या निमित्ताने एका कार्यक्रमाचे आयोजन करण्यात आले होते. या कार्यक्रमाचे उद्घाटन 'ए' वॉर्डचे एमओएच प्राजक्ता अंबेकर यांच्या हस्ते

लोहयुक्त गोळ्यांचे वाटप

या कार्यक्रमाच्या निमित्ताने ओपीडी तसेच कम्युनिटी मध्ये जाऊन लोहयुक्त

Dr. Niranjan Chavan
PRESIDENT

Dr. Rajendra Sankpal
SECRETARY

Dr. Geetha Balsarkar
TREASURER

We request our esteemed readers to send their valued feedback, suggestions & views at mogs2012@gmail.com

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From the Desk of President

Dr. Niranjan Chavan

MD, FCPS, DGO, DFP, DICOG, MICOG, FICOG,

Diploma in Endoscopy (USA), Training In Minimal Access Surgery. (Hampstead, U.K)

Respected Trustees, Past Presidents of MOGS, Office bearers, Members of the Managing Council & dear friends,

I am honoured to be installed as the 69th President of The Mumbai Obstetric and Gynecological Society at the 88th AGM at Hotel Sofitel Hotel in April 2022 and I wish to thank every member for giving me this wonderful opportunity. I shall strive to do my best to fulfil your expectations.

I took over this position from Dr Sarita Bhalerao, MOGS President (2021-2022) my classmate from GSMC 1985 batch. I would like to congratulate her and Dr Rishma Pai, MOGS President (2020-2021) on extremely successful tenures in the difficult time of Covid pandemic which hit our country in March 2020.

I would like to begin my message by thanking family members, as I have received unparalleled support from them for all these years to reach the ultimate pinnacle, a dream come true representing you all as President of our 88 years old organization MOGS founded in 1934.

I am extremely happy to have an excellent team this year. My MOGS Secretary, Dr. Rajendra Sankpal is a versatile & dedicated laparoscopic surgeon and my MOGS Treasurer Dr. Geetha Balsarkar is also a very experienced and hard-working person.

Our entire Managing Council & Office bearers are very efficient and dynamic and I look forward to their support this year. Our Youth Council is an essential part of every program. They are the building blocks for the future. I welcome them all and look forward to their participation.

My MOGS Theme for this year is "Vision for HER: Heal Her, Educate Her, Respect Her". I want to work toward improving every aspect of women's health. My goal is to bring MOGS more respect and recognition on a national as well as international platform. I have planned on organizing conferences, conclaves, outreach programs, Workshops, newsletters and CMEs this year with the presence of many renowned and well-known faculties from national and international societies and federations. Zoom platform has got all of us close to each other. It has cut across all boundaries as a result, all stakeholders of women's health are disseminating knowledge and breaking all barriers all over the globe. The world has become smaller now following the Covid pandemic. There are no boundaries left now.

There are no countries and continents left now. We all have become one.

Our first conference in April was the MOGS-HER World Congress on Labour and Delivery on, the 16th and 17th of April 2022 at Hotel Sofitel BKC. It was preceded by the 1st ever AI enabled hands-on Obstetric Skills and Drills workshop on 15th April 2022 at Sion hospital with AI mannequins by Laerdal, Norway. This conference had 3 Orations by esteemed Dr. Jeanne Conry, FIGO President, Dr. S. Shanthakumari, FOGSI President & Dr. P. K. Shah, Past President FOGS & MOGS, on unique topics, logomachy which was a debate on the various obstetric topics. Mr. Sharman Joshi, the film actor was the Chief Guest along with FIGO President Dr. Jeanne. This conference also had 18 keynote addresses and international speakers from FIGO, WHO, RCOG, RCPI, JHPIEGO & ISUOG organisations.

Our next conference was the MOGS World Congress on Anemia (WCA 2022), a virtual conference on 7th May 2022. It was with International & National speaker's participation from FIGO, SAFOG, IAP, NNF, API, RCOG and many other organisations. Dr. Anne Beatrice Kihara, FIGO President Elect from Kenya was the Chief Guest along with Dr Conry as Guest of Honour. It also had lectures by Dr. Prof. Omondi Ogutu from the University of Nairobi and Prof. Anat Gafter-Gvili from Rabin Medical Centre, Israel among other international and national speakers.

We had many Outreach programmes in the month of May & June 2022 over different venues in Mumbai which were very well attended.

The World Menstrual Hygiene Day was celebrated on 28th May 2022 by MOGS members at 24 hospitals, small and big nursing homes and private hospitals by talks on menstrual hygiene among young adolescent girls and women. This was a programme organised on a large scale which was one of its kind and was extremely well appreciated by all.

I congratulate Dr. Sujata Dalvi and Dr. Komal Chavan who have done an excellent job with the first MOGS newsletter of my year as Editors & Co-editors Dr Pradnya Supe & Dr. Shreya Lotlikar Prabhoo for compiling all the matter in a short time.

Thanking you and looking forward to your avid participation in this entire year and happy reading with interesting articles by eminent members of our fraternity.

Yours in MOGS,

Dr. Niranjan Chavan
President, MOGS

Welcome All Delegates to

MOGS - SHARP
Global Gynaecology Conference 2022

(SHARP - SAFETY & HEALTH ATTRIBUTES WITH RESEARCH & PREVENTION)

3rd & 4th September 2022 ▪ St. Regis Hotel, Mumbai

From the Desk of Editors

EDITORS

Dr. Sujata Dalvi

Dr. Komal Chavan

CO-EDITORS

Dr. Shreya Prabhoo

Dr. Pradnya Supe

Hello all MOGS members!! This year has been such a lovely beginning for all of us. The pandemic is finally behind us and we are hopefully now back to our normal lives.This year is full of a multitude of events and we hope you participate with us all throughout.

It is with great pride that we bring to you the first issue of our MOGS newsletter for the month of June 2022, under the leadership of our dynamic President, Dr.Niranjan Chavan and Team MOGS 2022-2023. The issue comprises of four lead article which have been written by eminent national authors like Dr.Krishnendu Gupta, Dr.Jayam Kannan and Dr. Abhay Bhave & also includes renowned international faculty like Dr. S.Haimovich. We hope that the plethora of topics these articles cover will prove useful to you all.

On behalf of MOGS and managing committee and the editorial team, we would like to thank all the contributors sincerely.We would also like to thank our President and Secretary to give us the opportunity to compile the first issue of this year.We hope that you enjoy reading the articles and the rest of the newsletter as well.

Wishing you and your families a brighter and healthier year this year!!

Dr. Sujata Dalvi **Dr. Komal Chavan**

Editors

Dr. Shreya Prabhoo **Dr. Pradnya Supe**

Co-Editors

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Premature Rupture of the Membranes: Current Thoughts and Concepts

Dr. Krishnendu Gupta

Department of Obstetrics and Gynaecology, Vivekananda Institute of Medical Sciences (VIMS), Kolkata, West Bengal, India

INTRODUCTION

Premature rupture of membranes or pre-labor rupture of membranes (PROM) refers to the rupture of fetal membranes before the onset of labor. It affects about 10% of all pregnancies.[1] Term PROM occurs at term, more than 37 weeks of gestation. If membrane rupture occurs before 37 weeks of gestation, it is referred to as preterm PROM (PPROM). The incidence is about 3%. It is responsible for about 30–40% of all preterm births.

IMPORTANT DEFINITIONS

- Low birth weight (LBW): Neonates weighing 1500-2500g
- Very low birthweight: Neonates weighing 1000–1499 g
- Extremely low birthweight: Neonates weighing 500–999g

In 1960, if a baby was born with a birth weight of less than 1000 gm, the risk of death was 95%. Because of the advancement of medical science, in 2007 it was the opposite, which showed a survival rate of >95%.

PPROM: PATHOPHYSIOLOGY

Fetal membranes are bound together by different layers of extracellular matrix, composed of the amnion and chorion. Matrix is the key factor that defines the elasticity of the fetal membranes. Any process that weakens the matrix, increases the chance of PROM.

PPROM: RISK FACTORS

- Infection is the greatest risk factor
- Previous history of PROM (Recurrence rate: 21%)
- History of antepartum hemorrhage, multiple pregnancies, polyhydramnios mechanical distension
- In urban areas, hazards of smoking and drug abuse are well-known
- Cervical incompetence (insufficiency)
- Iatrogenic: cerclage operation, amniocentesis, fetoscopy.

PPROM: INFECTION

- Bacterial proteases potentially decrease the strength and elasticity of the membranes. They produce phospholipases which stimulate the release of prostaglandins formed from arachidonic acid leading to premature uterine contractions
- This infection which causes the host immune response to release cytokines and mediators which weaken the membranes which damage the matrix and causes the release of matrix metalloproteinases MMPs
- MMPs are a family of enzymes that are released from the extracellular matrix and decrease membrane strength by increasing collagen degradation
- Increased risk of PPROM is seen in women infected with gonorrhea, trichomonas, and chlamydia. Group B streptococcus (GBS) should be treated carefully: *Streptococcus agalactiae, Gardnerella vaginalis*

- Doctors should remember that if the sign of clinical infection is 1–2% and subclinical infection is as high as 40% and if not treated, then it may cause problems. Hence, it is necessary to diagnose and treat the infection as early as possible.

PPROM: HOW TO DIAGNOSE?

- History of leakage of liquor amnii per vagina (PV)/dribbling PV
- Per speculum (P/S) examination: To visualize the leakage of liquor/dribbling
- Valsalva maneuver such as coughing to visualize the leakage well when not clearly evident
- Avoid per vaginal/digital examination to prevent ascending infection
- Examination of escaping fluid by biochemical tests to confirm the diagnosis.

PPROM: TESTS

- Nitrazine paper test
- Fern test
- Nile blue sulfate test
- Others: Indigo-carmine test, Detection of fetal fibronectin
- New: Amniotic leak detection kit/pad AminoSense- Worn in a panty liner. If there is a leak or discoloration it becomes blue and if after an hour or after drying the color remains blue, then it can be concluded that it is a kind of amniotic fluid and not urine.

PPROM: ROLE OF ULTRASOUND (USG)

- The role of USG is not only to diagnose the leak of urine but also liquor or amniotic fluid volume/ index
- Assessment of the cervix: length dilatation of the cervical os, funneling (if any)
- Assessment of the fetus: gestational age, heart rate, and presentation
- Placenta: Localization.

PPROM: MATERNAL COMPLICATIONS

- Infection: Chorioamnionitis (13–60%) Puerperal sepsis Chorioamnionitis (clinical/acute): Presence of pyrexia and presence of any two of the following Maternal and fetal tachycardia, uterine tenderness, foul-smelling vaginal discharge, maternal leukocytosis.
- Abruptio placentae (4–12%)

  Because of all these complications, there is an increased incidence of cesarean section.

PPROM: FETAL AND NEONATAL COMPLICATIONS

- Prematurity
- Infection: neonatal septicemia
- Fetal asphyxia: oligohydramnios, cord compression, or cord prolapse
- Fetal pulmonary hypoplasia (more common if PROM <26 weeks of gestation)
- Musculoskeletal deformity because of the cramping of the uterus (due to chronic oligohydramnios): limb, talipes, craniofacial defects
- Respiratory distress syndrome
- Cerebral palsy (CP) Extremely important

$MgSO_4$ ROLE: EARLY OBSERVATIONAL DATA

In the 1980's Van de Bor, and Leviton's studies showed decreased rates of intraventricular hemorrhage (IVH) and CP in very low birth weight (VLBW) infants born to women with preeclampsia who were given $MgSO_4$. In the early 1990s, a study by the Kuban demonstrated that.

VLBW infants exposed to $MgSO_4$ for tocolysis also had decreased rates of IVH. In 1996, Grether *et al*., showed a lower rate of CP in VLBW infants exposed to $MgSO_4$. As per the above studies, it could be concluded that exposure to $MgSO_4$ can be beneficial.

Table 1: Antibiotics in PPROM: Review

Organization	Antibiotics	Comment
ACOG (USA)	Penicillin Ampicillin (alternative) Erythromycin (up to 32% resistance) Clindamycin	Not commended Only if the isolate is susceptible 04 sensitive 5 Mio. E. I initial, then 2.5 Mio. E. I 4 h until delivery
DGGG (Germany)	Penicillin G Mezlocillin, piperacillin, clindamycin, ampicillin, erythromycin, or cefazolin (alternative)	
RANZCOG (Australia and New Zealand)	Ampicillin/amoxicillin and erythromycin Erythromycin (alternative single-use IAP regime for GBS colonized women: penicillin or alternative ampicillin IV; with penicillin allergy clindamycin and erythromycin after sensitivity testing because of resistants. Alternative cefazolin or vancomycin (20 mg/kg N every 8 h - maximum 2 g)	(for PPROM 2 g IV 6 h and then 250 mg PO 8 h for 5 days: 250 mg 532 weeks) PO 6 h for 48 h, then 500 mg PO 8 h for 5 days) 250 mg PO every 6 h for 10 days
RCOG (UK)	Penicillin Erythromycin (may be used if allergic to penicillin) IAP regime for GBS colonized women: benzylpenicillin (3 g IV and 1.5 g 4-h until delivery) or clindamycin (900 mg IV 8-h) if allergic to penicillin; alternative vancomycin by resistant	For 10 days
SOGC (Canada)	Ampicillin erythromycin (alone if allergic to penicillin) IAP regime for GBS colonized women: penicillin G 5 million units IV, then 2.5 million 4 h instead of ampicillin or cefazolin (2 g IV then 1 g IV 8 h) if penicillin allergic but not at risk of anaphylaxis or erythromycin (500 mg I every 6 h) or clindamycin (900 mg IV every 8 h) if penicillin-allergic and at risk of anaphylactic shock	2 g IV every 6 h for 48 h and amoxicillin 250 mg PO and/or every 8 h for 5 days 250 mg I every 6 h for 48 h following by 333 mg PO every 8 h for 5 days or 250 mg PO every 6 h for 10 days

PPROM: ROLE OF $MgSO_4$

Magnesium sulfate is used in women at risk of preterm birth for neuroprotection of the fetus. Antenatal administration of $MgSO_4$ in imminent preterm birth protects the offspring from the risk of developing CP.

INDICATIONS

"Imminent preterm birth" which includes:

1. Preterm labor with or without PPROM
2. Planned preterm birth for fetal or maternal indication.

HOW DOES $MgSO_4$ WORK?

It works in one of four ways.

1. $MgSO_4$ decreases neuronal injury by "down-regulation" of excitatory stimuli. Damaged neurons are sensitive to the excitatory neurotransmitter glutamate, but the blocking of N- methyl-D-aspartate receptors by magnesium prevent the influx of calcium that causes cell death
2. he vasoactive properties of magnesium minimize the hypoxic-ischemic damage by the resulting increased cerebral blood flow due to cerebral

Table 2: Management of PPROM by gestational age

Gestational Age	Management
34 weeks or more	Plan delivery: Labor induction unless contraindicated Group B Streptococcal prophylaxis Single corticosteroid course up to $36^{6/7}$ weeks
32 weeks to 33 completed weeks	Expectant management Group B Streptococcal prophylaxis Singlecorticosteroid course Antimicrobials to prolong latency
24 weeks to 31 completed weeks	Expectant management Group B Streptococcal prophylaxis Single corticosteroid course Tocolytics: no consensus Antimicrobials to prolong latencyMagnesium sulphate for neuroprotection may be considered
Before 24 weeks	Patient counseling Expectant management or induction of laborGroup B Streptococcal prophylaxis is not recommended

vasodilatation

3. $MgSO_4$ has been shown to prevent neuronal injury by reducing both oxygen free radicals and proinflammatory cytokines
4. Magnesium may directly reduce neuronal loss as it has anti-apoptotic (programmed cell death).

   It imparts the best protection to the preterm birth that occurs within 24–32 weeks of gestation.

DOSE

- $MgSO_4$ is[4]administered as a 4 g IV loading dose over 30 min, followed by a 1 g/h maintenance infusion until birth delivered preterm. The effect may be greatest at early gestations and is not associated with adverse long-term fetal or maternal outcomes. Women should be advised of an increase in minor adverse effects associated with the medication.

  Nguyen *et al*. conducted a study in the Cochrane Database of Systemic Reviews 2013 for determining the role of magnesium sulfate for women at term for neuroprotection of the term fetus. They found that there is currently insufficient evidence of the efficacy and safety of magnesium sulfate when administered to women for neuroprotection of the term fetus. There has been recent evidence for the use of magnesium sulfate for neuroprotection of the preterm fetus. Hence, magnesium sulfate can be given to preterm, for term gestation the studies are

- For planned preterm birth, it is started ideally within 4 h before birth, as a 4-g IV loading dose over 30 min, followed by a 1 g/h maintenance dose until birth
- $MgSO_4$ is discontinued if delivery is no longer imminent, or a maximum of 24 h of therapy has been given
- When MgSO is given for fetal neuroprotection, another tocolytic (s) is/are usually discontinued, as magnesium sulfate itself acts as a tocolytic. Based on this, it is found that it has role in preventing CP.

$MgSO_4$ FOR NEUROPROTECTION: HOW TO ADMINISTER

Loading dose and Maintenance dose- 1 ampoule of MgSO4 contains 1 gm in 2 mL (50% solution).

Initial: 4 g IV over 30–60 min.

Dilute 4 amps of $MgSO_4$: 8 mL+12 mL of normal saline (NS) = 20 mL; Infuse 20 mL in 30–60 min.

Maintenance: 1 g IV per hour for 24 h.

Dilute 10 amps $MgSO_4$: 20 mL + 30 mL of NS = 50 mL; infuse 5 mL/h for 24 h. Check for any signs of $MgSO_4$ toxicity.

$MgSO_4$: CLINICAL EVIDENCE

A study by Doyle *et al*., in the Cochrane Database of Systemic Reviews 2009, concluded that the neuroprotective role of antenatal magnesium sulfate therapy given to women at risk of preterm birth for the preterm fetus is now established.

The American College of Obstetricians and Gynecologists (ACOG) Committee guideline in 2010 which without any change has been reaffirmed in 2020 with their opinion on magnesium sulfate given before anticipated preterm birth for neuroprotection.

The Royal College of Obstetricians and Gynecologists (RCOG) took a Scientific Impact Paper in 2011 speaking positively about magnesium sulfate. The paper showed that magnesium sulfate given to mothers shortly before delivery reduces the risk of CP and protects against gross motor dysfunction in those infants who are inadequate.

The Royal College of Physicians of Ireland 2015 Clinical practice guideline which is currently under revision showed the beneficial role of magnesium sulfate in preterm labor in fetal neuroprotection.

PPROM/PROM: CLINICAL EVIDENCE

The decision to prescribe antibiotics for women with PROM is not clear-cut. Co-amoxiclav has increased risk of neonatal necrotizing enterocolitis, thus should be avoided in women at risk of preterm delivery. Another paper by Tchirikov *et al*., clearly shows which antibiotic can be used.

Erythromycin is the choice of antibiotic for PPROM as per the evidence.

PPROM: MANAGEMENT

The data from ACOG 2016 and 2017 on the management of PPROM by gestational age categories are mentioned in Table 2.

Single corticosteroid course may be considered Tocolytics: no consensus

Antimicrobials may be considered

- The combination of birthweight, gestational age, and sex provides the best estimates of chances of survival and should be considered in individual cases.

PPROM RECOMMENDATIONS

RCOG Green-top guideline no. 73., June 2019 stated that-

- The diagnosis of spontaneous rupture of the membranes is made mainly by the combination of maternal history and a sterile speculum examination (Grade D)
- If on speculum examination, no amniotic fluid is seen, clinicians should consider performing an insulin-like growth factor- binding protein1 or placental alpha microglobulin-1 test of vaginal fluid for further management (Grade B)
- Following the diagnosis of PPROM, an antibiotic (preferably erythromycin) should be given for 10 days or until the labor is established (whichever is earlier) (Grade A)
- Women who have PPROM between 24+0 and 33+6 weeks gestation should be offered corticosteroids; steroids can be considered up to 35+6 weeks' gestation (Grade A).
- A combination of clinical assessment, maternal blood tests (C-reactive protein and white cell count) and fetal heart rate can be used to diagnose chorioamnionitis in women with PPROM; these parameters can not be used in isolation (Grade D) as one parameter is not sufficient
- Women whose pregnancy is complicated by PPROM after 24+0 weeks' gestation and who have no contraindications to continuing pregnancy should be offered expectant management until 37+0 weeks; timing of birth should be discussed with each woman on an individual basis with

careful consideration of the patient preference and ongoing clinical assessment (Grade A).[13] A discussion is important, in every guideline, the patient or the couple must be involved in the plan of the management because not only the risk involved to the baby but also the cost involved is extremely important

- In women who have PPROM and are in established labor or having a planned preterm birth within 24 h, intravenous magnesium sulfate should be offered between 24+0 and 29+6 weeks of gestation (Grade A).

CONCLUSION

Accurate diagnosis of PROM in term and preterm pregnancies is important for gestational-age-specific intervention and management. Early detection and diagnosis of PPROM are of utmost importance. It is also vital to identify potential risk factors for PPROM. Single most important risk factor being infection.

The use of Co-amoxiclav should be avoided. As per the available evidence, erythromycin is the antibiotic of choice for PPROM. Magnesium sulfate should be offered for fetal neuroprotection.

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Report of MOGS HER World Congress of Labour and Delivery

held on 16th and 17th April 2022 at Hotel Sofitel, Mumbai

MOGS HER World Congress on Labour and Delivery was held on the 16th and 17th April 2022 at Hotel Sofitel, BKC, Mumbai. It was the first conference organized in the tenure of the newly installed President MOGS Dr. Niranjan Chavan, Secretary MOGS Dr. Rajendra Sankpal and Treasurer MOGS Dr. Geetha Balsarkar. Dr. Ameya Purandare and Dr. Komal Chavan were the conveners and Treasurer of MOGS and Dr. Geetha Balsarkar was the Office Bearer In Charge of the conference.

Dr. Niranjan Chavan was installed as the 69th President of the MOGS for the year 2022-2023 in a grand installation ceremony along with the office bearers and the managing committee members at the 88th Annual General Body Meeting held on 16th April 2022 at Hotel Sofitel, Mumbai. The Installation ceremony was attended physically and virtually LIVE by international and national dignitaries from all across the globe.

First time in the history of MOGS, 1 FIGO President Dr. Jeanne Conry, 2 former Presidents of FIGO Dr. Arulkumaran Sabaratnam & Dr. C N Purandare virtually joined from France, London & Dublin, AOFOG Secretary-General & SAFOG President Dr. Rohana Hathathotuwa from Sri Lanka, Dr. Patrick O'Brien VP, RCOG, Dr. Asma Khalil trustee ISUOG from U.K, London and Dr. Duru Shah trustee MOGS wished and congratulated the President MOGS. In addition to them President-Elect SAFOG Dr. Shyam Desai Managing Trustee, 2 FOGSI President-Elect Dr. Hrishikesh Pai and Dr. Jaydeep

Tank, 16 former FOGSI & MOGS Presidents of the 88-year-old MOGS were also present for the installation ceremony. Dr. Nandita Palshetkar & Dr. Jaydeep Tank were felicitated with a floral bouquet for representing and winning the election for MOGS at FOGSI i.e. as FOGSI representative to FIGO & President Elect FOGSI 2024 respectively.

The Congress was preceded on 15th April 2022 by the first ever AI enabled pre-congress live obstetrics delivery and caesarean section workshops at LTMMC and Sion Hospital which were attended by 143 physical and 1487 online delegates with post-lunch Hands-On obstetric skills and drills workstations with mannequins from LAERDAL Norway.

After the dispiriting covid times, this was a physical medical congregation organized by MOGS with international speakers from reputed collaborating associations like FIGO, WHO, RCOG, RCPI, JHPIEGO & ISUOG. It was a hybrid program with around 350 on-site registrations and 4435 online views by medical professionals from all over the world.

Dr. Niranjan Chavan launched the theme of the year & the congress "Vision for HER – Heal Her, Educate Her and Respect Her" which focused on the various aspects of women's health and well-being and welcomed all the delegates during his Inaugural address.

Dr. Jeanne Conry, the FIGO President was the chief guest at the Inauguration. Dr. S. Shanthakumari (President, FOGSI) and Dr. Hrishikesh Pai (President-elect, FOGSI) were the guests of honour. They complimented and congratulated Dr Chavan and addressed the audience with their words of wisdom.

Mr. Sharman Joshi, a popular and endearing theatre artist and film actor, who has starred in numerous productions and is fondly remembered for his legendary scene in the "3 idiots" movie where an innovative vacuum delivery was conducted was also the Guest of Honour. He appreciated

and acknowledged the earnest efforts of MOGS members and requested them to continue the same for the upliftment of women's health.

Dr. Rajendra Sankpal, Secretary MOGS expressed the vote of thanks. The inaugural ceremony was ably anchored by Dr. Ameya Purandare, Dr. Komal Chavan and Dr. Rohan Palshetkar.

MOGS Dr. Dossibai Dadabhoy Silver Jubillee's oration was delivered by FIGO President, Dr. Jeanne Conry on the highly insightful topic of "Safe & Respectful Maternity Care." This was followed by an inspiring MOGS HER Conference Oration on "Strategies for maximizing women's health into the future" by Dr. S. Shanthakumari FOGSI President.

MOGS Dr. M. Y. Rawal Oration was delivered by Dr. P K Shah (Past President – MOGS, FOGSI, IAGE and IFUMB) on 17th April 2022 on the topic of "Recent Advances of Ultrasonography in OB GYN" highlighting the newer technological advancements in USG which are benefitting patient care.

All the sessions were well planned and conducted in three different halls named after the legendary authors in obstetrics – Dr. John William, Dr. Oxorn-Foote and Dr. Fernando Arias.

The highlights of the conference were deliberations on artificial intelligence in obstetrics, critical care, restricting episiotomies, covid 19 vaccination in pregnancy, recent trends in post-partum haemorrhage and respectful maternal care.

Dr. Patrik O'Brien (RCOG), Dr. Liona Poon (ISUOG), Dr. Fionnuala McAuliffe (RCPI), Dr. Pushpa Chaudhary (Nepal), Sir Prof Dr. Sabaratnam Arulkumaran (Past President FIGO & RCOG) were the eminent international faculty who delivered keynote addresses.

The keynote on "Simulation in maternal and neonatal healthcare" by Dr. Rashmi Aradhya (Laerdal, Norway) was an intellectual treat for the audience. Dr. Suchitra Pandit (Past President FOGSI and MOGS) delivered a keynote on "De-stressing the obstetrician" which highlighted the key issues facing doctors today and strategies to manage them.

Dr. Pushpa Chaudhary (WHO), Dr Bulbul Sood (JPEIGO), Dr. Shyam Desai(SAFOG and Managing

trustee MOGS), Dr. Vandana Walvekar (Trustee MOGS), Dr. Uday Thanawala (ICOG), Past Presidents MOGS – Dr. Nozer Sheriar, Dr. Arun Nayak, Dr. Vanita Raut, Dr. Jaydeep Tank, Past President AFG-Dr. R M Saraogi, Dr. Madhuri Patel (Secretary General FOGSI), Dr. Anahita Chauhan (VP MOGS), Invited speakers from other specialities Dr. Abhay Bhave (Haematology), Dr. Rahul Pandit (COVID Task Force) and Dr. Avinash D'Sousa (Psychiatry) all delivered extremely informative keynotes on key issues related to pregnancy care and beyond.

A collaborative session with AICC RCOG was organized and Dr. Sarita Bhalerao (Immediate Past president MOGS), Dr. Uma Ram and Dr. Bhaskar Pal were the participating faculty.

The enthusiasm of the faculty and the delegates was overwhelming. It was an academic extravaganza with 3 orations, 18 keynote addresses, 12-panel discussions and 4 debates by some of the stalwarts in the field of obstetrics and gynaecology. There were 54 research papers, interesting case reports and poster presentations by junior and senior gynaecologists from all over the country.

The program concluded with a valedictory function on 17th April 2022 which was efficiently conducted by Dr. Gaurav Desai, Dr. Shreya Prabhoo, Dr. Pradnya Supe and Dr Riddhi Desai where all the prize winners were felicitated.

Report of MOGS World Congress of Anaemia (WCA) 2022
held on 7th May 2022

The 2nd World Congress of Anaemia (WCA) was held on 7th May 2022 and was organized by The Mumbai Obstetrics & Gynaecological Society (MOGS) In collaboration with 14 National and International organizations on a web platform by Science Integra. The theme of the world congress was "Iron Deficiency Anaemia and tools for effective prevention & control." WCA is an initiative to achieve the goal of reducing iron deficiency anaemia in India and worldwide. This event had participation from 16 national and international speakers from 14 organizations viz.

FIGO (International Federation of Gynaecology & Obstetrics), MOGS (Mumbai Obstetric and Gynaecological Society), FOGSI Medical Disorders in Pregnancy Committee, SAFOG, Oncology Committee, API (Association of Physicians of India), Indian Academy of Paediatrics (IAP), National Neonatology Forum (NNF), Geriatric Society of India (GSI), Maharashtra Covid Task Force, Obstetrical & Gynaecological Society of Hongkong (OGSH), Royal College of Physicians (Edinburgh), AICC-Royal College of Obstetricians and Gynaecologists (AICC RCOG), University of Nairobi and Rabin Medical Centre, Israel.

WCA2022 witnessed an audience of 3500+ doctors globally, comprising of 2926 members from India, 144 from African countries, 129 from the United Kingdom (London) and many more.

World Congress of Anaemia began with the introductory video of WCA followed by a welcome address by Dr. Niranjan Chavan and an Inauguration for which we had Dr. Jeanne Conry (President FIGO), Dr. Shyam Desai (President-Elect SAFOG), Dr. Nandita Palshetkar (FOGSI Representative to FIGO 2022 – 23, Dr. Sanjay Gupte (FOGSI Representative to FIGO 2021 - 22) as The Guests of Honour. The Chief Guests were Dr. Anne

Beatrice Kihara (President-Elect FIGO), and Dr. C. N. Purandare (Past President FIGO). Lamp Lighting & Prayer was followed by addresses by Guests of Honour and Chief Guests.

The conference highlights were the excellent talks given by our esteemed speakers Dr Anne Beatrice Kihara, FIGO President Elect from Kenya, Dr. Jayam Kannan, Dr. Shyam Desai, Managing trustee MOGS & SAFOG President-elect, Dr. Komal Chavan, Chairperson FOGSI Medical Disorders in Pregnancy Committee, Dr. Remesh Kumar from IAP, Dr. Siddharth Ramji from NNF, Dr. Shashank Joshi, Maharashtra Covid Task Force, Member, Dr. Mangesh Tiwaskar (API), Dr. Carmen Choi from Hong Kong, Dr. Aliya Begum, Chair, SAFOG Oncology Committee Chair, Dr. P. Balamba, Dr. Sandeep Tamhane from GSI, Dr. Neeraj Bhala from RCPE, UK, Prof. Anat Gafter-Gvili from Israel, Dr. Jyotsna Acharya from AICC RCOG, Dr. Jyotsna Acharya from AICC RCOG, Prof. Omondi Ogutu from the University of Nairobi.

These talks were chaired by senior faculty, Dr

Niranjan Chavan, Dr. Suvarna Khadilkar, Dr. Anahita Chauhan, Dr. Rajendra Sankpal, Dr. Rajendra Nagarkatti, Dr. Shailesh Kore, Dr. Geetha Balsarkar, Dr. Sujata Dalvi, Dr. M.E. Yeolekar, Dr. Kawita Bapat, Dr. Komal Chavan, Dr. Madhuri Patel, Dr. M. Krishnakumari, Dr Parikshit Tank, Dr. P. K. Shah and Dr. Bhaskar Pal.

Dr. S. Shanthakumari, President FOGSI also graced the program with her esteemed presence and congratulated MOGS for this initiative. World Congress of Anaemia ended with a vote of thanks by Secretary MOGS Dr. Rajendra Sankpal. The program was granted 2 MMC and 7 ICOG points and was well appreciated by all attendees.

Report of Various MOGS Programs

Menstrual Hygiene Day Awareness Program - 28th May 2022

MOGS organised MHD awareness program all over Mumbai in 24 centres with the help of different medical colleges, Private hospitals and Nursing homes on 28th May 2022.

The theme of Menstrual Hygiene Day 2022 was: Making Menstruation a normal fact of life by 2030. The overarching goal is to build a world where no one is held back because they menstruated by 2030. The day is observed on 28th may because menstrual cycle is on an average of 28 days in length and women menstruate an average of five days each month. Conveners of this mammoth task were Dr.Ganpat Sawant, Dr. Komal Chavan, Dr.Punit Bhojani and Dr. Priya Thakur, Office bearer incharge Were Dr. Anahita Chauhan and Dr. Sujata Dalvi

The program at all the centres was well coordinated with a common agenda which included Welcoming the delegates, Inauguration by the Dean/HOD/MS/ Sister in charge etc at the centres. This was followed by a Message by our MOGS President Dr. Niranjan Chavan in Hindi and English, Health talks were given by MOGS members, and by the MSW or CDO in vernacular language. The platform was then open for questions after which Iron tablets, Chikki, Ladoos, energy drinks and gifts were distributed to all the delegates.

The main inauguration of the event was at Lokmanya Tilak Municipal General Hospital where President of MOGS Dr Niranjan Chavan presided the event. Secretary Dr Rajendra Sankpal addressed the gathering and faculty of Sion hospital delivered the talks. The program at Sion hospital was unique ending with an entertaining yet informative role play titled "Saas-Bahu-Beta-Beti Aur Maasik Pali" presented by resident doctors of Sion hospital - Dr Shreya Kampoowale, Dr Akanksha Barkase, Dr Divita Kamble, Dr Swati Baswant along with the distribution of iron tablets and chikki amongst the adolescent women in attendance.

The program was conducted simultaneously at 24 centres including LTMG and Sion Hospital, Masina hospital-Byculla, Kurla Bhabha hospital, KBBH Bandra, Sir JJ Group of Hospital- Byculla, NWMH Parel, St. Elizabeth Hospital-Malabar Hill, R N Cooper Hospital – Juhu, Sai Aashirwad Maternity Hospital-Mira Bhayendar, Rajawadi hospital-Ghatkopar, Nair Hospital-Bombay Central, Kem hospital-Parel, Criticare Asia Hospital-Kurla, Tandon hospital-Chembur, Ruxmani lying in hospital-Babulnath, Noble Plus Hospital, Ashwini Maternity and Surgical hospital-Ghatkopar, Shatabdi Govandi hospital, Cama and Albless Hospital-CST, V N Desai Hospital-Santacruz East, BDBA hospital Kandivali, Kimiya clinic Wadala, Sanjivani hospital Mira Bhayander, and Wockhard hospital Mira road. The program was attended by over 1526 delegates overall.

MHD awareness program was attended by hods, medical superintendents, residents, hospital staff and mogs members along with adolescent girls, young patients, relatives, staff nurses, babas, medical students and general public in community. All centres were provided with MOGS banner, chikki, iron and calcium tablets in advance and personalised e-certificate to all local conveners. In some centres there were skit performances, Hb check up camps and poster presentations too. The program was highly appreciated by all medical colleges and MOGS members all over Mumbai. History was created not only for MOGS but also as one of the FOGSI societies by creating awareness regarding menstrual hygiene on this special MHD to 1526 members.

MHD 22 also had its presence on social media Fb = MOGSHQ, Insta = MOGSHQ , Twitter = MOGSHQ, You tube channel = MOGS web

Live Operative Practical Endoscopy Workshop By Mogs, MCGM & V. N. Desai Hospital on 28th April 2022.

The Mumbai Obstetric & Gynecological Society in association with Department of Obstetrics and Gynecology V. N. Desai Hospital and AMC, Mumbai conducted the Practical Endoscopy Live Operative Workshop on Thursday, from 8.00 am to 5.00 p.m which was attended by 75 physical & 364 Online delegates. The conveners for this program were Dr. Lalita Mayadeo, Dr. Komal Chavan and Dr. Gaurav S Desai. The chief guest for this program was Dr. Niranjan Mayadeo, Head of Dept, KEM Hospital and the guest of honour was Dr. Vidya Thakur, Chief MS, MCGM. Dr. More, Medical Superintendent V.N. Desai hospital was the patron for this workshop. The ceremony was graced by President MOGS Dr. Niranjan Chavan and Dr. Rajendra Sankpal Secretary MOGS as well as Dr. Nilima Bhamare President AMC and Secretary AMC Dr. Hemant Duggad

The program consisted of a live operative endoscopy workshop on advanced laparoscopic and hysteroscopic surgeries as well as a felicitation ceremony. The surgeons for this workshop were Dr. Vivek Salunke, Dr. Nagendra Sardeshpande, Dr. Prashant Bhamare, Dr. Pritesh Naik and Dr. Gaurav S Desai. Moderators invited for this workshop were Dr. Egbert Saldana and Dr. Sudha Tandon. The program was broadcast on the audiovisual

platform by the technical support team and reached gynaecologists and endoscopic surgeons across the country and abroad. In total eight cases were operated by the faculty. Five cases were major surgeries (of deep infiltrative endometriosis, large ovarian cyst, laparoscopic sacropexy in a young woman, laparoscopic myomectomy, laparoscopic hysterectomy on a large uterus and three were minor cases(hysteroscopic metroplasty, laparoscopic paraovarian cyst excision and hysteroscopic IUCD removal). Endoscopic systems used were 4K Scholly medical systems and Karl Storz 3D endoscopy. Instruments were provided by Pee bee surgical Ltd. and ultrasonic energy source and vessel sealers by Johnson and Johnson Ltd.

Report of Mother's Day program 7th May 2022

Dr. Sudha Tandon Centre in association with MOGS and Young Talent Promotion committee, FOGSI celebrated Mother's Day on 7th May 2022 at Chembur Gymkhana. It was attended by 20 mothers. The focus of the awareness meet was on postpartum fitness. Dr. Safaa and Dr. Tanisha, physiotherapists from REPLAY PHYSIO gave a talk on fitness and pelvic floor strengthening and demonstrated various exercises for the same. This was a very interactive session with great participation from the audience. It was very well appreciated. It was followed by light snacks, cake cutting and tea.

Report of Thalassemia rally on 8th May, 2022 at Ghatkopar

"World Thalassemia Day"- 8th May, innovative project launched by the Ghatkopar Medical Association, Indian Medical Association-NEBS Branch, **Mumbai Obstetrics & Gynecological Society,** Rotary Club of Mumbai Ghatkopar, Veer Foundation, Vision India, Roteractors of Ghatkopar Clubs, Garodia Nagar Welfare Federation of Housing Societies & Samarpan Thalassemia Centre. It started with Silent Rally, followed by speeches by doctors, key personnel, skit performed by Thalassemic Children's on awareness at Garodia Nagar, Ghatkopar-E. Renowned senior doctors, Dr. Ganpat Sawant, Dr. Hitesh Patel & Dr. Kerul Jhaveri released poster to be placed at each dispensary, hospitals promoting primary testing of Thalassemia amongst carrying women and assured about Doctor's pivotal role in prevention, awareness and treatment. RTO officer welcomed such awareness campaign and invited at frequent intervals at Happy Streets initiated by Commissioner. Program was well attended by more than 400+, enjoyed and successfully completed in time i.e. 10 am

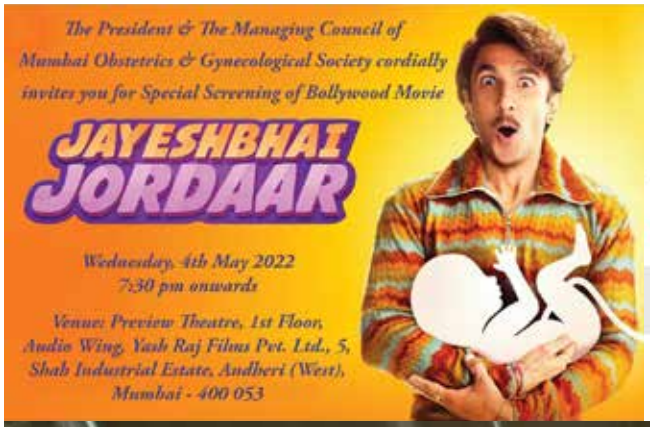
Special screening of Yash Raj Films Studio Bollywood movie "JAYESHBHAI JORDAAR" held on 4th May 2022, 8pm onwards at YRF Preview theatre

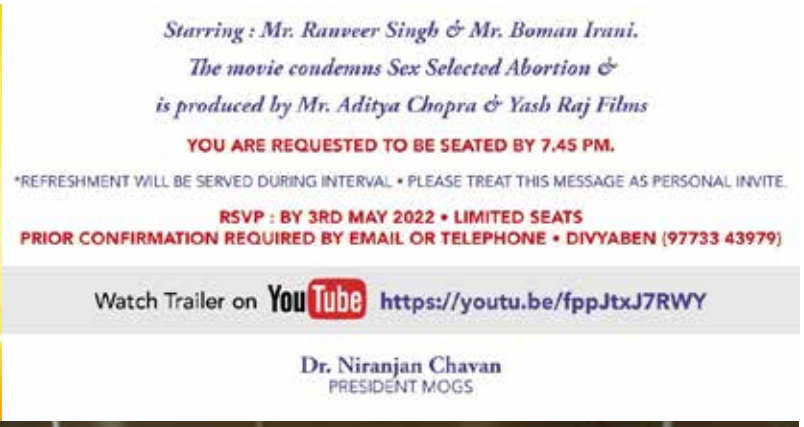
On 4th May 2022, MOGS President and the Managing Council cordially invited all MCM / YCM for a special screening of "JAYESHBHAI JORDAAR" at Yash Raj Films Preview Theatre, Andheri West from 8 pm onwards. It was a rib-tickling movie with comical and hilarious acting by Mr. Ranveer Singh and Mr. Boman Irani on a serious subject of sex selection, abortion and gender bias of our patriarchal society prevalent and still persistent in India.

Overall the screenplay, direction, timing of dialogues, rural sets were superb. The movie was awesome and very well directed by Mr. Maneesh Sharma & produced by Yash Raj Films. He came at the end of the movie and for next 15 minutes was wanting to know how did we like the movie from a doctor's point of view.

Our esteemed members, seniors to juniors gave their feedback, which he acknowledged. The movie released on 13th May 2022 to general public. He thanked MOGS members coming for the special screening and giving him our valuable feedback.

All had amazing camaraderie & fellowship over light snacks pre-movie and a lip smacking 3 course dinner at the interval. Past Presidents of MOGS Dr. Nozer Sheriar, Dr. Hrishikesh Pai, Dr. Ashwini Bhalerao, Dr. Suchitra Pandit, Dr. Arun Nayak, Dr. Nandita Palshetkar, Dr. Rishma Pai attended the same.





Outreach Programs April- May 2022

Prog. Date	Program	Venue	Convener	Attendees
15.05.2022	MOGS Outreach CME - Updates in OBGYN	Hotel Krishna Palace, Nana Chowk, Grant Rd.	Dr. Sujata Dalvi, Dr. Ameya Purandare, Dr. Priya Vora, Dr. Rohan Palshetkar	67
21.05.2022	MOGS Outreach CME - Recent Advances in OBGY	Sunville Banquets, Worli, Mumbai.	Dr. Punit Bhojani, Dr. Mansi Medhekar, Dr. Bhumika Kotecha Mundhe	70
22.05.2022	MOGS Outreach CME - Updates in OBGYN	Acres Club, Chembur, Mumbai.	Dr. Parikshit Tank, Dr. Ganpat Sawant, Dr. Sudha Tandon, Dr. Madhuri Mehendale	70
28.05.2022	MOGS Outreach CME - Updates in OBGYN	Hotel Krishna Palace, Nana Chowk, Grant Rd.	Dr. Sujata Dalvi, Dr. Ameya Purandare,Dr. Priya Vora, Dr. Rohan Palshetkar	66

Prog. Date	Program	Venue	Convener	Attendees
08th May, 2022	Thalassemia Awareness campaign	Ghatkopar, Mumbai.	Dr. Ganpat Sawant	35
29th June, 2022	HOD Meeting	Dept of Obst & Gyn, LTMMC & Sion Hospital, Mumbai.	Dr. Ganpat Sawant, Dr. Komal Chavan, Dr. Madhuri Mehendale, Dr. Gaurav Desai	


Masina Hospital
The Mumbai Obstetric & Gynaecological Society
MOGS MENSTRUAL HYGIENE DAY AWARENESS PROGRAM


The Mumbai Obstetric & Gynaecological Society


The Mumbai Obstetric & Gynaecological Society
VISION FOR HER

SUDOKU

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Atypical Preeclampsia

Dr. Jayam Kannan

Consultant, Garbba Rakshambigai Fertility Centre, Chennai, India

Disorders of hypertensive in pregnancy (HDP) are the term used to describe increased blood pressure (BP) during pregnancy. Preeclampsia (PE) refers to BP ≥140/90 mmHg, with new-onset proteinuria (300 mg in a 24 h urine specimen), with or without edema, or end-organ damage in previously normotensive pregnant women after 20 weeks of gestation or <48 h after delivery. Many studies suggest that pregnant women can experience PE without these classic features and/or outside of these gestational ages also. "Atypical PE" is cases that develop at < 20 weeks of gestation and

>48 h after delivery and that has some of the signs and symptoms of PE without usual hypertension or proteinuria. A stepwise approach towards diagnosis is needed to prevent the unfortunate consequence of a missed diagnosis and its possible fatalities.

Historic perspectives: More than 2000 BC Egypt has recorded pregnant women with fits. Ancient Tamil Literature also talks about pregnancy shivering. By the 16th century, Greek word Eclampsia was given to this condition, Varadus in 1619 was the first to use this word. By 1843, Lever added the words proteinuria, swelling, and convulsions, and coined the word: Nephritic Toxaemia." In 1897, Vaquez included hypertension as an important feature, to be followed quickly in a couple of years by Strogonov medication with sedation. The 1900s looked for prenatal care and looked for preeclampsia features, a new concept in the

19th century with the initiation of Pro-Maternity Clinics by Ballantyne, including home visits by nurses to check BP, proteinuria edema and to detect PE. At the beginning of the 19th century, a circulating toxin of fetal origin was postulated to be causing eclampsia. Later, researchers looked at placental ischemia as a cause of this condition. The 2-stage model of PE is another milestone. The American College of Obstetricians and Gynecologists (ACOG) 2002 bulletin brought in the standardized treatment with diagnosis of PE still swings around BP and proteinuria assessment of additional signs and symptoms, fetal well-being by the non-stress test, and biophysical profiles.

Definition by Sibai and Stella of atypical PE consists of four clinical groups.

1. Non-proteinuric hypertension in pregnancy and the presence of severe hypertension or symptoms or laboratory signs suggestive of microangiopathy/hemolysis
2. Normotensive proteinuria in pregnancy with the presence of symptoms or laboratory signs suggestive of microangiopathy/ hemolysis
3. PE, eclampsia, or HELLP syndrome appearing after 48 h postpartum
4. Appearance of PE before 20 weeks of pregnancy.

About 8% of eclampsia present with atypically where the patient has seizures in the absence of hypertension and proteinuria. The different presentations of HDP require understanding of different terminologies, definitions and criteria, and management to avoid adverse outcomes. Results from the other studies have suggested that presentations of PE may have impact on

- Cerebrovascular accidents such as hemorrhage, ruptured aneurysm, cerebral venous thrombosis, arterial thrombus or embolism, hypoxic ischemic encephalopathy, angiomas.
- Seizure disorders
- Previously undiagnosed brain tumors
- Metabolic diseases
- Metastatic gestational trophoblastic disease
- Reversible posterior leukoencephalopathy syndrome
- Thrombophilia
- Cerebral vasculitis
- Post-dural puncture syndrome
- Thrombotic thrombocytopenic purpura

Figure 1: Differential diagnosis of atypical eclampsia

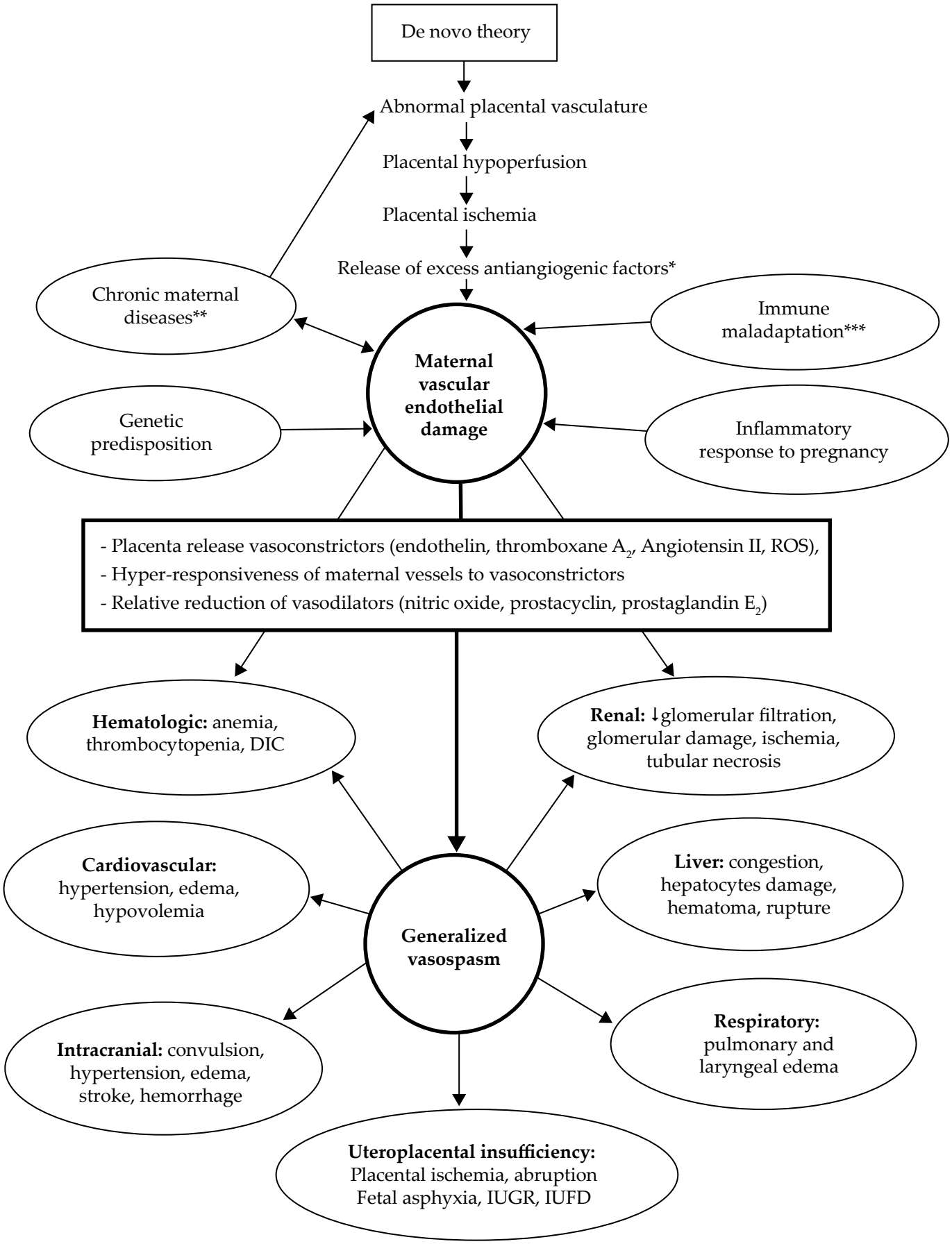
both maternal and neonatal outcomes. These presentations of PE bring more challenges for clinicians and require prompt diagnosis and treatment.

Pathophysiology is multifactorial. Improper differentiation of trophoblasts during endothelial invasion due to, abnormal regulation, and production of cytokines, adhesion molecules, metalloproteinase plays a key role, in the development of HDP. Altered regulation and production of these molecules lead to alteration in development and remodeling of spiral arteries in the myometrium. This leads to placental hypoperfusion and ischemia. More recent research shows role of antiangiogenic factors that are released by placental tissue causing systemic endothelial dysfunction. The endothelial damage is the unifying pathology causing the clinical presentation vascular disorder of pregnancy (VDP) is a simplified terminology for the spectrum of disease. The complications in systems such as cardiovascular, renal, hematologic, intracranial, hepatic, pulmonary, and uteroplacental are the consequences of the generalized endothelial vascular damage resulting in vasospasm Figure 1.

In classic PE patients, the disease usually involves the arteries and kidneys, presenting as hypertension and proteinuria before involving other organs. In atypical PE cases, the end organ involvement starts first along with other systems, such as cerebral involvement, which presents initially as eclampsia without hypertension or proteinuria. Thus, when examining a high-risk pregnant women complete history, examination, and laboratory and imaging studies may be critical in not missing atypical forms rather than only measuring BP and proteinuria. Suspicious findings of atypical PE can also include marginally elevated BP or liver enzymes, reduced platelets, blurred vision, and headache and impaired fetal well-being. Once diagnosis of atypical PE and/or eclampsia is suspected; time-consuming diagnostic investigations for a differential diagnosis should be deferred until the patient is stabilized. A management plan should be started immediately for atypical forms, rather than searching for a rare disease in a differential diagnosis. The patient with delayed postpartum seizures should undergo neurological evaluation to rule out other differential diagnosis of atypical eclampsia refer Figure 2.

Along with routine clinical and laboratory evaluation done to rule out PE, platelet count (PC) and mean platelet volume (MPV) and ratio PC/MPV can be used in prediction and diagnosis of atypical PE. In conclusion, the absence of hypertension or proteinuria should not preclude diagnosing PE/ eclampsia.

Eclampsia or fetal distress or other end-organ damage may be an unusual presenting scenario in atypical cases before the detection of overt hypertension or proteinuria more so in cases of higher order gestation and molar pregnancy. Minor clues how small may it be such as, a marginally



*** Soluble vascular endothelial growth factor (sVEGF) receptor-1 also known as soluble Fms-like tyrosin kinase-1 (sFlt-1), soluble endoglin (sEng), angiotensin II type-1 receptor autoantibody (ATI-AA), cytokines (Interleukin-6), tumor necrosis factor alpha (TNF-α). ROS = reactive oxygen species.**
**** Chronic hypertension, renal disease, diabetes mellitus, thrombophilia, systemic lupus erythematosus.**
***** Elevated T-helper cells, macrophages, interleukin-6, TNF-alpha, autoantibodies and reduction in interleuki-10.**

Figure 2: Pathogenesis of multiorgan involvement

elevated BP or trace proteinuria, may be critical for appropriate, timely management.

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Postpartum Hemorrhage – A Hematologist's Role in an Obstetrician's Nightmare!

Dr. Abhay A Bhave
MD, FRCPA (Australia)
Haematologist, Lilavati Hospital and Research Centre, Bandra West, Mumbai, Maharashtra, India

INTRODUCTION

Maternal mortality is defined as death during pregnancy or within 42 days of delivery or termination of pregnancy.[1] Postpartum hemorrhage (PPH) is a major risk factor for maternal morbidity and mortality accounting for two-thirds of cases of obstetric hemorrhage which results in approximately one-quarter of all maternal deaths worldwide.[2]

DEFINITION OF PPH

It is commonly defined as a blood loss of 500 ml or more within 24 h postpartum. Severe PPH is bleeding more than 1000 ml. Persistent (ongoing) PPH is active bleeding >1000 ml within 24 h following delivery that continues despite the use of initial measures such as 1st line uterotonics and uterine massage. Secondary PPH is defined as abnormal or excessive bleeding from the birth canal between 24 h and 12 weeks postnatal.[3-5]

Practically, the following definitions may be more useful: bleeding that causes tachycardia >110 beats/min and/or systolic hypotension <90 mmHg, or significant bleeding needing emergency transfusion of O RhD negative (O NEG) red cells.[6]

Most women with PPH respond to initial measures of uterine massage and therapeutic uterotonics. However, if bleeding continues despite these interventions, the situation can rapidly escalate with severe blood loss, maternal morbidity, and even mortality.[7]

IMPACT OF PPH

The survivors of this life-threatening hemorrhage can suffer from long-term health complications which include loss of fertility and psychological trauma[8] irrespective of the social strata, making it extremely important to be prevented by early recognition and intervention with a multidisciplinary team. In addition, there is always a risk of transfusion transmissible infections, alloimmunization, allergies, and immune modification if she is exposed to blood component therapy, which can impact future quality of life.

RISK FACTORS FOR PPH

While some women have risk factors for PPH that can be identified during pregnancy, at labor, or at the time of delivery, most women with PPH do not have any risk factors, which make its occurrenceand severity difficult to predict.[9] Hence, all pregnant women must be considered to be at risk of PPH and assessed for possible riskfactors for developing PPH throughout pregnancy.[7]

From an obstetric view, the common risk factors for PPH include uterine issues, placental issues, underlying coagulopathy with bleeding tendency, amniotic fluid embolism, and acute fatty liver of pregnancy to genital tract trauma, often referred to

as the "4T's" (tone, tissue, trauma, and thrombin).[10]

Coagulopathy as a risk factor is seen in almost 25% of major obstetric hemorrhages either due to consumption of clotting factors, dilution of remaining factors by fluid volume replacement, or endothelial activation from hypothermia and acidosis. In addition, ongoing hemorrhage from surgical trauma or laceration or uterine atony and placental abruption causes early hypofibrinogenemia and amniotic fluid embolism rapidly lead to disseminated intravascular coagulation if unrecognized.[11]

A detailed history of patient and family should be taken before delivery or ideally even before pregnancy to identify women with bleeding tendencies such as von Willebrand's disease, carriers of hemophilia, and with rare inherited disorders such as congenital hypofibrinogenemia, deficiencies of factor VII, factor X, factor XI, and factor XII, Glanzmann's thrombasthenia, or Bernard-Soulier syndrome as they have a higher risk of bleeding than the normal population.[12] These coagulation defects can be confirmed by specialized laboratory tests.

WARNING SIGN OF PPH

Ongoing significant postpartum bleeding in a woman with a well-contracted uterus with no evidence of genital tract trauma or retained placenta should alert the clinicians to the possible presence of coagulopathy and suspect it more so if the blood that is lost is thin, watery, and not clotting.[7]

HEMATOLOGICAL TESTS TO IDENTIFY A TENDENCY TOWARD PPH

A decrease in plasma fibrinogen level and platelet count both are early warnings of PPH. A retrospective study demonstrated that a platelet count <100 × 10^9/L or a fibrinogen concentration <2.9 g/L during labor was associated with an almost 20-fold increase in the incidence of PPH. A falling platelet count in early PPH or a falling Clauss fibrinogen predicts progression to transfusion and invasive procedure. The role of the replacement of fibrinogen has been extensively studied in trials.[13-17] This trend could possibly warn the obstetrician and the patient about the possibility of bleeding and counsel them for need of blood component therapy.

However, hypofibrinogen with hyperfibrinolysis and thrombocytopenia can be subtle and easily missed unless the obstetrician is aware of it. This lack of awareness of the pathophysiology may worsen the risk of existing obstetric factors, tilting the balance toward PPH. The emerging coagulopathy can be identified by some global coagulation profile tests (CBC, PT. APTT or PTT, and fibrinogen)[14] or thromboelastogram (TEG),[18] where a classical graph can be identified with hypofibrinogenemia. Postpartum anemia (PPA) occurs 48 h after delivery in approximately 50% in Europe and 50–80% in developing countries and can contribute to the onset of PPH. PPA should be considered severe if Hb is <7 g/dl. Population-based studies have indicated an association between antenatal anemia (Hb <9 g/dl) with greater blood loss at delivery and postpartum hemorrhage.[19] This prompts treatment of antenatal anemia (hemoglobin level <11 g/dl at first contact and 10.5 g/dl at 28 weeks) with iron (oral or IV) or Vitamin B12 deficiency or as per the underlying cause of anemia to prevent or reduce the risk of PPH.[12]

MASSIVE HEMORRHAGE AND BLOOD COMPONENT THERAPY

Recognition of major PPH entails a rapid response with red blood cells transfusion to maximize oxygen delivery to prevent tissue hypoxia, development of acidosis, organ failure, and worsening of shock.[7] Blood samples should be urgently sent for the blood group along with the coagulation profile to cross-match 2–4 units of packed red cells. Blood banks should be informed of the possible need for additional components. In an emergency, if

the blood group is unknown, then immediate transfusion with **Grou**p O, rhesus D(RhD) negative is mandated followed by a switch to group-specific blood as soon as feasible.[7]

In the event of massive hemorrhage (PPH >1500 mL), we have to initiate the massive transfusion protocol (MTP) using empiric fixed ratios of red blood cells, fresh frozen plasma (FFP), and platelets for better outcomes.[20]

However, empiric transfusion, especially in the absence of coagulation tests which confirms the coagulopathy, may lead to excessive transfusion of blood and plasma products leading to increased risk of complications, such as transfusion-associated circulatory overload and transfusion-associated lung injury. Hence, judicious transfusion is the need of that hour based on clinical evidence than fear!

In a multicenter, double-blind, randomized, placebo-controlled trial, researchers concluded that a fibrinogen level of >2 g/L appeared sufficient for achieving hemostasis in the setting of PPH.[21]

If there is severe hypofibrinogenemia (<2g/L), the International Society on Thrombosis and Haemostasis (ISTH) recommends using either cryoprecipitate (~15 g/1000 mL) or fibrinogen concentrate (20 g/1000 mL) to maintain fibrinogen >2 g/L to manage PPH. At this point, avoid early or excess FFP transfusion as it has low fibrinogen content (2 g/1000 mL) and could lead to hemodilution due to its volume as opposed to cryoprecipitate or fibrinogen concentrates to improve the fibrinogen levels.[22]

While studies have supported efficacy of FFP in massive obstetric hemorrhage, they are against pre-emptive use in early hemorrhage when fibrinogen level is normal. FFP transfusion guided by results from TEG/ROTEM that can predict the need for FFP, has led to judicious use of blood components with reduced blood utilization, lower risk of circulatory overload preventing unnecessary transfusions.[7]

So when should we use FFP? A recent review suggested that FFP will be needed once other coagulation factor deficiencies sets in at a later stage in PPH, that can only be replaced by the FFP at 15 mL/kg to maintain activated partial thromboplastin time/ prothrombin time about 1.5 × normal.[7] Usually, this occurs after 4–6 packed red cells transfusions have been transfused.

As far as thrombocytopenia is concerned, there is a consensus that platelets should be transfused at platelet counts <75 × 10^9/l aiming to maintain a level >50 × 10^9/L during ongoing PPH[22] either with random platelets (of any group) or single-donor platelets (preferred but expensive and needs a directed donor) on intermittent basis till the bleeding stops.

In life threatening PPH, once 8 units of RBC and FFP have been transfused and if tests of hemostasis remain unavailable , then we should initiate platelet transfusion to prevent onset of dilutional or massive transfusion associated coagulopathy which itself can increase risk of morbidity and mortality.[22] Alternatively as discussed earlier, point-of-care tests could guide appropriate use of other blood components.

ROLE OF INHIBITORS OF FIBRINOLYSIS IN PPH

The CRASH-2 study demonstrated that use of tranexamic acid (an inhibitor of fibrinolysis) resulted in a 21% reduction in mortality due to bleeding. As a result of this study, the World Health Organization now strongly recommends early use of IV tranexamic acid (within 3 h of birth) in addition to standard care for women with clinically diagnosed PPH after vaginal birth or lower segment cesarean sections.[23,24]

The WOMAN study is a placebo-controlled trial conducted in 21 countries that assessed the impact of tranexamic acid in women with PPH >500 mL after vaginal birth or >1000 mL after cesarean section. Administration of 1 g of tranexamic acid

(with a second dose given for ongoing bleeding) resulted in an overall reduction in death related to bleeding of 19% (RR, 0.81; 95% CI, 0.65–1.00) when given within 3 h.[25]

SUMMARY

PPH-related mortality is potentially preventable with timely diagnosis and management. Survivors of the life-threateninghemorrhage can have several health related issues that impact future quality of life if PPH is inappropriately treated. The key to a successful outcome is identification of the high risk PPH patient antemortem during pregnancy labor immediate post-operative, by prompt resuscitation, monitoring, investigation, and arrest ofbleeding, all which happens simultaneously. Use of tranexamic acid has been encouraged to reduce the amount of blood loss.

It is imperative that every hospital or facility should be able to recognize the onset of PPH, have a MTP protocol in place with trained personnel, take consent for blood transfusion after counseling, and adhere to this protocol strictly at the time of crisis preferably at a site that has a blood bank, quality assured laboratory, and emergency facilities including an intensive care unit.

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The Utility of Hystero-Embryoscopy in Cases of Miscarriage Till 10 Weeks

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INTRODUCTION

Spontaneous abortions occur in approximately 10–15% of all pregnancies and can be caused by different factors, such as immunologic, anatomical, endocrine, infectious, metabolic, hematologic, and even chromosomal abnormalities.[1] In cases of recurrent miscarriages, a study must be started to seek the etiology. In approximately 50% of all miscarriages, there is a chromosomal abnormality. It is important to obtain a fetal tissue sample not contaminated with maternal tissue to get a diagnosis of a chromosomal abnormality and by this we can potentially help with future pregnancy planning.[2]

Transcervical hystero-embryoscopy is the technique of introducing a hysteroscope into the uterine cavity to identify and enter the gestational sac enabling visualization of the fetus through the amnion. This technique was first described by Bjorn Westin in 1954. We used to perform a hysteroscopic visualization in cases of fetuses for diagnosis of fetal anomalies before termination in the second trimester using a 10-mm panendoscope.[3]

More recently, however, transcervical hystero-embryoscopy has been incorporated in cases of the first trimester missed abortion to assess externally the embryo. External macroscopic anomalies can be spotted that sometimes can give an explanation regarding a developmental reason for the pregnancy loss. It also allows us to perform a direct biopsy of the embryo and extract not contaminated tissue for chromosomal analysis.

SURGICAL TECHNIQUE

Suction curettage is performed by placing a suction curette inside the uterus evacuating the intrauterine contents through an aspiration pump. The suction curette is detached from the suction tubing attached to a suction canister to obtain the tissue from the curette under a sterile technique before the tissue is collected within the suction canister. This allows for careful separation of the decidual tissue from the chorionic villi.

In our center, when a miscarriage is diagnosed by ultrasound scan, we offer the patient the option of performing a hystero- embryoscopy with suction curettage as an alternative to medical evacuation of the uterus. This technique is offered in the case of miscarriage until the 10th week of pregnancy based on the ultrasound CRL.

The advantages for the patient are:

1. Assessment of the embryo for any malformation
2. The option of performing a biopsy from the embryo and performing a chromosomal study
3. We look where the location of the implantation is, then when suction curettage is performed, we only focus on the implantation wall without touching the other uterine wall
4. When the suction curettage is finished, we enter the cavity again with the hysteroscope to check that no remaining products of conception were left inside.

The procedure is performed with a 5 mm outer diameter, continuous flow, 30° hysteroscope with an operative channel, and a fluid pump for normal saline. The intrauterine pressures are maintained at 80 mmHg to enable visualization of the gestational sac and fetus while clearing blood and debris.

Using 5Fr grasper forceps or scissors, we open the chorion and enter the gestational sac. Once inside we wash to clear the image and look for the amniotic sac. We check for the yolk sac and again with a 5Fr tool, we open the amnion. Once inside the amnion, we look for the embryo.

It is important to be systematic and assess the limbs, face, head, chest, and abdomen with the cord insertion, genitalia, and the back. Everything is recorded and documented. Later, we check the video slowly to be sure that no malformation escaped our eye.

If tissue for the embryo is needed, then with the grasper forceps we can remove the embryo or a part of it.

The hysteroscope is then withdrawn and suction curettage is performed. The hysteroscope is then replaced to look for any retained products of conception (RPOC) that can be removed before the termination of the procedure.

In our center, we have been performing this technique for the past 3 years.

Based on 67 cases, we found external malformations in almost 57% of the embryos, mostly in the face and head. About 100% of the patients went home with no RPOC.

In images 1 to 5, we bring some of the findings.

DISCUSSION

Fetal karyotyping is important for those women experiencing recurrent miscarriages to allow for appropriate genetic counseling before pursuing a future pregnancy. This counseling, in cases like Spina Bifida, can be performed without the genetic study of the embryo.

Figure 1: 10 weeks embryo with polydactyly

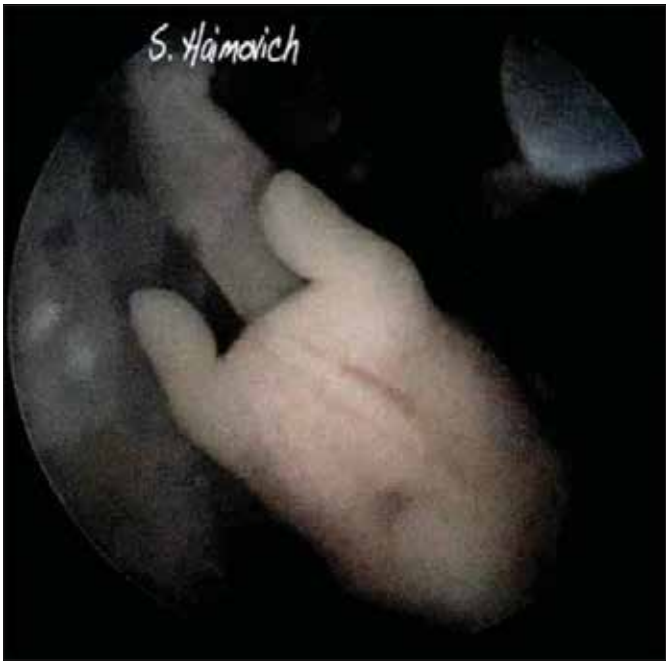

Figure 2: 9 weeks embryo with spina bifida

Figure 3: Cleft Palate in a 9 weeks embryo

Conventionally, missed abortions treated with surgery are done with suction curettage. The

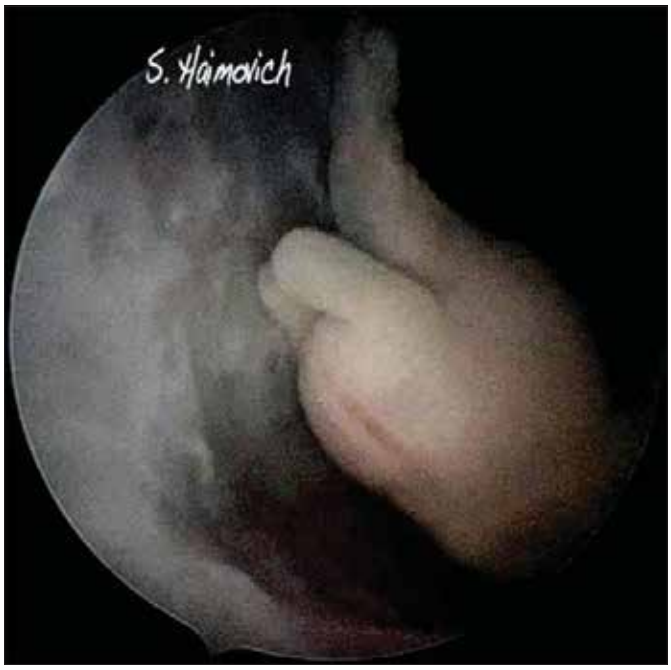

Figure 4: Lateral view of a 9 weeks embryo with spina bifida

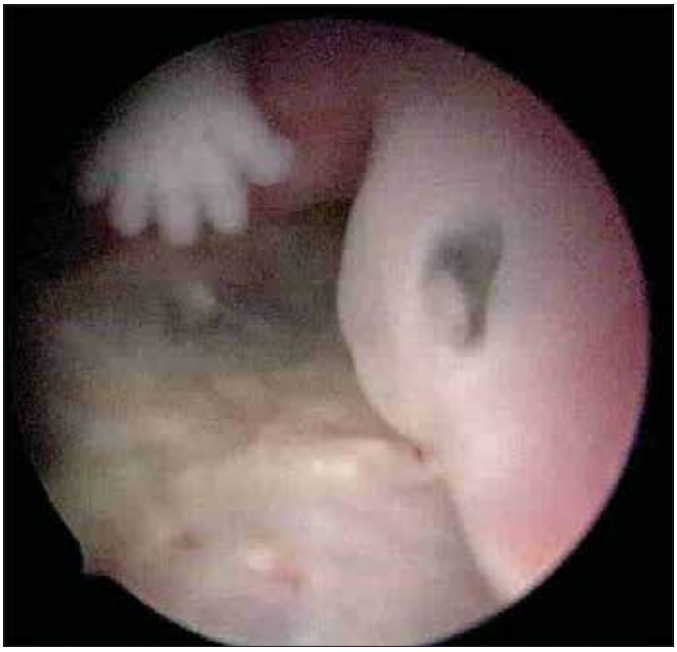

Figure 5: Polydactyly of a 9weeks embryo

curettage specimen, however, is combined with maternal tissue leading to possible false positive results of normal female karyotype.

The integration of hysteroscopy to assess causes of pregnancy loss allows the direct visualization of the uterine cavity, the gestational sac, and the embryo. This technique is known as hysteron-embryoscopy or embryo fetoscopy.[1,3-11]

The importance of the morphological analysis of the embryo by direct suction curettage was proven by Phillip *et al*. In his series, he achieved successful visualization of the embryo in 233 cases. Only 33 had normal features and 18% had a morphologic defect despite a normal karyotype. He concluded by showing the value of both morphologic analysis and karyotyping.[8]

Ferro *et al*. published a series of 68 women that underwent a hysteroscopy with a biopsy from the chorion and amnion before the suction curettage. They compared the chorionic villi from the curettage material with the material obtained by a direct biopsy performed during the hysteroscopy. Total contamination with maternal tissue was found in 22.2% of patients with a subsequent possible genetic misdiagnosis, something that did not happen in the cases of a fetal biopsy under direct vision. The authors concluded that direct biopsies were reliable and suitable for analyzing full karyotype.[9]

Another author, Robberecht *et al*. published a series of fifty-one women that underwent operative hysteroscopy for not only direct biopsies of the chorionic villi and/or embryo but also for morphologic analysis of the embryo. Chromosomes were detected through microarray analysis. A thorough morphologic investigation was not possible in eight cases, but the authors noted that approximately 50% of the embryos appeared normal. It was concluded from this study that the strength of embryoscopy is the ability to directly biopsy products of conception with fetal origin to reduce maternal contamination.[11]

In 2010, Awonuga *et al*. published a study that also compared suction curettage with hysteroscopic biopsy. Their results did not show an increase in the sensitivity of conventional cytogenetics for detecting aneuploidy. The limitation of this study is the small number of cases. Of the 35 women evaluated, 25 underwent suction curettage, and ten underwent hysteroscopic biopsy followed by suction curettage.

We are facing a relatively new field and more and larger studies are needed.

CONCLUSION

The first question that any couple asks after a miscarriage is "Why?" In many cases, the woman analyzes her actions to see if something she did or did not could have cause this loss. The hystero-embryoscopy in many cases helps by giving a direct answer after finding an external malformation but also by performing a chromosomal study with a direct non-contaminated biopsy of the embryo.

Based on the published literature, early pregnancy should be evaluated with hystero-embryoscopy, and a direct biopsy of the chorionic villi and/or fetus prior to suction curettage, should be performed, lower maternal cell contamination with fetal karyotyping. There is also the added benefit of fetal anatomical assessment which can also be informative when trying to understand the cause of pregnancy loss.

It seems that the hystero-embryoscopy will add accurate information to explain and reduce the risk of future miscarriages, by giving both genetic and morphological information on the embryo.

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SUDOKU ANSWERS

5	1	7	2	6	4	8	9	3
9	2	6	8	3	5	7	4	1
4	8	3	9	7	1	5	6	2
1	3	5	4	9	6	2	8	7
7	9	2	5	1	8	4	3	6
8	6	4	3	2	7	9	1	5
3	7	8	6	4	2	1	5	9
2	5	9	1	8	3	6	7	4
6	4	1	7	5	9	3	2	8

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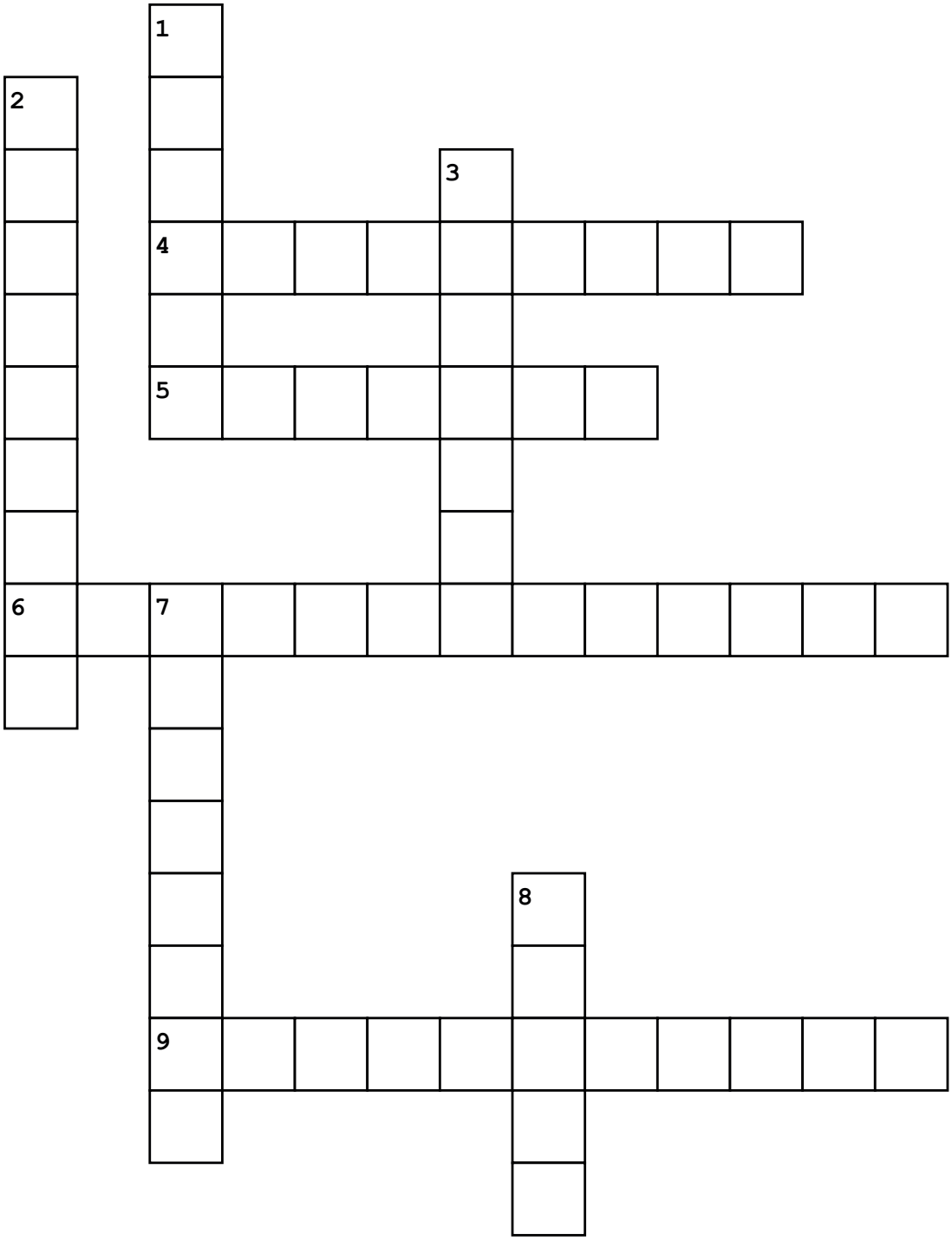

Across

4. Radiological uterine scoring system for reproduction

5. A large cystic ovarian tumour is detected in a woman on routine antenatal check up. The most common complication she can encounter

6. Umbilical artery is a branch of

9. The pad of subcutaneous adipose tissue in front of the pubis

Down

1. Accessory reproductive organ formed by modified sebaceous gland

2. The bacilli which maintains vaginal pH

3. endometrium of the pregnant uterus

7. This tutor characteristically arises from the ovary

8. The largest paraurethral gland in females

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