NEWSLETTER

Indian Society of Perinatology & Reproductive Biology

A Slogan to the Doorstep

April 2023 – August 2023

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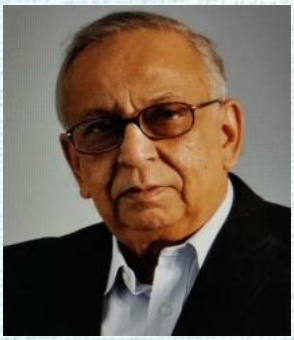

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From Editor's desk

Greetings to All

Welcome to the latest edition of midterm news bulletin of ISOPARB. Hope you will find this bulletin interesting. We have tried to make this issue interesting and thought provoking. We would like to take a moment to express our gratitude to our president Dr Arup Kumar Majhi and Secretary General Dr Pragya Mishra Choudhary for their tireless effort in upliftment and progress of ISOPARB.

We would like to thank all the contributors in bringing this bulletin to life.

My heartfelt gratitude to all isoparbians for being part of us. Please do share your insights which would encourage us to bring more news issues in future.

Hope you will enjoy the issue and looking forward to your continued readership.

Best regards.

LONG LIVE ISOPARB

Dr Anjana Sinha.
Editor

Dr Nibha Mohan
Co-Editor

Message

Dr. Arup Kumar Manjhi
National President
ISOPARB

Dear all ISOPARBIANS,

Greetings to you all, through the pages of our newsletter. It's an honor to address you as the National President of the Indian Society of Perinatology and Reproductive Biology (ISOPARB).

Our theme for this year, "Perinatal Health: From Commitment to Care," encapsulates the core of our mission. We are bound by a commitment to improveperinatal health. Despite progress, maternal and neonatal mortality, stillbirth rate and population control in India remain area of concern. Our commitment to improve these statistics remains resolute addressing these issues to ensure a healthier future. Our journey from commitment to care is one of great importance.

ISOPARB, having burgeoned into a formidable organization encompassing 39 chapters, nearly 3200 members and a dedicated executive team is driven by this very principle. Many of the chapters and committee supported by the executive team are working very well trying to reach all the sections of community. During last four months a lot of programmes have been organised by our esteem members.I am trying to be associated with them always to support them reach their goal and to spread the word of our society across the length and breadth of the country for the benefit of mother, child,family and the society.

Our head office team at Patna is very active and dedicated. What we need is our own office, own supportive staff and our own building. To make it happen, collective efforts are needed. I am sure one day our dream will be fulfilled. We have to make a separate building fund. To register all the chapters, to increase the members and to form more new chapters are our priority, along with more and more public awareness drives. My earnest request to all members is that each one of you take the onus to make at least one new member join the society..

As a society, we stand humbled by the collective dedication of our members. It's your passion, hard work, expertise, and empathy that make ISOPARB what it is—a platform where science merges with compassion.

I extend heartfelt appreciation to all members. It's your devotion that drives ISOPARB's impact.

Thank you for being the force behind ISOPARB's journey. Together, let's keep advancing perinatal health with humility and dedication.

Warm regards,

Dr Arup Kumar Majhi
National President, ISOPARB
9th September, 2023

Message

From the Pen of Secretary-General ISOPARB
Dr Pragya Mishra Choudhary

It is a pleasure that the half yearly E-news bulletin is being brought out by the erudite Editors Dr Anjana Sinha and Dr Nibha Mohan.

ISOPARB was founded in 1978 by Dr Prof. Kamala Achari from Patna and Dr Tarun Banerjee from Kolkata with a great vision of having a Society which caters to both Perinatology and Reproductive Biology.

Since its inception in 1978 there has been no looking back for ISOPARB. It has flourished inspite of its 'ebbs and flows' and now it is an organisation which has spread across all the four zones of the country and I am proud to say that it is one of the most prominent professional organisations in India with 39 City Chapters and 3231 members with each of the past Presidents and Secretary-Generals having contributed immensely and in their own way to the growth of the organisation.

ISOPARB is doing great deal of academic, social and awareness programmes which are being spearheaded by the City Chapter Presidents, Secretaries and the 5 sub-committees of ISOPARB under the supervision of the 5 Vice-Presidents and guidance of the President and office-bearers. We all have to keep up the good work and also keep expanding our dimensions by increasing the membership strength.

So sit back, relax and enjoy the news bulletin to keep you abreast of the overwhelming contribution of the members and the widespread activities of ISOPARB.

Long Live ISOPARB and Long Live its Members !

Regards,

Dr Pragya Mishra Choudhary
Secretary General, ISOPARB

38th National ISOPARB Conference, Meerut

Social Outreach & ISOPARB at Door step :

Dr.Gangadhar Sahoo , PRESIDENT ISOPARB 22-23

Almost a decade back , ISOPARB was known to very few. We were conducting a CME (1st. East zone ISOPARB CME) in the MCL auditorium, Burla in the early 2000s . It was organized by the O&G society of Burla and two members of ISOPARB under the guidance of Madam Sindhu Nandini Tripathy. Actually the seed of ISOPARB was sown on that day in Odisha. Dr. Manjugita Mishra, Dr. Usha Sharma, Dr. Rita Dayal from Patna Dr. Sudip Chakravarti, Dr Dilip ku. Dutta from the then Calcutta,Dr Suman Sinha from Ranchi , Dr. D Puspalata from Hyderabad and the President Madam Sushilamma from Davangiri graced that event. That was the 1st occasion when all the FOGSIANS of Burla came to know about ISOPARB. When Madam Sindhu Nandini Tripathy became the president ISOPARB she tried to popularize ISOPARB in Odisha. Under her guidance a chapter was opened at Cuttack but it failed to carry the baton and spread the message of ISOPARB in Odisha.

Year 2012 was the turning point in the progress and growth of ISOPARB in Odisha. Madam Sindhu Nandini Tripathy was the president of ISOPARB from 2010-12 . Her theme (Slogan) was " Think Rural and Go rural ", very much practical and appropriate for an organization like ISOPARB because India lives in villages and village is the abode of majority of the needy mothers and babies . This powerful slogan "Think rural and go rural " gave the impetus to spread the message of ISOPARB to the rural areas. Through this movement Burla Sambalpur chapter of ISOPARB was born in November 2011 with 34 strong and dedicated members. This newborn chapter was blessed to host the 28th National ISOPARB conference in February 2012. From that day Burla Sambalpur chapter of ISOPARB has not looked back.

From that day our chapter continued with academic meets every 3rd month and annual meet every year. These meets were held at different places specially in smaller semi urban areas. In the mean time we started an oration " BHIMSEN SAHOO MEMORIAL ORATION " in the name of my father which is being delivered in every annual meet by eminent gynaecologists from within and outside the state. Simultaneously, when I was the Vice-President of ISOPARB we opened new chapters at Bhubaneswar & Berhampur in Odisha and Jamsedpur & Bokaro in Jharkhand. We took up membership drive in all those chapters. At present Burla Sambalpur chapter had more than 150 life members ,spread all over the country.

I took over the charge of President ISOPARB in the 1st week of May 22 in the holy city of Varanasi. The theme for the year was LET US WALK THE TALK. My mission was ISOPARB AT DOOR STEP.

In that mission a few new things were introduced like:-

1. Focus was on opening new chapters in small towns. Due to support of all fellow ISOPARBIANS there was a spurt in opening 11 new chapters.

2. Membership drive was given the priority. Around 500 new life members were inducted PAN INDIA.

3. Emphasis was given on organizing annual conference by each chapter.

4. State level conference in states having more than 3 chapters was introduced. Burla, Sambalpur chapter had the honor to host the state level conference taking 6 chapters of Odisha together.

5. Action taken for national level YOUTH ISOPARB CONFERENCE to be hosted by Gorakpur chapter.

6. Three new committees were formed.

7. Record number of physical and virtual meets were organized.

8. Many of the virtual meets were joint meets which gave the platform for meeting each other, knowing each other and exchanging ideas, knowledge and cultural values with each other which was a remote possibility.

9. For the first time on line EB meeting was conducted.

10. With a very short notice Meerut chapter of ISOPARB could manage to host the 38th National ISOPARB conference when ISOPARB was in trouble. One of the hall marks of the conference was that for the 1st time in the history of ISOPARB one Vice-President was honored to deliver an oration.

11. Three sick chapters were revitalized.

In nut shell vibrancy was created and felt by one and all ISOPARBIANS.

With the vision of Sindhu Madam SOCIAL OUTREACH (From her slogan THINK RURAL & GO RURAL) and my mission ISOPARB AT DOOR STEP , we took the initiative to create awareness about Pre ECLAMPSIA and Sickle cell disease in Odisha , Chhatisgarh and Jharkhand.

The awareness programs were held mostly in peripheral centers through our ISOPARB members. Surprisingly the response was tremendous. This was a very small step. But the response from the organizers and participants gave stimulus to take up the challenge to spread the awareness about the two deadly diseases to the remote most part of the states to start with and gradually throughout the country.

I am citing one of such activities done during observation of National Sickle Cell Day on 19th June, conducted by my parent ISOPARB chapter.. On that day the members of ISOPARB along with the team members of Sickle Cell Research Unit did a awareness campaign among the staffs, Asha workers of the VSS Medical College Hospital, Burla. Then they had a camp “Know your Sickle Cell Status " in the suburban area where 36 blood samples were collected. Along with Blood Group, Hb% the sickling test was done free of cost. Out of 36 samples 11 came to be Sickle cell trait and rest were of Adult normal Hb. In the evening they conducted one CME with members of ISOPARB and ObGy society, on the subject " Sickle cell anemia in pregnancy“. It was altogether a successful program, where all sections of the community were benefited. It tought us a lesson that going to the community (community centered) , creating awareness for good health and helping needy people is more valuable than doing physical/virtual meetings in star hotels and enjoying sponsored aristocratic lunch or dinner.

This type of camps is the sole objective of ISOPARB. Next time we will plan how to reach out to the needy communities through our members involving the local hospital or private doctors.

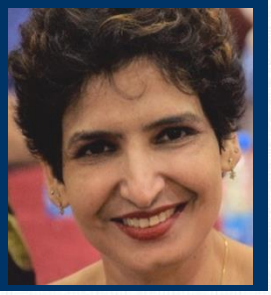
This mission is a lifelong mission. We have miles to go. It's just the beginning. If your destination is the hill top , don't focus at the top to start with. Focus at the first step and then the next. Slow and steady wins the race. I am confident with my dedicated ISOPARBIANS, I can successfully complete my mission and fulfill the dreams of my mentor and Guru Sindhu Madam.

Pray Lord Jagannath to bless the ISOPARBIANS.

Long live ISOPARB. Long live ISOPARB. Long live ISOPARB

PREGNANCY AFTER RADICAL TRACHEALECTOMY

Dr Meena Samant MBBS, MD, DNB, MRCOG
Consultant, Kurji Holy Family Hospital,
Dr Shalini Warman MBBS, MD, FMAS
Specialist, Tata Main Hospital, Jamshedpur, Jharkhand, Patna, Bihar



Introduction

Cervical cancer is most frequently diagnosed in the ages between 35 and 44 years and thus fertility preservation becomes a priority. Radical trachelectomy (RT) is a surgery for the treatment of early-stage cervical cancer and it preserves the childbearing capacity of the woman. A thorough counseling regarding the disease risk as well as prenatal and perinatal issues is mandatory for the selected patients. RTis done for patients with stage IA2 or IB1 cervical cancer with lesions that are less than or equal to 2 cm in diameter. [1]In RT, the cervix, vaginal margins, and supporting ligaments are removed while leaving the main body and fundus of the uterus intact. It is accompanied by laparoscopic pelvic lymphadenectomy and can be performed with or without sentinel lymph node mapping. Though both abdominal and vaginal routes are recommended, the abdominal route provides a better resection of the parametria and is more commonly used in IB1 tumors.[1]The uterine isthmus and vagina are re-anastomosed, and a permanent suture is inserted in the isthmic part of the uterus to mechanically tighten the lower opening of the uterus, thus creating a 'neo-cervix'. If a small portion of the cervix at the internal os is spared, it reduces the potential obstetric complications post RT. Since the number of post RT pregnancy cases are rising, it is necessary to be familiar with the potential obstetrical complications and its management.

Time to pregnancy post RT and contraception [2]

In cervical cancer survivors (post RT), the risk of preterm birth is increased if pregnancy is planned within one year of diagnosis. Patients are counselled to avoid pregnancy for minimum of 6 months and there should be a confirmatory evidence of absence of early recurrent disease with a negative colposcopic assessment, vaginal vault and isthmic smear, and pelvic MRI. The combined hormone methods, subdermal implants and progesterone implants are given UK Medical Eligibility Criteria for Contraceptive Use (UKMEC) advisory status 2. Progesterone-only pills are rated as UKMEC 1, though they may be ineffective as the action of the cervical mucous is lost. Difficulty in locating the isthmic os and isthmic stenosis may render insertion of an Intrauterine Contraceptive Device (IUCD) difficult.

One case series of 125 patients with cervical cancer who underwent vaginal RT, reported 106 pregnancies among 58 women.[1] In a systematic review of 413 women who underwent abdominal RT, 113 women attempted pregnancy and 67 (59%) successfully conceived. [1]

Multiple pregnancy should be avoidedby elective Single Embryo Transfer (eSET) or performing intrauterine insemination only when monofollicular growth is confirmed by transvaginal ultrasound in the follicular phase of the menstrual cycle.

Pathophysiology of the neocervix and pregnancy

In pregnancy, the cervical competence and prevention of ascending infection is maintained by the cervical length, the internal os and the endocervical mucus plug.

A neocervix following RT, leads to a loss of mechanical, cellular, biochemical and immunological barriers resulting in cervical (isthmic) incompetence, ascending infection, higher risk of second-trimester miscarriages, prematurity, PPROM and chorioamnionitis. The painless progressive dilatation of the neocervix leads to difficulty in assessment of labor and thus causes preterm birth and mid trimester miscarriages.

Antenatal complications and management[2, 3,4]

1.Higher rate of mid trimester miscarriages (as high as 7-11%). Ascending infections and PPROM are a major cause. For early miscarriage after RT, expectant management and medical management without a surgical intervention should be considered. For those requiring D&E, dilatation of the neocervix is done to Hegar size 7 (if required), performed through the isthmic cerclage preferably under ultrasound guidance. The cerclage may need a removal while performing a surgical evacuation in a second trimester miscarriage. Some studies also recommend hysterotomy to avoid lacerating the residual cervix and/or removing the cerclage.

2. Preterm labor: The risk of preterm labor is estimated to be 45%. It is recommended to do a serial isthmic or neo-cervical length scans (at every antenatal visit, i.e., every fortnightly) to monitor isthmic shortening and funnelling. Sonographic training is required for assessing the length of the neocervix.Depending on the gestational age, the patients may require another cerclage if the prophylactic cerclage is found to be ineffective. Placement of a transvaginal cervical cerclage after RT, may be challenging. Transabdominal cerclage may be considered (even in early after first trimester) if the short residual cervical length or scarring after trachelectomy limits a vaginal approach or in women who experienced previous complications with vaginal cerclage.[4]Patients may be encouraged to avoid coitus starting at 20 weeks because sexual activity can be an infection source. To lower the chance of infection, barrier contraception is recommended.To reduce the risk of infection and premature birth brought on by periodontitis, elective dental procedures during pregnancy are avoided. If there are signs of premature labor or if delivery seems impending, antenatal corticosteroids should be administered after 24 weeks.Fetal neuroprotection with magnesium sulphate should be given as per guidelines and protocols. Vaginal progesterones are controversial in these patients, however some advocate using them from 12 to 36 weeks.

3. Varices at the site of uterovaginal anastomosis: The incidence of varices at the site of uterovaginal anastomosis is 14%–24%. It can lead to abnormal bleeding during pregnancy. Hemostasis in this case can be achieved by compression or argon laser.

4. Timing and the method of caesarean section: Caesarean-section should be selected as the mode of delivery in women post RT, due to the sutured residual cervix.Severe scarring can also impact cervical ripening and can result in prolonged, traumatic delivery especially when accompanied by uterine hyperactivitywhich may lead to fetal metabolic acidosis. Therefore, performing C- section before uterine contractions develop is desirable.There is no need to remove the cerclage. There is an absent or poorly formed lower segment due to distortion following cervical amputation.Care should be taken not to injure the urinary bladder or the uterine artery (if not ligated during RT). A lower segment C-section is advocated, and classical C-section should be avoided. The timing of elective C- Section is controversial and should be at 37 weeks or later. But one should be prepared for it any time after 34 weeks. Intrabdominal adhesions can make the C-section technically difficult, and it may take a longer time.

Other antenatal and perinatal considerations[2, 3]

1. These pregnancies are considered high-risk and require increased antenatal surveillance by a senior specialist in perinatology centers.
2. The frequency of visits can be every two weeks after 18 weeks.
3. Active screening for genital infections is recommended, especially in the first trimester. Urine culture is done at the first visit and later if symptomatic. Screening for asymptomatic bacteriuria every trimester is advocated in some studies. [4]
4. Unnecessary cervical digital examination should be avoided.
5. Limitation of activity can be advised. Bed rest is preferably avoided unless there is vaginal bleeding or a suspicion of early threatened labour.
6. Fetal fibronectin can be used in asymptomatic patients with a short cervix or progressive cervical shortening. It is important to interpret the results of the test together with cervical length, and then, eventually, its development over time and the presence of symptoms of preterm delivery.[4]
7. A negative result suggests a low risk of immediate preterm delivery.
8. A positive result supports the need for preventive hospitalization and increased surveillance. The administration of corticosteroids should be considered individually.
9. Cervical cytology should be checked during and after pregnancy to detect recurrence.
10. Thromboprophylaxis with low-molecular-weight heparin is reserved for women with additional risk factors for venous thromboembolic disease.
11. Antibiotics and prophylactic steroids should be started if premature rupture of membranes occurs with a view to deliver as soon as possible.There is no evidence that prophylactic antibiotic administration reduces the risk of miscarriage, PPROM, or preterm labor.[4]
12. Postpartum: Since the cervical canal is often narrowed due to prophylactic cerclage, lochiometra could be a concern.
13. Neonatal outcome: There are risks associated with preterm birth and prematurity. Timely administration of antenatal corticosteroids may improve outcomes in preterm neonates.

References

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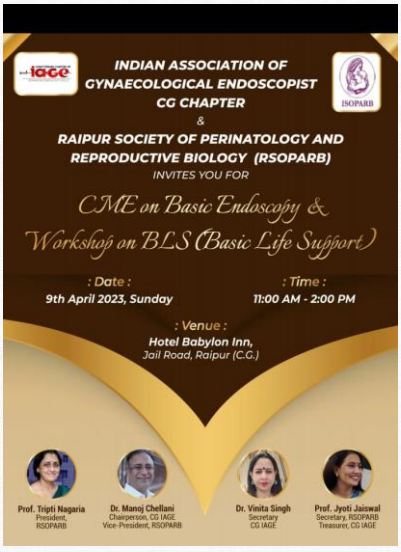
Y. Kasuga, S. Ikenoue, M. Tanaka et al. Management of pregnancy after radical trachelectomy. Gynecologic Oncology 162 (2021) 220–225.

Šimják, P, Cibula, D, Pařízek, A, Sláma, J. Management of pregnancy after fertility-sparing surgery for cervical cancer. *Acta Obstet Gynecol Scand*. 2020; 99: 830–838.

Activity Glimpses

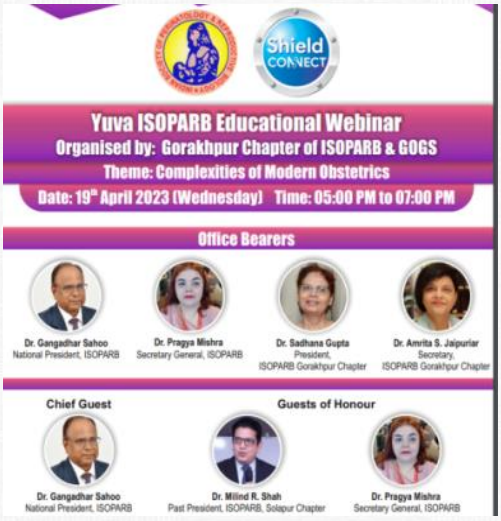
2nd April 2023 -- ISOPARB National CME at Hotel Lemontree Premier, Patna

9th April 2023 -- a joint CME by Raipur ISOPARB and IAGE CG chapter



12th April 2023- ISOPARB Indore chapter

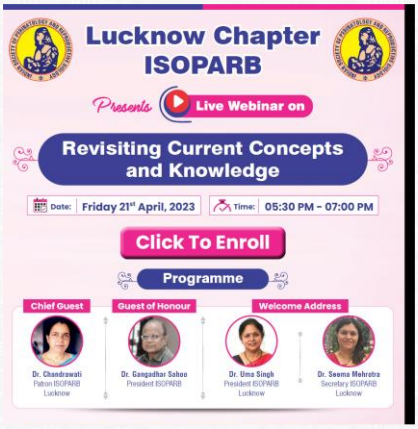
19th April 2023 –Gorakhpur YUVA ISOPARB



18th April 2023-- Lucknow Chapter ISOPARB organised Guest Lecture on Menopausal Hormone Therapy : Evidence to Practice by Dr Y Pradeep , FOGSI Vice President

19th April 2023-- Yuva ISOPARB Educational webinar organised by Gorakhpur Chapter of ISOPARB along with GOGS

21st April 2023-- webinar by Lucknow ISOPARB --what is new in management of endometriosis and Clinical applications of MTP law

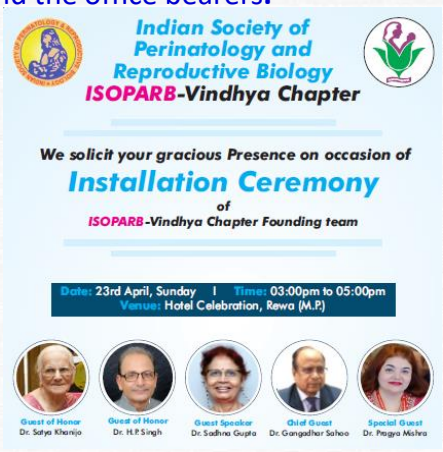


Activity Glimpses

21st April 2023-- Launch of Rural Committee of ISOPARB

22nd April 2023 -- Scientific Sangam 23 Organised by Prayagraj Chapter of ISOPARB

23rd April 2023 -- Inauguration of VINDHYA chapter of ISOPARB with induction of 32 new members and the office bearers.

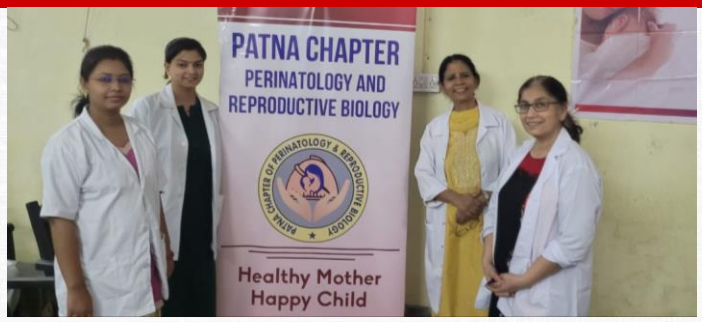


31 May -2023- Agra Menopause Society and ISOPARB conducted CME

9 June2023 - webinar with theme 'Experts Speak- Promoting A Happy Healthy Pregnancy', under aegis of West UP chapter ISOPARB with Hapur Obs Gyn Society

31 May 2023- ISOPARB Varanasi, with Jaunpur Obs Gynae society

Activity Glimpses



7t June 2023 - A nursing training program by team PATNA PARB in the premises of Kurji Holy Family Hospital

11 June 2023- CME jointly by ISOPARB and Patna PARB. The national President Dr Arup Kumar Majhi did PG teaching .

19 June 2023 - ISOPARB Ranchi Chapter organised an awareness program for undergraduate students on , patients and attendants

21st June 2023 - Patna PARB on international yoga day.

19th June 2023- In the mission Social Outreach and ISOPARB at doorstep,world Sickle cell day was observed in different places of Odisha, Jharkhand, Chhattisgarh

Activity Glimpses

24 June - A CME named "3 E" (Evidence , Experience, Expectations) for "3 P"(Postgraduates, Practitioners, Professors/Teachers was conducted at Calcutta National Medical College -- a ISOPARB programme , Which was the National President's Mission and National vice presidents initiative.

30th June --Vindhya chapter ISOPARB meeting ,

1st July - ISOPARB, BOKARO chapter in association with Muskan Hospital, Chas organised a CME.

14TH JULY - ISOPARB Bokaro chapter CME

16TH JULY - ISOPARB Burla Sambalpur chapter and Burla O G society in collaboration with Prachee Education Foundation organised a PG CME on PPH

Activity Glimpses

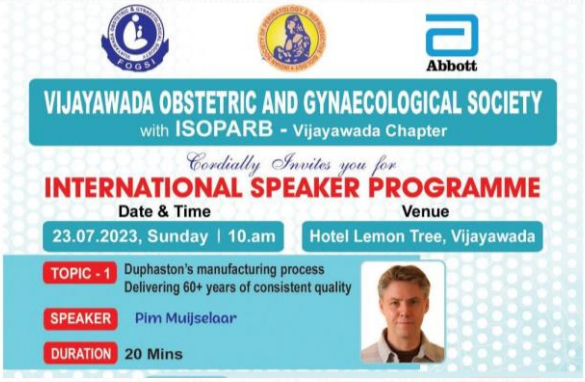
18TH JULY - Solutions to modern challenges in reproduction. Webinar by Gorakhpur chapter of ISOPARB

19TH JULY - Lucknow Chapter ISOPARB organized a CME on Emerging concepts in High risk pregnancy .

20th July--- FINAL PUSH BIRTHING- scientific sangam by Prayagraj chapter

21st July -- 3rd Episode of "SEED TO BLOOM SERIES" organised in Association with Burla Hyderabad Indore & Raipur City Chapters of ISOPARB, by National ISOPARB

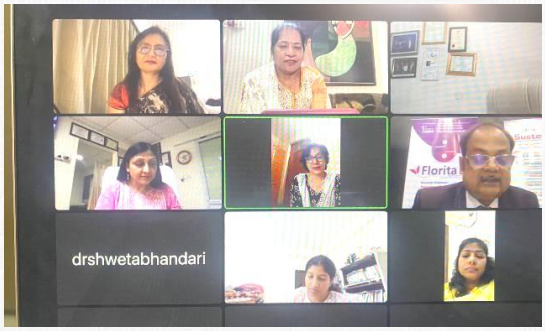
23 JULY – Very interesting and interactive session Vijaywada on ISOPARB



Activity Glimpses

23 JULY - Wonderful CME by Patna PARB

27 JULY - first trimester webinar by team Indore and Vindhya chapters



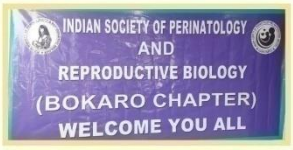
30 July - ISOPARB Ranchi chapter witnessed the installation of new office bearers. Event was graced by the presence of Dr Hiralal Konar.

2 August - Breastfeeding awareness program conducted under ISOPARB Sitamarhi Chapter At R K Dayal Nursing

3 August - Breast Feeding Awareness Program under banner of Diksha foundation. Well attended and jointly carried our by Breast Committe POGS and Patna PARB.

Activity Glimpses

1st – 7th August 2023 - World Breast Feeding week* was celebrated under the banner of ISOPARB *Bokaro chapter* in association with BOGS and IMA Chas.






24th August 2023-- : Scientific Sangam 27, Part 8 of series The Art & Science of Birthing, organized by ISOPARB Prayagraj in association with Allahabad, Lucknow & Bareilly Obstetric and Gynaecological Societies

26th August 2023 - ISAR conclave Sambalpur was organised by ISAR Odisha chapter in collaboration with ISOPARB Burla/Sambalpur chapter and Burla O G society

10 June 2023 - President Dr Arup Kumar Majhi visit to head office ,ISOPARB, Patna


Anaemia in Pregnancy- How Long Mothers will Suffer?

Dr.Arup Kumar Majhi MD, DNB, FICOG
Professor, Dept of Obs Gynae Santiniketan Medical College, Bolpur, Birbhum,West Bengal
National President, Indian Society of Perinatolgy and Reproductive Biology

Introduction : Prevalence of anemia during pregnancy in developing countries ranges from 50%–60% and globally is 40% which is associated with a significantly increased risk of maternal & perinatal morbidity and mortality.. The prevalence of anemia (<11.0 g/dl (%) among pregnant women of age 15-49 years is 52.2% (Urban 45.7% and rural 54.3 %) according to National Family Health Survey 2019-20 (NFHS-5).

It is estimated that anemia causes 20 per cent of maternal deaths in India directly or indirectly. Iron-deficiency anemia is the most frequent form of anemia in pregnancy.

Definition of anaemia

Anaemia is defined as quantitative and qualitative diminution of RBC and/or haemoglobin concentration in relation to standard age and sex.

WHO defines anaemia in adult women as shown in Table1.

Table1: Classification of anaemia in adult women(WHO)

Haemoglobin(gm%)	Categories
<11.0	1st and 3rd trimester of pregnancy
<10.5	2nd trimester of pregnancy
<10.0	Postpartum period
<12.0	Non-pregnant adult women

Important causes of anaemia

The important causes of anaemia duringpregnancy arephysiological (dilutional)andpathological.

Physiological anaemia -In normal pregnancy, there is fall of haemoglobin concentration due to haemodilution and negative iron balance results anaemia.

Pathological anaemia

Nutritional deficiency- Iron deficiency (Commonest) , Folic acid deficiency, · Vitamin B 12 deficiency and Protein deficiency

Hemorrhagic :-Bleeding in early months, or late months (APH), Bleeding piles, Chronic hookworm infestation,

Haemolytic causes are1)Heriditory-Thalassemia and Sickle-cell haemoglobinopathies and 2)Acquired – Malaria

Miscellaneous causes:Chronic infection, bone marrow aplasia etc

Reasons of high prevalence of iron deficiency anaemia in India areinadequate diet,faulty dietary habits like vegetarianism, pica, loss ofappetite andnausea and vomiting,defective absorption, hookworm infestation, bleeding piles and repeatedvery close childbirth.

Maternal Complications of anaemia

Infection,PIH, Abruptio placentae, Heart failure (30-32 weeks), poor weight gain and preterm labour, uterine inertia, PPH/less tolerant to PPH, heart failure(during labour or immediately after delivery) and Obstetric shock. Puerperal sepsis, subinvolution T and Lactational failure in puerperium.

Complications of fetus and neonate- Increased Perinatal deaths 2-10 times, FGR, and preterm deliveries

Diagnosis of anaemia

History-Lethargy,weakness, tiredness, palpitation, breathlessness, swelling of feet, glossitis or anasarca, H/bleeding manifestation like rectal bleeding, mouth bleeding, Long standing menorrhagia,vaginal bleeding in early months and history of APH.

Physical examination- Pallor, Oedema, gum bleeding, hepatosplenomegaly in thalassaemia and ascites

Investigations

Hb, RBC count and packed cell volume (PCV),Blood indices – MCV, MCHC, MCH. Peripheral blood smear – RBC morphology, reticulocytes, malaria parasite. Serum values – Serum iron concentration, Sickle cell preparation serum ferritin level, TIBC

Urine analysis and stool examination

Bone marrow examination is rarely needed

Investigations for abnormal haemoglobin like electrophoresis HPLC may be needed

Diagnostic features of iron deficiency anaemia (IDA)

The gold standard for diagnosis of iron deficiency anaemia is the low serum ferritin level which is< 15 µg/L or ng/ml (normal 15-300). In IDA, Hb%, RBC count, PCV, MCV, MCH, MCHC, serum iron, serum ferritin – all become low. Total serum iron is < 30 g/dl ,(TIBC) and RDW become high.Peripheral blood smear shows microcytosis, anisocytosis, poikilocytosis and hypochromia.

Prevention of anaemia during pregnancy

Birth spacing, family planning and preconception counseling and dietary advice.

Iron supplementation.

Haemoglobin estimation at booking visit and in periodical interval

Oral iron and folic acid supplement (IFA tablet)

Routine prophylactic iron supplementation in pregnancy is recommended to meet the demand and to maintain the maternal iron stores.

Oral iron and folic acid supplement (IFA tablet) is recommended for all pregnancies as there is negative iron balance. In "**Anemia Mukt Bharat operational guideline 2018**" by Govt. of India daily 1 iron and folic acid tablet starting from fourth month of pregnancy (that is from the second trimester) is given, and continued throughout pregnancy (**minimum 180 days** during pregnancy) and to be continued **for 180 days, post-partum**. Each tablet of 200mg contains 60 mg elemental Iron + 500 mcg Folic acid, sugar-coated, red colour.

Albendazole (400 mg) one tablet is routinely given after the first trimester, preferably during the second trimester).

Diet to prevent and to treat anaemia

Diet should be balanced – containing proteins, vitamins, essential nutrients and minerals. It should contain proper amount of carbohydrates and proteins, and fat content should be lowest.

These are green leafy vegetables, meat, poultry, fish, eggs, nuts, groundnuts, whole pulses, jaggery, black gram, ragi and whole grains etc.

Vegetables and fruits which are rich sources of iron

Amla, lotus roots, green vegetables like spinach, mustard, fenugreek, cabbage, mint and coriander. Fruitsare guava, orange, date, apple, pomegranate, banana, figs, green plantain, jaggery etc.

Treatment of iron deficiency anaemia

Balanced diet,treatment of pathologicalcondition, iron therapy – Oral/Parenteral.

Folic acid, vitamin B 12 and vitamin C in required amount and blood transfusion – when indicated.

Iron therapy

Iron can be given in oral and parenteral route.Oral administration is the preferred method. The advantages of parenteral therapy are that it bypasses the intestinal absorption and one is certain that patient has taken the required amount of iron.

Advantages of oral iron

It is effective for most of the patients. Initial cost is also very low and easily affordable. These are easily available and can be administered easily, best for prophylaxis. Wide range of formulations are available. It does not require any test dose administration. There is almost no serious adverse effects.

Disadvantages of oral iron

G I side effects such as constipation, heartburn, and nausea, occurring in upto 50% of patients. Intolerance,noncompliance and need of regular intake for several months are other disadvantages.

Instructions of oral iron intake

It should be taken ideally on empty stomach. If there is nausea, vomiting and gastritis tablets should be taken at least one hour after meal or at night, preferably two hours after a meal and not with calcium tablet.

Iron folic acid tablet (IFA) should not be consumed with tea, coffee, milk or calcium tablets. IFA tablet should always be supplemented with good diet. Concurrent use of Vit C improves iron absorption.

Indications of parenteral iron therapy

1)Pregnant women with severe IDA, presenting late inpregnancy2) As the first line therapy in cases of moderate and severe Iron deficiency anemia in second and third trimester of pregnancy 3) Intolerance of oral iron 4) Insufficient or no response to oral iron, which suggests impaired absorption and/or impaired adherence 5)The need for rapid efficacy 6) Noncompliance or poor compliance 7) Chronic iron loss exceeding the replacement by oral therapy and 8) In postpartum anemic mother before discharge.

Different preparations for parenteral administration

There are various preparations for IV administration e.g. Iron Ferric carboxymaltose, Iron sucrose and polymaltose. No single preparation appears to be superior. Ferric carboxymaltose is preferable over Iron sucrose because of its single dose administration.

Calculation of dose of parenteral iron -The dose of parenteral iron calculated on the basis of haemoglobin deficit, deficit in the body iron and replenishing the iron stores.

Safety profile of IV therapy

Intravenous iron preparation is considered to be safe and effective during the second and third trimesters of pregnancy. However it requires monitored intravenous infusion. Rare cases of allergic or infusion reactions may be observed which requires set up to treat allergic or infusion reactions.

Contraindications to Parenteral Iron Therapy

These are h/o anaphylactic reactions to parenteral iron therapy, first trimester of pregnancy, known case of Iron overload, lack of facility for resuscitation for anaphylactic reactions

Treatment recommendation of iron deficiency anaemia duringpregnancy by NHM (April 2018) under "Anemia Mukt Bharat operational guideline 2018"

In Mild (10-10.9 g/dl) to **Moderate** (7-9.9 g/dl) anaemia**:** Two tablets of Iron and Folic Acid tablet (60 mg elemental Iron and 500 mcg Folic Acid) daily, orally during the ANC contact. In non-improvement (<1 g/dl increase) after one month of treatment she is referred to first referral unit. Parental iron (IV Iron Sucrose or Ferric Carboxy Maltose (FCM) may be considered as the first line of management in pregnant women who are detected to be Anemic late in pregnancy or in whom compliance is likely to be low (high chance of lost to follow-up) in all set up.

In severe anaemia (5.0- 6.9 g/dl): The treatment will be done using IV Iron Sucrose/Ferric Carboxy Maltose (FCM) by the Medical Officer as a first level of treatmentafter.immediate hospitalization, if in third trimester.

For very severely anemic pregnant women(Hb< 5 g/dl) immediate hospitalization is suggested irrespective of period of gestation.

Blood transfusion is seldom indicated unless hypovolemia or patient needs emergency operative procedure. It is also indicated in severe anaemia in later months of pregnancy, particularly after 36 weeks. Packed cell transfusion is administered with severe anaemia in advanced pregnancy and exchange transfusion at term or in early labour with congestive cardiac failures.

Megaloblastic anaemia

Megaloblastic anaemia is due to the deficiency of vitamin B12 (cyanocobalamin) or folic acid or both. Vit. B12 deficiency is rare during pregnancy, but supplement is needed for strict vegetarians. Mothershould take food rich in folic acid. 4 mg folic acid is given daily with ironand another 1 mg folic acid is additionally given.

Hemoglobinopathy disorders

In *India*, β (beta) thalassemia and *Sickle Cell Anemia* are the major symptomatic hemoglobinopathy disorders, especially in some region.Screening in pre conceptional and conceptional period is an essential step to address the issue.

Conclusion

Anaemia is the most common medical disorder of pregnancy.Iron deficiency anaemia is the commonest variety.Balanced diet with rich source of iron shouldroutinely be taken by the mother to prevent anaemia. Iron& FA supplementation is mandatory in pregnancy.Therapeutic doses are administered depending on the severity of anaemia. Prevention and management of anaemia should be the top priority in obstetric carenow to save both the mother and baby.

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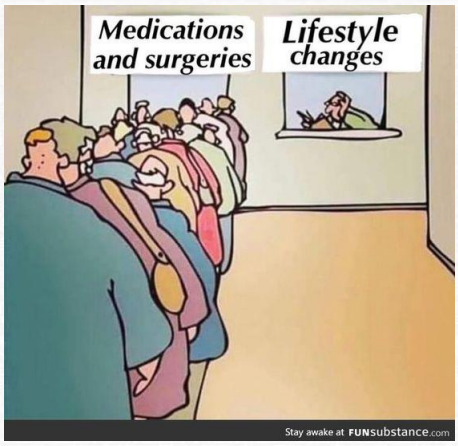
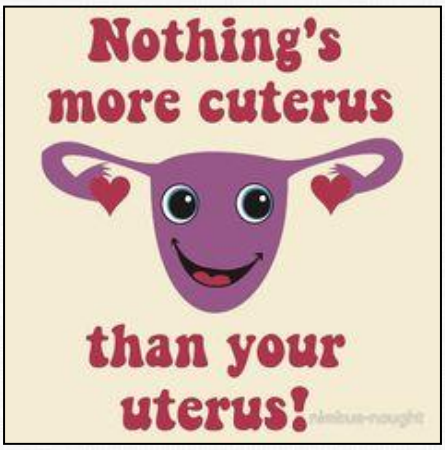
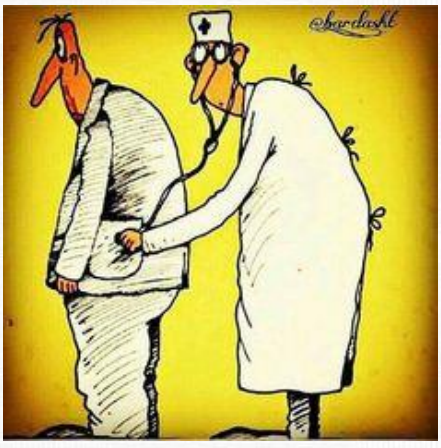
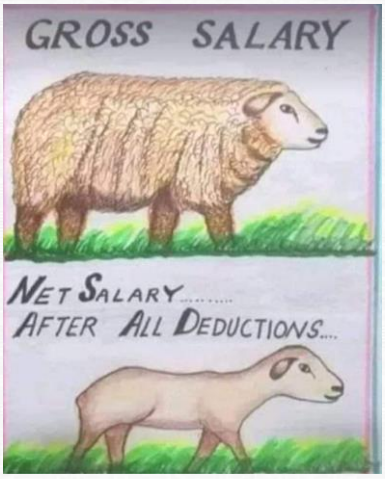
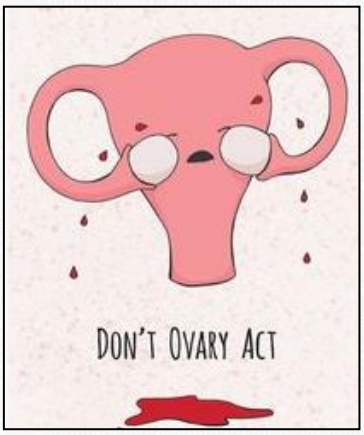
Laughter is a medicine with no side effects.

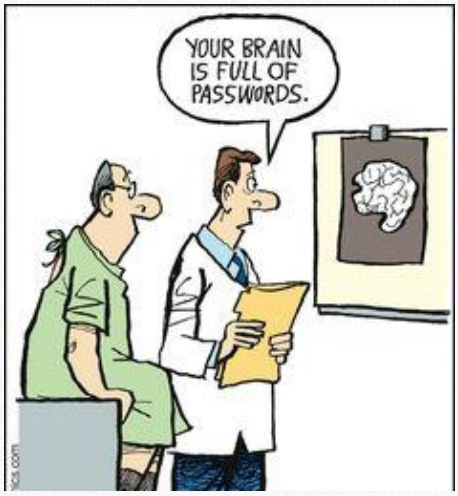












Things You Don't Want to Hear During Surgery:

- Oops!
- Has anyone seen my watch?
- That was some party last night. I can't remember when I've been that drunk.
- Damn! Page 47 of the manual is missing!
- Damn, there go the lights again…
- Everybody stand back! I lost my contact lens!

Medical Puns

- You can hear the blood in your veins if you listen varicosely.
- When you steal someone's heart, do they get cardiac arrested?
- Dogs can't operate MRI machines but CAT-scan.
- Why don't medicine and yogurt agree with each other? One is an antibiotic, and the other is a probiotic.