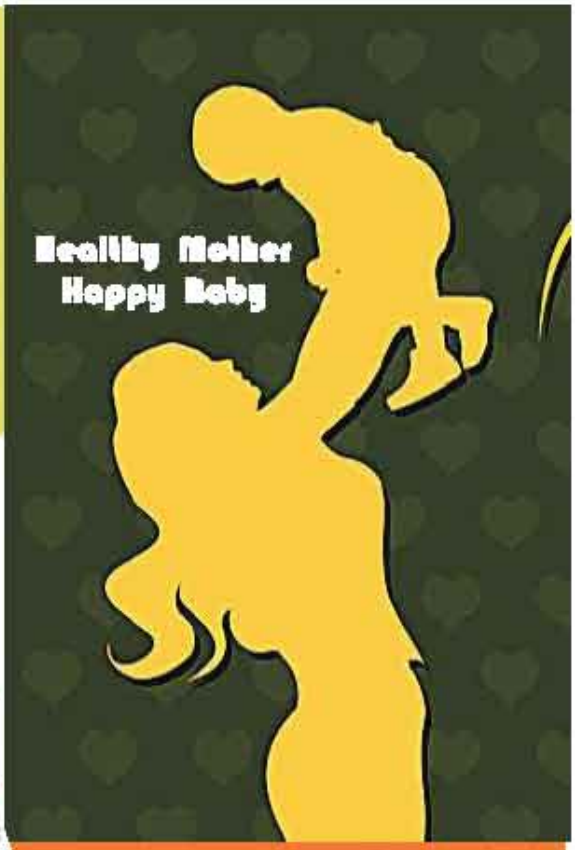
ISOPARB NEWSLETTER

April 2019 - September 2019



Articles

Dr. Gangadhar Sahoo
Dr. S. N. Tripathy
Dr. Suman Sinha
Dr. Nigam Prakash Narain
Dr. Ojaswini Parel / Dr. Indira Palo

Forthcoming programme

EFM NOV 2019 at Patiala

36th ISOPARBCON 2020 at Bhubaneswar

Editor's Note

Dear ISOPARBIANS

Greetings from Patna.

Here I am, presenting to you the Second Edition of the News Bulletin.

My heartiest congratulations to the dynamic chairpersons and vibrant secretaries for putting in huge efforts for this Mid-Term conference at Ranchi.

This Bulletin features articles written by our esteemed clinicians and activities done by all ISOPARB chapters. I sincerely thank all the contributors for their excellent job.

I have enjoyed compiling these activities and hope you will have a memorable experience reading it.

The pictorial quiz and laughing corner will keep you light and engaged.

Wish you happy reading...

"Education is what survives when what has been learnt has been forgotten."

Long Live ISOPARB

Dr. Amita Sinha

Message

Dear Friends,

I bring you greetings from ISOPARB (Indian society of Perinatology and Reproductive Biology).

It gives me great pleasure to write this message for the news bulletin being published for the Mid term ISOPARB Conference hosted by the Ranchi chapter of ISOPARB at Ranchi from 14th -15 th September, 2019. Hearty Congratulations to Dr. Amita Sinha for bringing out this very informative new bulletin.

The conference theme **"Preventing the Preventables"** is very essential for our practice. It clearly suggests that the preventing a problem is always a better way forward for reducing the morbidity . Congratulations to the dynamic organizing chairpersons Dr. Pritibala Sahay , Dr. Suman Sinha and Dr. Rajesh Kumar, the vibrant Secretaries Dr. Jyoti Rai, Dr. Archana Kumari and Dr. Sunita Jha and their hardworking team for putting in huge efforts for organizing this conference to be held at Ranchi. They have done a wonderful job in getting the programs and workshops ready for this conference.

My Presidential theme of **'Happy Mother and Happy child'** is perfectly being helped by the concept of prevention so the importance of 'Preconceptual counselling' and regular antenatal care as this will help to reduce the maternal mortality.

Violence against doctors is on the rise and we as an Association must take some step towards curbing it. So I was very keen that Ranchi team organize a walk to create an awareness for prevention of violence against doctors I am happy that they have lt of efforts in getting this done and I am sure we all will walk in large numbers.

I am sure that this highly academic conference with all the varied topics and recent updates, opportunity for interaction, excellent location set amidst the pleasant weather will be an enjoyable and useful learning experience for all our colleagues.

Looking forward to meeting all of you soon at the capital of Jharkand , **Ranchi the city of waterfalls, handicrafts and metal work.**

SPandit

Prof. Dr. Suchitra N. Pandit
Director - Dept.of OBGYN, Surya group of Hospitals, Mumbai
President ISOPARB (2018-20)
President Organisation Gestosis (2015-18)
Chair AICC RCOG (2017-20)
President FOGSI & ICOG (2014-15)

INDIAN SOCIETY OF
PERINATOLOGY AND REPRODUCTIVE BIOLOGY
"A Bright Future Begins Here"

Message

It is indeed a great pleasure that the ISOPARB Ranchi Chapter is organising Mid-Term Conference at Ranchi, the Capital of Jharkhand on 14th and 15th September, 2019 by the Organising Secretaries Dr. Jyoti Rai, Dr. Archana Kumari and Dr. Sunita Jha under the leadership of Chairpersons Dr. Priti Bala Sahay, Dr. Suman Sinha and Dr. Rajesh Kumar. The theme of the Conference is "PREVENTING THE PREVENTABLES" – "AN OUNCE OF PREVENTION IS WORTH - A POUND OF CURE"

"Education is the Vaccine for violence – Edward James Almos".

To educate public about violence against doctors, an awareness to walk has been arranged during the conference. It is a proactive step taken by the organizers. Let us all join them.

Indian Society of Perinatology and Reproductive Biology was conceived with the view to develop and propagate and academic environment in the field of Perinatology and Reproductive Biology.

This forum intends to provide opportunity to many young and dynamic obstetricians and neonatologists to express their views and ideas and to promote the concept of healthy mother and happy child.

I express my warm greetings, and thank the organizers & all the delegates attending the conference.

I wish the conference all success.

JAI HIND

Meena Samant

(Dr. Meena Samant)
Secretary General, ISOPARB

TEN COST EFFECTIVE INTERVENTIONS & PERINATAL HEALTH

Prof.(Dr.) Gangadhar Sahoo,
DEAN, IMS & SUM Hospital, Bhubaneswar &
Vice – President, ISOPARB

Dr. P.K Sahoo
President elect Odisha chapter of IAP (Indian Academy of Paediatrics)

Introduction :

Perinatal health always reflects the health of a nation or a society. The role of the Obstetrician and the Paediatrician to reduce the perinatal mortality and infant mortality is well established. Care during pregnancy, delivery and post partum period is of paramount importance.

The SAATH – SAATH health programme, a joint venture of FOGSI and IAP is the right forum to address the issues related to the perinatal health. We shouldnot forget the role of the mothers as stake holders in achieving our goal of negligible morbidity and mortality. India lives in villages. So cost effective care and intervention is a bare necessity to improve the health of the mother and the newborn.

Interventions :

1. Antenatal check up and care : - At least one check up in each trimester can help to identify the risk factors in pregnancy . Routine investigations like : Hb% , Blood grouping and Rh typing, FBS & the serological tests like VDRL, HIV & Hepatitis B will rule out. many medical problems affecting the perinatal health . One routine Obst. USG can help to identify risk factors related to fetal growth, anomaly, placenta and amniotic fluid . Anetental immunization is an established intervention to reduce perinatal and neonatal mortality and morbidity.

2. Maternal Nutrition : - Proper advice on maternal nutrition, hydration and supplementation during pregnancy and post natal period helps maintaining and improving maternal as well as perinatal health.

3. Fetal movement count : - Mother is the best fetal monitor . All pregnant mothers are to be sensitized about the importance of fetal movement . Cardiff's count to ten is a simple arithmetical method to know the fetal wellbeing by the mother in the later part of pregnancy. When put to practice, helps to identify a good number of cases with impending fetal distress.

4. Antenatal corticosteroid : - Administered to the mothers when indicated prevents RDS in preterm birth and in infants born after elective LSCS, done before 39 wks.

5. Antenatal MgSO4 as neuro protector : Prematurity and low birth weight are the important risk factors of neurological assault leading to cerebral palsy . In-Utero exposure to MgSO4 before early preterm birth appears to decrease the incidence and severity of cerebral palsy.

6. Affordable Asepsis : Maintaining asepsis of the delivery room , proper sterilization of instruments and linens, practice of proper hand washing, putting on mask cap and gown and restricted handling of risk neonates will definitely reduced the incidence of neonatal sepsis.

7. Encouraging Vaginal Birth : - All mothers should be prepared mentally and physically to face the challenges of labor. The fear of vaginal birth should be dispelled from the mind of the mothers and unnecessary caesarean sections should be avoided. This will protect the neonates from iatrogenic morbidity caused by c-sections.

8. Antenatal Intervention and exclusive breast feeding : Preparation of breasts is of paramount importance for successful lactation. Many breast aliments like flat nipples, retracted nipples and crack nipples can be corrected during antenatal period. Practice of " put the neonate on to the mothers breast" as early as possible will help the mothers for successful lactation.

9. Vigilance in labor and during golden hour : It helps in preventing many maternal and neonatal deaths.

10. Health Education : Antenatal and post natal period is the right time of educating mothers and her family members. It helps to teach the art of mother hood, importance of immunization and last but not the least about contraception.

Conclusion : The above mentioned facts are hard facts known to everybody. But one thing needed is to bring them in to a habit of practice. Every Paediatrician and Obstetrician is to play his /her role to reduce the neonatal morbidity and mortality. They are the right persons to put their signature on the mother who later on can implement in the practical field.

" Let us work together to work far." - Ratan Tata

Om

Reproductive Transplantations: A way forward for Infertility

Prof. (Mrs) S.N. Tripathy.

'Every great advances in science has issued from a new audacity of imagination.'

John Dewey

Transplantation is nothing new in India. Our ancients were great surgeons and they are over skilled in transplantation. Look at our Gods. Our Agrapujya Ganapati is having the head of an elephant, which was transplanted. The Great King Dakha from whom the human race has originated, have a Goat's head, his original head being lost in the yangya kunda. Bone of RIshi Dadhichi was transplanted in the Brajayudha of Indra to kill Brutasur, and a living fetus was transplanted from Devaki's uterus to Rohini's Uterus, the wives of Vasudev, and Lord Balbhadra was born. The stories behind the topics are quite interesting, but not now, some other time.

'To Get and Beget' is the motto of life. Every married couple wants a child of their own. From very ancient times till date various methods are adopted to achieve the goal. Our seers were doing 'Tapasya' to get a child, and Chiranjibi Rishi Markenday was born, King Dasarath performed Yangya and Lord Ram was born and so on and so forth. At present we practice allopathy, homeopathy, and many other pathys along with prostrating days together in temples, taking Hukumas, and going to Sadhu's, some of them being fake and exploiting the couple. Recently I had been to The Lord Chandneswar temple who is deep inside an well, and He is famous for granting a child to childless women. So many women were praying putting their heads on the parapet and their heart rendering cry is so pathetic, just one can't tolerate.

We have now graduated from our basic infertility management to advanced management which includes IUI, ICSI, IVF and ET, Stem cell transplantation in genital organs and transplantation of ovary, transplantation of tubes and transplantation of Uterus, which represent a new potential treatment.

Pregnancies have now been reported from several centers after transplanting fresh and frozen ovarian tissue pieces. Ovarian cryopreservation and transplantation is an emerging technology to preserve fertility in women and children undergoing cancer treatment.

When tubes are damaged, there are many alternatives before us, tubal reconstructive surgery, In vitro fertilization and embryo transfer, and tubal transplantation.

The fallopian tubes were one of the first reproductive organs studied as a means of using transplantation to restore fertility to women who had become infertile after suffering an insult to their oviduct. Tubal transplantation to restore fertility to women was attempted as early as 1946, but that was a nonvascular transplantation and thus failed. The reintroduction of microsurgery rekindled the thought of tubal and tubo ovarian transplantation, Dr. Cohen reported two cases, but both failed. At the same time Lousie Brown was born on July 25th, 1978 by IVF and Embryo transfer. A great competition went on between the two methods. In 1975 Patric Steptoe opined, ' IVF works better and is safer and less expensive than tubal transplantation. Let research continue in both fronts and let us see what future holds. 'Now we know that with in this forty four years of his saying, IVF has marched ahead leaving the tubal transplant behind.

Uterus transplantation (UTx) has become an alternative to gestational surrogacy and adoption for women with uterine factor infertility (UFI). In Sweden in 2012, the first mother-to-daughter[womb transplant was done by Swedish doctors at Sahlgrenska University Hospital at Gothenburg University led by Brännström. The baby Vincent was born on Oct.4th, 2014 prematurely at about 32 weeks, by cesarean section, after the mother had developed pre-eclampsia. IVF and ET was done in her using the woman's ovum and her husband's sperm, which was then implanted into the transplanted uterus. A regimen of triple immuno-suppression was used with tacrolimus, azathioprine, and corticosteroids.

To date a total of 11 babies have been born after UTx from living donors. Live births have occurred both after live donor UTx and deceased donor UTx. This outcome has attracted much attention worldwide, and many countries are now preparing for UTx mainly in countries where surrogacy is not allowed like Japan and China.

The first uterine transplant performed in India took place on 18 May 2017 at the Galaxy Care Hospital in Pune, Maharashtra. The 26-year-old patient had been born without a uterus, and received her mother's womb as the transplant India's first uterine transplant baby, weighing 1.45 kg, was delivered through a Caesarean section at Galaxy Care Hospital in Pune. The surgery was performed by a team of doctors consisting of vascular surgeon, obstetrician, gynecologist, anesthetists, pediatrician, laparoscopic surgeon and many other specialists, led by the hospital's Medical director, Dr. Shailesh Puntambekar. Their group till date had performed two uterine transplantations with laparoscopic live donor uterus retrieved on two successive days in May 2017, the donors being their mothers.

One recipient was having. MRKH the other one having Asherman syndrome. The first case has already delivered as described earlier and the second one is nearing term. Dr. Warty, a member of the team delivered the S.N. Tripathy Oration in our last Annual Conference held in Hyderabad, described in detail how they have achieved it, both the agony and ecstasy.

Current status - The recipient has to look at potentially three major surgeries. First of all, there is the transplantation surgery.

If a pregnancy is established then a cesarean section, and as the recipient is treated with immuno-suppressive therapy, eventually, after completion of childbearing, a hysterectomy needs to be done so that the immuno-suppressive therapy can be terminated.

The procedure remains the last resort: It is a relatively new and somewhat experimental procedure, performed only by certain specialist surgeons in select centres, it is expensive and it involves risk of infection and organ rejection. Some ethics specialists consider the risks to a live donor too great, and some find the entire procedure ethically questionable, especially since the transplant is not a life-saving procedure. But this type of discussion is nothing new; any new procedure is introduced, we always discuss the cons. When Louise Brown was born by IVF ET, what a huge hue and cry it was. Now it has become an household word and thousands and thousands babies are born by the procedure throughout the world.

Conclusion - An infertile woman to have a child of her own can go to any extent, I really mean, to any extent. In my opinion, if a donor is available, the woman is ready to accept the dangers, can afford, she can go for it. In science, there is nothing like a last word. With time, Reproductive organ transplantation may emerge as the best option for treatment of infertility in certain indications.

Jai Jagannath

Change of Guard - Lucknow Chapter

Dr Jaiswar installed as President Lucknow chapter of ISOPARB.
Dr Amita, Dr Deepali and Dr Ajay Secretary,
Dr Jyotsana as Treasurer and Dr Shuchi as Joint Treasurer.

Congratulations to all incoming office bearers.

Glimpses of 35th ISOPARBCON, Hyderabad

35th National ISOPARB Conference organised by HYDERABAD chapter of ISOPARB at PARK HYATT 29th to 31st March 2019.

Inaugural function


ISOPARB 2019
35th National ISOPARB Conference 2019


MEET
RADHA !
INDIA'S FIRST
BABY BORN
AFTER A
ISOPARB 2019
Dr Neeta Warty
37:54

Awareness walk on Endometriosis

West Zone gets the
Best Zone Trophy

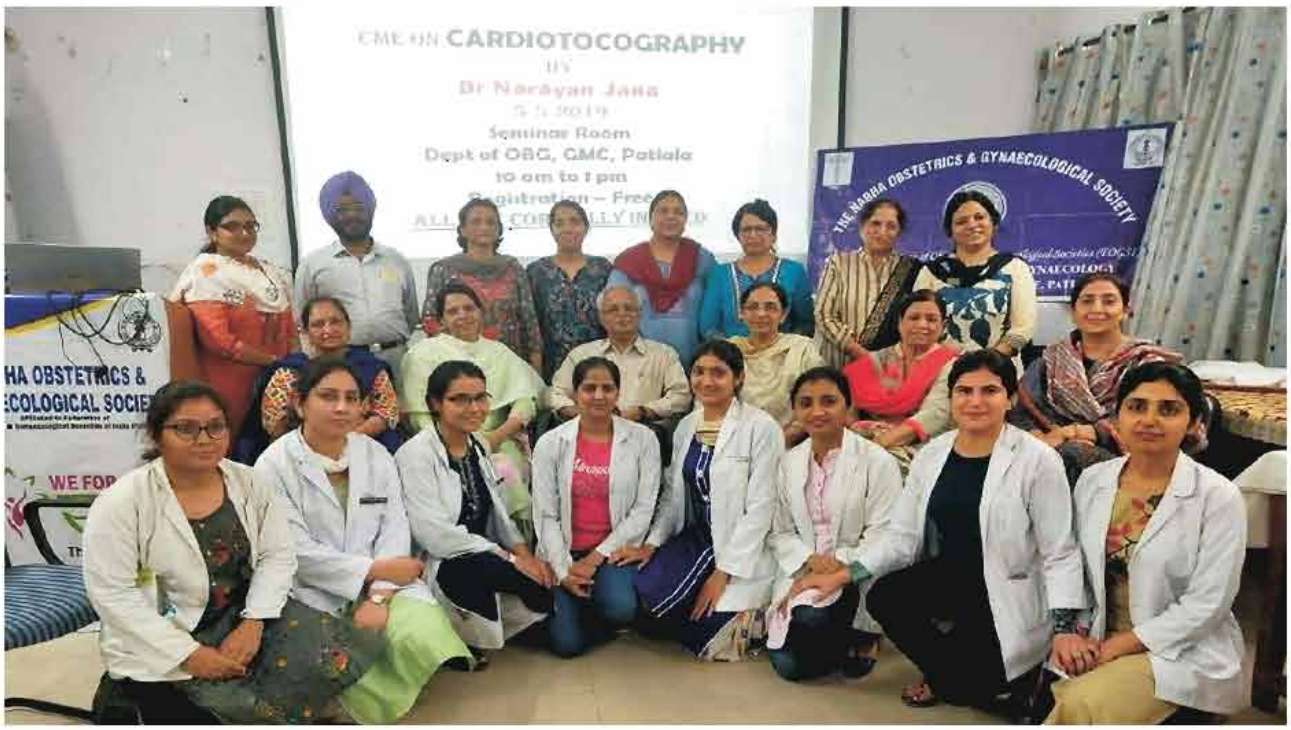

19

CTG Workshop

05th May 2019

CTG Workshop by Dr Narayan Jana at Govt. Medical College, Patiala, Punjab, organized by Professor Manjit Kaur Mohi, HOD (O&G) and her team.

There were around 50 vibrant participants, who enjoyed the collective learning with enormous enthusiasm.



7th Annual Meet of ISOPARB Burla/ Sambalpur Chapter

27th -28th July 2019

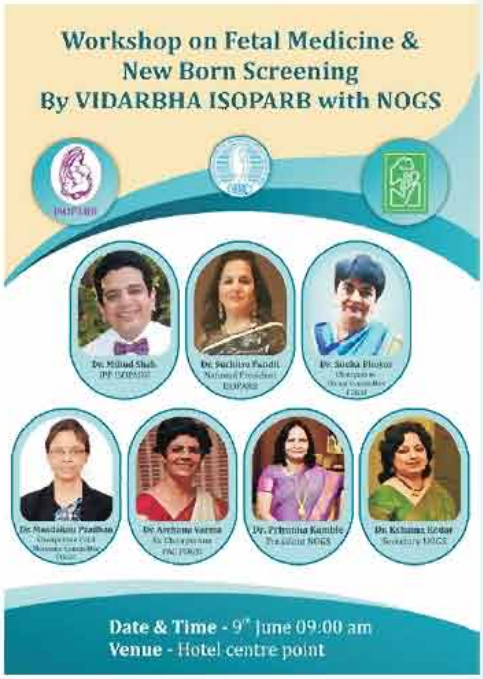
There was live operative workshop on Hysteroscopy . Prof S N Tripathy was the chief guest & Prof Shyama Kanungo was the orator for Bhimsen Sahoo Memorial Oration. Inauguration of Hysteroscopy Workshop was done by the Dean of VIMSAR, Burla Prof Mishra.

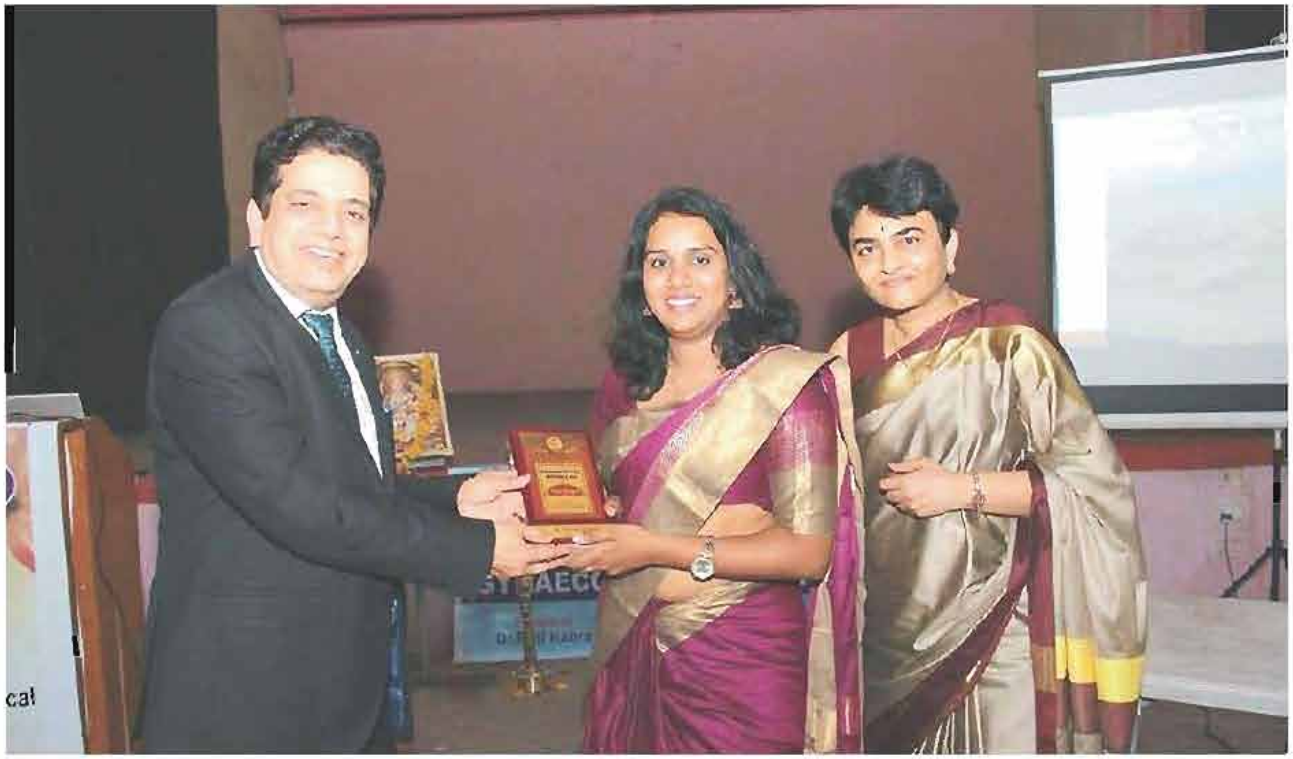
Hysteroscopy workshop faculties were Dr Sujit Behera, Dr Pradeep Panigrahi, Dr Pyarilal Tripathy Dr Benudhar Pande

Winners of quiz - Dr Debasmita Singh & Dr Preeti Samal jointly declared 1st whereas Dr Lipsa Patra was 2nd

Workshop on Fetal Medicine

8th & 9th June 2019-
A very novel and interesting workshop on FETAL MEDICINE by Vidarbha ISOPARB Chapter with NAGPUR, AMRAVATI & YAVATMAL societies





GURUKUL Classes

20 -21 June 2019 – "Gurukul "was organized by Institute of Obstetrics & Gynaecology, Sir Ganga Ram Hospital under the aegis of ISOPARB Delhi chapter, FOGSI, ICOG & AOGD. About 110 students all over Delhi and surrounding areas attended the 2 days program of Gurukul.

It was moderated by 50 faculties members comprising of senior teachers from Sir Ganga Ram Hospital, AIIMS, Maulana Azad Medical College, Lady Hardinge Medical college, Safdurjung Hospital, RML Hospital and R & R Hospital.

There were didactic lectures on Dummy pelvis, breech delivery , Transfusion Medicine and Radiotherapy in Gynae Oncology. The instruments were well demonstrated & discussed. There were sessions on contraception and endoscopy. This two days program was widely appreciated by all the students and they requested for more such sessions In future

Generous Donations by our members for IJOPARB Journal

Dr. Shanti H K Singh
Dr. Suchitra Pandit
Dr. Milind Shah
Dr. Usha Krishna
Dr. Dr. Hira Lal Konar
Dr. Meena Samant
Dr. Archana Kumari
&
Many more

VIDYAJYOTHI

13th and 14th July 2019- Vidyajyothi.... PG teaching program by Hyderabad Chapter .

On:
13th and 14th JULY

ISOPARB
Hyderabad Chapter

Vidyajyothi

PG Teaching Program

2019

Conducted by ISOPARB
In Association with ESIC Medical College

At:
ESIC Medical College
7-1-634, Survey No.121/1 & 121/2,
National Highway 65, Sanjeeva Reddy Nagar,
Sanath Nagar, Hyderabad 500038

Dr. Hemalatha Rangachary QUIZ
On Gynaecologic Endocrinology

Day 1: Written Round
Day 2: Final Round

*Top 3 Groups will be **reimbursed on their registration fee.***

External Faculty:

Dr. Lilly Varghese
CMC Vellore

Dr. Swati Rathore
CMC Vellore

Internal Faculty:
Eminent Doctors from AP & Telangana

Registration Price: Rs.1750

Register at:

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Dr Suchitra Pandit received the Lord of Planets award at the House of Lords London from Lord Dholakia for contributions to Women's Health on 3 June 2019

Change of Guard - Patna Chapter

The new team of ISOPARB Patna Chapter
President - Dr.Rita Kumari Jha,
Vice-president - Dr.Abha Rani Sinha, Dr.Amita Sinha;
Secretary- Dr.Rupam Chandra;
Treasurer- Dr. Nutan Narayan

Congratulations to all incoming office bearers.

ISOLATED OVARIAN TUBERCULOSIS : A Case Report

DR Suman Sinha, CMS I/C, Gandhi Nagar Hospital, CCL, Ranchi.

Dr K. P. Sinha Prof. Pathology Dept.(RIMS)

Abstract

Genitourinary Tuberculosis in a developing country is quite common, but reports of isolated ovarian tuberculosis are rare. It is often misdiagnosed because they mimic ovarian carcinoma. I am reporting a case of 30 year old female presenting with chronic pelvic pain, abdominal distension & significant weight loss.

Introduction: Tuberculosis remains a major health problem till date. It is the 9th leading cause of death worldwide ranking above HIV/AIDS. In 2016, 6.3 million new cases of TB and 1.3 million Tuberculosis deaths were reported (Global Tuberculosis Report 2017). Extra pulmonary TB accounts for 15-20 % of all cases, of which Abdominal TB accounts for 11-16% & Pelvic TB accounts for 5-7% cases. Although Genitourinary TB is common, isolated ovarian TB is rare.

Diagnosis is very tricky, and can be easily confused with peritoneal Carcinomatosis & Ovarian Carcinoma. I am going to report a case of isolated ovarian tuberculosis in a 30 year old female treated in Gandhi Nagar hospital, CCL, Ranchi.

Case Report: A multiparous women of 30 years age presented to the Gynecology OPD of our hospital with the complain of chronic pelvic pain since last 6 months it was associated with low grade fever, anorexia, fatigue, weakness and abdominal distention. She reported with weight loss of 7 kg in last 6 months and her BMI was just 15. There was no history of contact with Tuberculosis. She had received Inj BCG at birth.

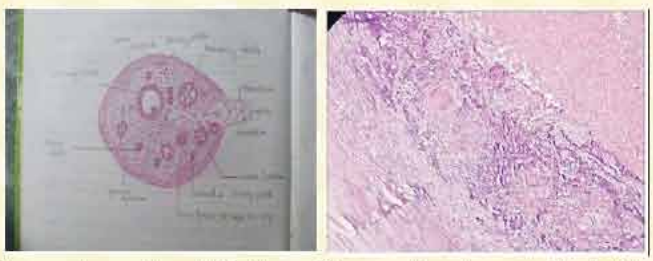
She had achieved menarche at the age of 12 years, with regular cycles, but was amenorrheic for last 4 months. Her urine pregnancy test was negative.OnPer abdominal examination The abdomen was tense due to ascites with fluid thrill. No lymph adenopathy was noted on vaginal examination, a mass was palpated in the fornix which was tender. Blood test revealed moderate degree of anemia with Haemoglobin of 10gm/dl and increased ESR 60 mm/hr. Radiological study of chest & abdomen was normal.

Pelvic ultrasound demonstrated heterogeneous right adenexal mass(5.2cm x 5.0cm) associated with ascites in the pouch of Douglas. Tumor markers were measured & the level of CA-125 was 500units/ml (15 times higher than upper limit) Normal is 0-35 units/ml, Serum LDH was raised (660IU/L) but serum βhcg, CEA, AFP, ANA, Anti ds DNA, TSH, T3, T4 level were within Normal limits. HIV-negative. Ascitic fluid analysis showed total protein 4.5 gm%, sugar 70mgm%, Total cell count was 205 cells/mm2. D/D 90% Lympho, 10% Neutrophils & elevated ADA (56.5U/L), LFT (N), RFT (N) Urine culture & Routine was Normal. Presumptive diagnosis of ovarian carcinoma was made.

Laprotomy was performed. A discrete cystic mass of the Right ovary was revealed which was completely excised & sent for histology while rest of the peritoneal cavity was unremarkable.

Post operative histopathological examination revealed giant cells with epitheloid cell granuloma & central caseous necrosis (fig 1 & Fig 2). No features of malignancy was found. Final diagnosis ofovarian Tuberculosis was made No other focus of TB was found in the body. Endometrial biopsy showed no evidence of TB& it was in the proliferative phase.

Anti – Tuberculosis treatment was started& was continued according to currentguidelines. Recovery was marked by complete resolution of symptoms. She gained 3 kgs in 2 months, menstrual cycle became normal, Pelvic pain ceased,& CA-125 level also-decrease.



Normal ovarian histology Ovary showing epitheloid cells granulaoma

Discussion:- Genitourinary tuberculosis is the second most frequent location for extra pulmonary Tuberculosis. Ovarian tuberculosis accounts for 20-30% of all cases. Endometrium& Fallopian tubes are almost always affected by the disease. However isolated ovarian TB with no other organ involvement, as is our case is rarely reported in literature. It may have spread by haematogenous pathway and cause caseating granulomas within the parenchyma of ovary but when it presents with ascites, pelvic mass & elevated CA -125 levels, differentiation from ovarian cancer is essential as the treatment for the Two conditions differ vastly. However it poses a major diagnostic challenge.

It classically affects women aged 20 – 30 years, Who live in endemic zones. Pulmonary TB may be detected prior to ovarian disease. Patients usually present with Infertility, Pelvic mass, Pelvic pain, Ascites, Amenorrhea, Dysmenorrhea, low grade fever & weight loss, Past H/o Tuberculosis may not be always present as in our case.

Ca 125 (Cancer antigen) is an antigenic determinate which is expressed in most non mucinous epithelial ovarian carcinoma and is raised in more than 80 % of the cases. More useful in post-menopausal women where the positive predictive value for carcinoma is 95% .In the perimenopause women it may be elevated in benign conditions such as endometriosis , Fibroids, Pregnancy, Cirrhosis of liver, PID & Tuberculosis. In cases of TB of Ovaries it usually rises above 500 U/ml.

Decreasing level of CA-125 correlates with resolution of the disease along with the ATT (Ant tuberculosis treatment). Thus serial measurement of CA-125 should be used to determine treatment efficacy. Imaging studies: Like CT, MRI USG has low specificity. Intra operative frozen section of tissue specimen can be very useful.

Medical treatment is the main stay of treatment of Genital TB. Most cases resolved completely with ATT; but long term prognosis on patient's fertility is often dismal.

Early diagnosis & Treatment of Tuberculosis, BCG immunization are important preventive measures.

Conclusion: Isolated Ovarian Tuberculosis is rare and after mimics malignancybecause of the diagnostic dilemmas, it should always be kept in mind.

References: 1. Who Global Tuberculosis control report Geneva-2017
2. Tinelli A, MalavasiA, Vagara D, Martignago R, Nicolardi G, TinelIR et al Abdomino pelvic Tuberculosis in Gynecology: Laparoscopic & New Laboratory findings.
3. Walfa J, Michel F, urogenital Tuberculosis, ProgUrol 2005:i5:602-3
4. Padubidri Vg DaftarySn, Shaws Textbook of Gynecology , 16th ED, New Delhi, Elsevier,2015.
5. Jana N Mukhopadhyay S, Dhali GK, Pelvic Tuberculosis with elevated serumCa 125, A diagnostic dilemma, JobstetGynae col 2007:27:217-8.

Newer Antibiotics

Dr Nigam Prakash Narain
Professor of Pediatrics, Patna Medical College

In their 2008 report on the pipeline of new antimicrobial agents, the IDSA concluded that the number of new agents in the pipeline is disappointing and there were no agents solely for the purposes of countering Gram-negatives or the emerging carbapenemases. It is unlikely that there will be any major advance in ability to treat antibiotic-resistant infections.

Between 1983 and 1987 the Federal Drug Administration (FDA), America's drug regulator, approved 16 new antibiotics. Over the next four years, that fell to 14, and kept falling. Between 2008 and 2012 only two new antibiotics were approved, one every other year. Resistance to antibiotics is high among bacteria that cause serious infections in humans. Resistance is increasing among certain Gram-negative bacteria. Very few antibacterial agents with new mechanisms of action are under development to meet the challenge and there is a particular lack of new agents for multidrug-resistant Gram-negative bacteria.There is a significant decrease in the involvement of top pharmaceutical companies in the area of anti-microbial drug development.

The emergence of antibiotic resistance, combined with the lack of innovation in the development of new antibiotic molecules has increased greatly the challenge of treating and eradicating certain infecting pathogens. According to a recent study, the approval of new antibiotics in the US has fallen in recent decades by 60%; from 30 during the decade 1983 to 1992, to 12 over the period 1998 and 2009.

In India Drug Controller General of India approves only a few new antibiotics. A variable degree of acceptance is offered to the new antibiotics as sometimes they are either similar to some drugs already in use or they occupy an important but narrow treatment niche. MRSA (Methicillin Resistant Staph. aureus) which were once acquired only in Health care settings are now widespread in communities across the nation. Even Vancomycin resistant Enterococci (VRE) are being increasingly found in tertiary care centre.

List of Newer Antibiotics:- Daptomycin, Linezolid, Ranbelozid, Eperezolid, Ertapanem, Doripenem, Quinopristin-dalfopristin, Tigecycline, Gemifloxacin, Telithromycin, Orotavancin, Dalbavancin, Telavancin, Iclaprim, Cefditoren, Ceftobiprole, Ceftaroline

Daptomycin:- Class -Cyclic lipopeptide. Initially discovered in 1980s but clinical developed put to near halt by toxicity concerns. It has been finally approved by US FDA in 2003.

Mechanism of action: Rapidly bactericidalby lysing the membranes of Gram-positive bacteria.

Indications - Primarily active only against Gram–positive bacteria, Complicated skin & skin structure infections by:- Staph aureus (including MRSA), Strepococcus pyogenes, Strptococcusagalactiae, Streptococcus dysgalactiae, Enterococcus foecalis; Staph aureus blood stream infections; VRE

Potential problems- Raised CPK, Pseudomembranous colitis

Dosage- 4 mg/kg over a 30 minute period by IV infusion in NS q 24h

Ranbezolid (RBX 7644) - It has been tested on pneumococcal & staphylococcal strains. This compound has showed a very good activity against both gram positive and gram-negative anaerobes.

Eperezolid- It is active against multi drug resistant gram-positive organisms

Ertapenem- Class-Cabapenem. It was first approved by US FDA for clinical use in 2001

Mechanism of action- It acts by inhibiting peptidoglycan synthesis. They are primarily bactericidal

Indications- Complicated Intra-abdominal infections, Complicated Skin & skin structure infections, CAP, Complicated UTI, Active Pelvic infection

Potential problems - Renal toxicity, Pseudumembranous colitis

Dosage- 1 gm either given once daily for 7 days by IM inj or upto 14 days by IV injections

Newer Carbapenems

Doripenem- It is bactericidal against most of the gram-positive & gram-negative aerobic infections causing HAP. It is not that active against MRSA & VRE. Doripenem appears to be more active than Meropenem against psudomonas aeruginosa. It was approved by the US FDA in 2007 for the treatment of complicated Intra-abdominal infections and UTI, HAP & VAP.

Quinopristin-dalfopristin(Synercid)- IV injection: powder for reconstitution, 10 mL contains 150 mg quinupristin, 350 mg dalfopristin.

Class: One of the Streptogramins, this molecule is a 30:70 combination of a type B and a type A streptogramin. It is a water soluble injectable preparation approved by FDA in 1999.

Mechanism of action- The 2 components act synergistically on late &early bacterial protein synthesis and though individually bacteriostatic combination of them is bactericidal.

Indications- VRE(E.foecium) infections, Complicated Skin & skin-structure infections caused by MSSA or Strep. Pyogenes, Endocarditis caused by E. foecium resistant to Penicillin, Vancomycin & aminoglycoside

Potential problems- Phlebitis, Myalgia& Arthralgia, Drug interactions

Dosage- 7.5 mg/kg IV every 8 hrs

Tigecycline- Class: Glycylcycline derived after modification at nine position of Minocycline

Mechanism of action- Bacteriostatic & act by binding to the bacterial 30s ribosomal subunit

Indications- Complicated skin & skin-structure infections, Complicated intra-abdominal infections, Community acquired Pneumonia

Potential problems- Nausea & Vomiting, Permanent teeth discoloration

Gemifloxacin- Class: Fluoroquinolone approved in 2003 by US FDA

Indications- Acute Bacterial exacerbation of Chronic Bronchitis, CAP due to MDRSP HIB, M.catarrhalis, Mycoplasma pneumonia, Chlamydia pneumonia

Potential problems - Diarrhoea, Nausea & Rash, Prolongation of QT interval

Dosage- AECB-320 mg/d for 5 days, CAP-320 mg/d for 7 days

Telithromycin- Class: Semisynthetic derivative of Macrolide approved by US FDA in 2004

Mechanism of action- Binds to domain V & domain II of 23S rRNA more tightly than erythromycin

Indications- CAP due to MDRSP, AECB, Acute Bacterial Sinusitis

Potential problems- Nausea, Diarrhoea, Headache & Dizziness, Prolongation of QTc interval, Drug interactions

Dosage-800 mg/d for 5 to 10 days

Glycopeptides & derivatives

Oritavancin- Bactericidal against MRSA & VRE

Potential problems- Alteration in lysosome activity leading to mixed lipid storage disorder, Injection site reactions, raised liver enzymes

Dalbavancin - A lipoglycopeptide bactericidal for all resistant Pneumococci and MSSA & MRSA

Indications- Skin & skin-structure infections, Catheter related bacteremia

Telavancin- An investigational lipoglycopeptide, inhibits cell wall synthesis by binding to peptidoglycan precursors.

Indications- Skin & skin-structure infections, Nosocomial Pneumonia

Potential problems- Taste disturbances, Nausea, Headache & Insomnia

Iclaprim- A synthetic diaminopyrimicine,inhibitsDihydro folate reductase similar to trimethoprim and prevents synthesis of bacterial DNA & RNA

Indications- HAP due to gram-positive pathogens, Active against Atypical pathogens like C. pneumonia & Legoinella pneumophilia, Complicated skin & skin-structure infections

Oral preparation underway to enable switch therapy

Newer Cephalosporins

Cefditoren- Newer third generation cephalosporin available for oral administration. Approved by US FDA in 2001

Indications- CAP, AECB, Uncomplicated SSSI

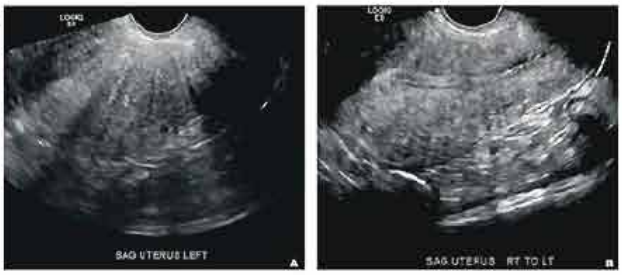
Ceftobiprole- An investigational fifth generation cephalosporin with a broad spectrum of activity against both gram-positive and gram-negative organisms. Inhibits cell wall synthesis by binding to Penicillin binding proteins. Has completed phase III trials for treatment of cSSSI, CAP and HAP including VAP

Ceftaroline- Another broad spectrum cephalosporin with greater activity against MRSA, MSSA, VISA, S. pneumonia including penicillin-intermediate and –resistant strains. Has completed phase III trials for CAP, cSSI

Loracarbef (Lorabid)- Class: Carbacephem very closely related to cefaclor (2nd generation cephalosporin) active against S. aureus, Streptococcus, H. influenzae, M. catarrhalis, E. coli, Klebsiella,and Proteus. Capsule: 200 mg., Suspension: 100 mg/5 mL, 200 mg/5 mL

Image Quiz

1.

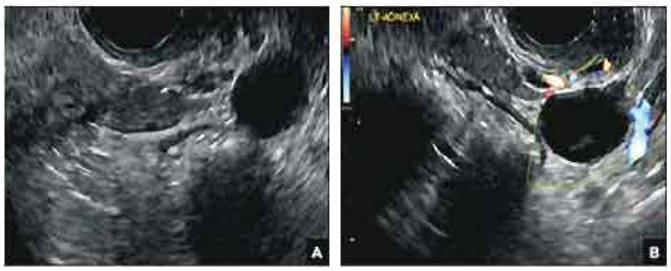


A 37-year-old woman with heavy menstrual bleeding and dysmenorrhea presents to her gynecologist. Physical exam suggests an enlarged uterus; the gynecologist orders pelvic ultrasonography.

Recognizing that, in a given patient, multiple features of adenomyosis may be imaged, which imaging feature of adenomyosis is highlighted above?

CHOOSE ONE
A. Globular enlarged uterus
B. Cystic myometrial spaces
C. Asymmetric myometrial thickening
D. Indistinct endomyometrial interface
E. Myometrial linear striations

2.

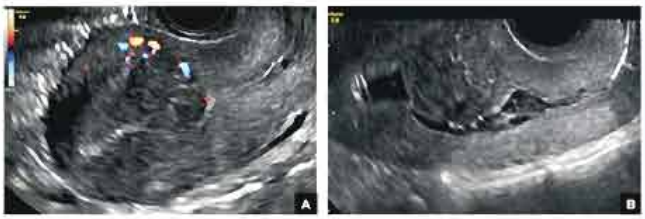


A 32-year-old women presents to her gynecologist's office reporting pelvic pain and irregular menstrual periods. Results of a urine pregnancy test are negative. Pelvic ultrasonography is performed, with gray scale (A) and color Doppler (B) images of the left adnexa obtained. Figures shown above.

What is the diagnosis?

CHOOSE ONE
A. Paratubal cyst
B. Hydrosalpinx
C. Peritoneal inclusion cyst
D. Dilated pelvic veins

3.

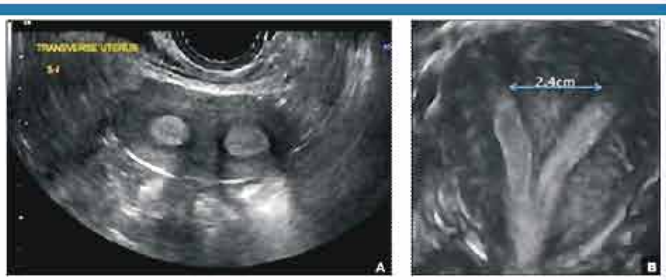


A 42-year-old woman presents to her gynecologist's office with abnormal uterine bleeding. Pelvic ultrasonography of the uterus is performed with color Doppler (A) and subsequent sonohysterogram (SHG)/saline infusion sonohysterography (SIS) (B). Figures shown above.

What is the most likely diagnosis?

CHOOSE ONE
A. Endometrial polyp
B. Submucosal fibroid
C. Endometrial carcinoma
D. Endometrial hyperplasia

4.



A 29-year-old woman presents to her ObGyn's office with a history of multiple miscarriages. Transverse pelvic 2D ultrasonography of the uterus (A) and coronal 3D imaging (B) are performed.

Which type of Müllerian duct anomaly best fits the images above?

CHOOSE ONE
A. Didelphys uterus
B. Unicornuate uterus
C. Partial septate uterus
D. Arcuate uterus

CMEs

4th May 2019- Very interactive CME by Lucknow Chapter on "Neuroprotection in Newborn" and AUB at Clarke's Lucknow.

CMEs

10th May 2019 – Quarterly CME of ISOPARB Burla/ Sambalpur was held on "GTD". Topics discussed were: Clinical features of molar pregnancy by Dr Santosh Dora Asst Prof O & G, Radiological diagnosis of GTD by Dr Amulya Panda Senior Resident Radiology, Pathological diagnosis of GTD by Dr Kaustabh Mohapatra Senior Resident Pathology & Chemotherapy in GTN by Dr Prashant Parida - Assistant Prof. Regional cancer centre Cuttack.

CMEs

1st June 2019– CME by Patna Chapter of ISOPARB. Topics discussed were : Neonatal Resuscitation by Dr Meena Samant, Estrogen In Gynecology by Dr Pragya Mishra Choudhury and Urinary Incontinence by Dr R. K. Singh

CMEs

8 June 2019 - CME by Patna chapter. Dr.Manju Gita Mishra presented a talk on "Role of Magnesium in Pregnancy." Panel Discussion on "Stillbirth " was moderated by Dr. Amita Sinha and Dr. Jayoti Malhotra. The expert Panelist were Dr. Nutan Narayan, Dr. Ruma Goswami, Dr. Ranjana, Dr. Vineeta Sinha, Dr. Shradha, Dr. Divya Suman.

CMEs

16th June 2019 - ISOPARB Assam chapter organized a CME. Dr Arun Madhab Barua, Vice president ISOPARB Assam Chapter gave his presentation on "What is new in vaccinations during Pregnancy." Another presentation was given on "Tdap vaccination during pregnancy".

CMEs

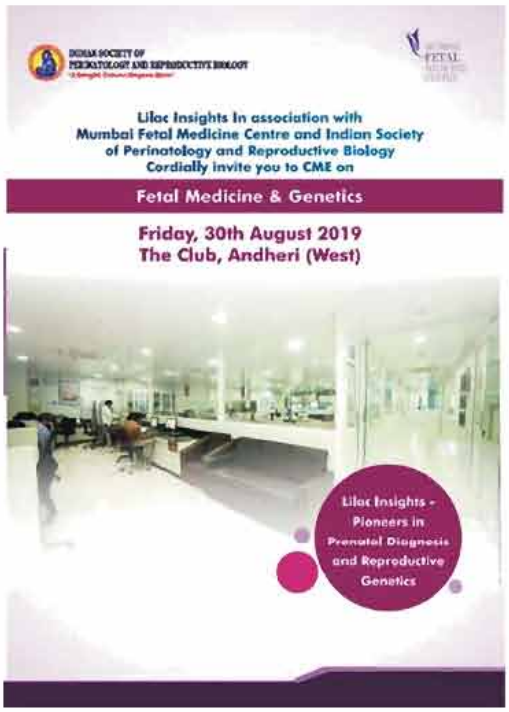
13th July 2019 - CME organized by ISOPARB Assam Chapter. Topic...Surviving Sepsis Campaign with special reference to Sepsis control in obstetrics in ICU.

CMEs

27 JULY 2019- CME by Patna Chapter. Dr Shanti Roy gave talk on the first ever evidence based therapy for prevention of PTB. Panel discussion on PTB was moderated by Dr Anjana Sinha and Dr Rupam.

CMEs

30th August 2019 – CME on Fetal Medicine and Genetics at Mumbai in association with Mumbai Fetal Medicine Centre



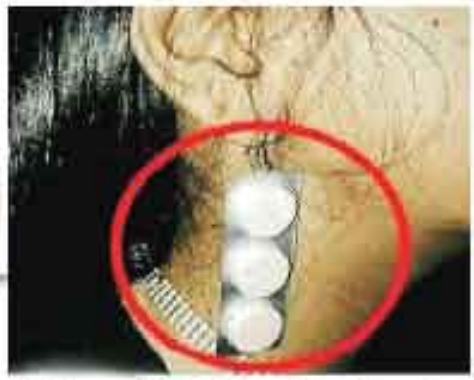
Laughing Corner

The past of eat is ate and the future of ate is.....

Weight

And the most funny part is that people realize it when its too LATE

MEHDI DESIGN BY A MEDICAL STUDENT



When She is a Medical Student

Whatever you do, always give 100%. Unless you are donating blood.

Who said smoking kills?

I'm 48 and still feeling good.

A Russian visiting India went for an eye check up.
The Dr. shows the letters on the board " CZWXNQSTAZKY "
Doctor - Can you read this ?
Russian - Read ?? I even know the guy.. He's my cousin.

Pre-Eclampsia Day Celebration

22 May 2019– Ranchi chapter celebrating World Eclampsia Day

22nd May 2019 - VIMSAR Burla celebrating World Pre-eclampsia day

International Yoga Day

International Yoga Day celebrated in Vijayawada Chapter, Andhra Pradesh

World Population Day

11th July 2019- World Population Day celebrated in association with Rotary Aryan at Yendet Heart School, Patna.

World Breast-feeding week

1-7th August 2019-

An awareness camp was organised at Dr N P Narayan's clinic at Patliputra Colony, Patna by ISOPARB Patna Chapter. Dr Narayan, Dr Sangita Narayan and Dr. Amita Sinha highlighted the different aspects of breastfeeding, importance of Exclusive breastfeeding, benefits to mother and child and care of Breast. Almost 40 mother's and children were present.

1st August 2019 –
Breast-feeding Week Celebration at NMCH, Patna.

4th & 5th May 2019

Gynae-oncology conference with Department of Medical Oncology, Surgical Oncology and Obstetrics & Gynaecology of Sir Ganga Ram Hospital at Hotel Shangri-La, New Delhi

20th July 2019- Aryabhatta Knowledge University. A talk was given by Dr. Meena Samant on Gynae and Heath in young women to the engineering students of Aryabhatt University in an awareness program organized through the aegis of Mahavir Cancer Hospital in Patna

6th July 2019-- ISOPARB joined hands with Rotary Club of Patna Aryans in organising a blood donation camp at Niranjan Arogya Niketan, Bhikhna pahari, Patna.

22nd June 2019 - Dr.Meena Samant and Dr.Amita Sinha for Membership drive at Purnea

MEMBERSHIP FORM

INDIAN SOCIETY OF PERINATOLOGY & REPRODUCTIVE BIOLOGY

RECENT STAMP-SIZE PHOTOGRAPH

Founded in 1976
Reg. No. 71 of 1976-1979
under the Societies Registration Act 21 of 1860
Website : www.isoparb.com

Dear Sir/Madam,

Kindly enroll me as Life member of the Indian Society of Perinatology and Reproductive Biology.

I am sending Rs. 5000/-+100/- admission fee (Rs. 5100/-) as Life Membership Fee by Cash / as per Cheque/Bank Draft payable to "Indian Society of Perinatology and Reproductive Biology, Patna".

I agree to abide by the rules of the Society.

1. Name in Full (in Block Letters) _____
2. Father's Name (in Block Letters) _____
3. Qualifications _____
4. Speciality _____
5. Medical Registration Number _____
6. Present academic with designation _____
7. Address
   (a) Permanent _____
   _____
   (b) Address for correspondence _____
   _____
   (c) Phone _____ (d) Mobile _____ (e) E-mail _____

Signature of Applicant with Date

This form alongwith the fee may be sent to :
Dr. Meena Samant
Secretary General, ISOPARB
SVIG, Road No. - 01,
Rajendra Nagar, Patna-800016
Mob. : 09334139666
E-mail : meenasamant@rediffmail.com

Lifebox works with global partners to hold successful SAFE OR workshops in Mumbai

Dr. Milind Shah

At the end of July 2019, thanks to Lifebox's in-country partners and international faculty, two SAFE OR training workshops were organized and facilitated along with a training of trainers workshop in Mumbai, India. Despite facing severe weather conditions, including flooding and torrential rain, the team was determined the workshops should take place. By the time the date for the first training came around, the weather had cleared up, and Lifebox and its partners were in action, working with a cohort of healthcare professionals, to improve the safety of their work.

Founded in 2011 by surgeon and author Dr Atul Gawande, along with leading medical professional institutions; the Association of Anaesthetists, the Brigham and Women's Hospital, the Harvard T. H. Chan School of Public Health, and the World Federation of Societies of Anaesthesiologists, Lifebox is the leading NGO addressing unsafe surgery and anesthesia around the world.

What is SAFE OR?

The SAFE OR course was designed by a consortium of anaesthetists, surgeons and nurses to help improve teamwork in the operating room. The course content is based on the World Health Organization (WHO) Standards for Safe Surgery and includes sessions on leadership, teamwork, communication and decision-making. Notable key topics featured in the workshops includes surgical site infection reduction, anaesthesia and surgical emergencies, and the principles of enhanced recovery. Each course participant is given the opportunity to role-play scenarios using the WHO Surgical Checklist and strategies to introduce team briefing and to handle conflict resolution.

Sessions on procurement, quality improvement, and audit are included to support participants to deliver safer care when they return to their place of work. Through the acquisition of these new skills and the interactivity of each session, SAFE OR aims to impact operating rooms worldwide, by providing healthcare professionals with the knowledge to make surgery safer and to encourage positive behavioural changes that will impact their future clinical work.

The Mumbai workshops

Lifebox Australia & New Zealand (ANZ) have been instrumental in getting these workshops off the ground and running. Lifebox ANZ is a coalition of organizations made up of the Australia and New Zealand College of Anaesthetists (ANZCA), the Australian Society of Anaesthetists (ASA), Interplast Australia & New Zealand (Interplast), and the New Zealand Society of Anaesthetists (NZSA), all of whom have joined together to help strengthen anesthesia and surgical safety in the Asia-Pacific, as well as to raise funds. The group has shown unyielding support to Lifebox's work in Asia-pacific and helped to fund the SAFE OR workshops in Mumbai in July.

Thanks to the support of Lifebox Champion Dr. Milind Shah, an obstetrician and Past President of the Indian Society of Perinatology and Reproductive Biology (ISOPARB), along with his colleague, Dr. Reena Wani, another obstetrician, Lifebox was able to effectively coordinate logistics for the workshops. Dr Milind Shah has been pivotal in helping Lifebox's pulse oximetry implementation in India and it was again a pleasure to be working closely with him.

It was inaugurated at hands of Dean, Dr. R.N. Cooper Hospital, Dr. Pinakin Gujar and in presence of President Dr. Suchitra Pandit.

Both SAFE OR workshops were subsequently held at the Dr R.N. Cooper Hospital, one of the largest public teaching hospitals in Mumbai.

The training ran over three days in total and were a huge success. We were lucky to have an international faculty made up of some of the leading healthcare professionals from around the world. Lifebox board member Dr. Angela Enright, from Canada, served as Course Director for all workshops. Dr. Enright is a Clinical Professor of Anesthesia at the University of British Columbia and an anesthesiologist for the Vancouver Island Health Authority. Recognized nationally and internationally for her significant humanitarian efforts and contributions to the profession, she received the Officer of the Order of Canada in 2010 and was awarded the Queen's Diamond Jubilee Medal in 2012. In 2019, Dr. Enright received the Royal College of Physicians and Surgeons of Canada's Teasdale-Corti Humanitarian Award. She has previously served as the CAS President (1994-95), as Chair of the Education Committee of the World Federation of Societies of Anaesthesiologists (WFSA), and in 2008 was elected as President for a four-year term.

Dr. Enright was joined by a faculty made up of Ms Lisa Tierney, an Operating Room Nurse based in London, UK; Dr. Caroline Zhou, Tauranga, an Anesthesiologist based in New Zealand; Dr. Tom Druitt, an Anesthesiologist from Halifax, Nova Scotia, Canada and Brisbane, Australia; and Mr Vishvas Shetty, an Orthopedic Surgical Trainee 3 based in London, UK.

The Lifebox team commenced the sessions with a training of trainers course, intended for local faculty to acquire new knowledge on how to teach the SAFE OR course to fellow healthcare professionals. Sixteen participants were successfully trained, including surgeons, nurses and anaesthesiologists. Lifebox was also delighted to welcome faculty from Bangladesh, who flew in especially to attend the training alongside their Indian colleagues. The second workshop, provided the newly trained local faculty from the training of trainers sessions with the opportunity to put what they had learnt into practice. The SAFE OR course included 37 regional healthcare professionals including nurses, anaesthetists, obstetricians and surgeons, all of whom completed the training successfully.

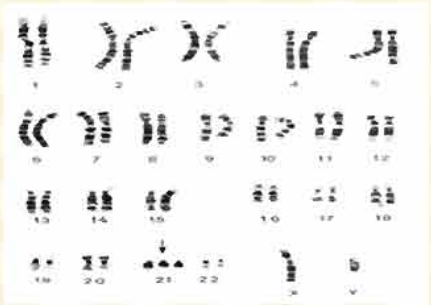
As a result of the three day workshops, participants had provided feedback indicating that they were enthusiastic about organizing similar courses in their own hospitals and regions. The Bangladeshi faculty have also expressed their enthusiasm to begin their own in-country courses and have already started planning a workshop for November.

Everyone at Lifebox would like to send their gratitude to Lifebox ANZ for sponsoring the workshops; Dr Milind Shah, Dr Reena Wani and ISOPARB for their unwavering support in helping us to organize a successful series of trainings; the management and staff of the Dr R.N. Cooper Hospital for providing us with their facilities; the faculty for facilitating the workshops; and finally, the participants who were fully engaged to learn on every level.

Screening options for Down' syndrome : A challenge for obstetrician

Dr. Ojaswini Patel, Dr. Indira Palo

Longdon Down in 1866 noted a constellation of findings in babies born with Trisomy 21.The extra copy changes how the baby's body and brain develops.This can pose a great challenge for the mental and physical development of the baby. Their skin are so deficient in elasticity giving the appearance of being too large for the baby. Leejone and Turpine(1966) demonstrated that, trisomy of human chromosome 21 caused characteristics of findings recognized as Down Syndrome.This autosomal chromosomal disorder was the most common viable trisomy described first. Its incidence is around 1 in 700 to800 live birth.



Genetics of Down syndrome - In normal human beings there are 46(23 pairs) chromosomes. Out of which 22pairs are autosomes and one pair is sex chromosome. In Down syndrome the child is born with total 47 chromosomes with one extra chromosome in21st pair.So there are total 3 pieces of chromosome 21 instead of 2 pieces.

Cytogenetic abnormality -

Basically there are3 types of cytogenetic abnormality occurs in Down syndrome.
1.Pure Trisomy (Non-dysjunction)-(90%)- It is the commonest type of Down Syndrome. It occurs denovo.The parents of such children have a normal karyotype and are normal in all respects. In most cases the meiotic dysjunction of chromosome 21occurs in the ovum.In 95% of cases trisomy 21 the extra chromosome is of maternal origin. The risk of recurrence is low (1%).

2) Mosaicism-(2-4%) - in mosaic Down syndrome some cells of the body have 3 copies chromosome21 and rest of the cells of body are as usual 2 copies of chr. 21. It occurs denov, risk of recurrence is low(1-2%).

3) Robertsonian Translocation—(Centric fusion)(3-4%)-In this condition a translocation between two acrocentric chromosomes occurs. Typically the break occurs close to the centromeres of each chromosome.Transfer of the segment leads to one very large chromosome and one extremely small one. Usually the small product is lost. Because it contains only highly redundant genes the loss is compatible with a normal phenotype. Robertsonian translocation is encountered in 1 in 1000 apparently normal individuals. However the significance lies in the production of abnormal progeny. In about 4% of cases, the extra chromosomal material derives from the presence of a robertsonian translocation of the long arm of chromosome 21 to another acrocentric chromosome(13,14or21).Because the fertilized ovum already possesses two normal autosomes21, the translocated material provides the same triple gene dosage as in trisomy 21. .This type of translocation may occur denovo or it may be transmitted from one of the parents (usually mother) ,for example a mother with karyotype 45,XX,der(14;21)(q10;q10).If it occurs denovo its recurrence risk is less than 1%.if one of the parent is carrier of 13:21 or 14:21 translocation the risk of recurrence varies between 15-20%.But when a parent is a carrier of 21:21 translocation the risk of recurrence is 100%.

	Type of Down syndrome	Cytogenetic abnormality	Incidence	Karyotype	cause	Recurrence risk
1.	Pure trisomy	Non-dysjunction	92%	47XXY/47XXX	Denovo	<1%
2	Mosaicism	Mitotic nondisjunction of Chr21	2-4%	46XY/47,XY,+21	Denovo	1-2%
3	Robertsonian Translocation	Fusion of part of 21 Chr with another Chr.	2-4%			
		A)fusion of 21 chr with 13,14 &15 th Chr		46XY/XX, Der(13,21)	denovo	<1
		B)fusion of 21 chr with 13,14 &15 th Chr		46XY/XX, Der(13,21)	Any one parent is carrier	15-25%
		C)fusion of 21 chr with 21 chr		46XY/XX, Der(21,21)	Any one parent is carrier	100%

Since the recurrence risk of different types of Down syndrome is different it is important to do the karyotyping of the down syndrome child as well as the parents to determine the recurrence risk.If any one of the parent is carrier of Robertsonian translocation,proper counseling and necessary investigations to be done for future pregnancy.

Clinical features of Down syndrome baby- The diagnostic clinical features of Down syndrome are flat facial profile, oblique palpebral fissure and epicanthic folds, Short neck, Small ears, A tongue that sticks out of the mouth, Small hands and feet, Single palmar crease, Short stature, Poor muscle tone and loose joints, Sandal toe gap. The IQ varies between 25-80%.patients with mosaic down syndrome may have near normal intelligence. Approximately 40% of the patients have congenital cardiac defects like endocardial cushion defect, ASD, VSD, AV canal defect. There is increased risk of developing leukemia. Patients with Down syndrome have abnormal immune response so are predisposed to serious infections.

Antenatal diagnosis of Down syndrome - Fetal aneuploidy is the commonest indication for prenatal diagnostic test. ACOG (American college of Gynaecology)2007 recommends screening of all pregnant women irrespective of maternal age.ACOG guideline state that integrated or sequential screening to be offered to all pregnant women. The available screening and diagnostic procedures for prenatal diagnosis are- A)Non invasive screening procedures, B) Invasive diagnostic procedures , C) Preimplantation genetic diagnosis

A) Non invasive screening procedures

	character	Gest.age	Down syndrome features
1st trimester screening	NT NB Doppler of DV Double marker test (PAPP-A, Serum Beta HCG)	10wks3d – 13wk6d	Increased Absent Absent /reversal flow in atrial systole Low High
Triple test DR-60%	MSAF Unconjugated estriol Beta HCG	15-18wks	Low Low high
Quadruple test DR-80%	MSAF ---------- Unconjugated estriol ---------- Beta HCG ---------- Inhibin A	14-21 wks	Low ---------- Low ---------- High ---------- High
Integrated screening DR-95%	1st step- NT PAPP-A ---------- 2nd step MSAFP HCG Estriol Inhibin A	10-14 wks ---------- 15-16wks	Two step approach Result analysed at the end of 2nd test
Sequential/ Contigent screening	NT PAPP-A HCG	11-14 wks	Women are informed of the 1st trimestar screening results and advised invasive testings. If the risk is high they are offered invasive testing.Women who are having negative/normal risk they are subjected to serum screening at 16-18 wks. Final risk calculation is done thereafter.

NIPT- cffDNA is degraded nuclear DNA that circulates as fragments of 145-201 base pairs in length. Maternal blood contains cfDNA both from mother and fetoplacental(syncitiotrophoblast) unit.The fetal cfDNA accounts for 10% of all cell freeDNA in maternal circulation.It can be detected as early as 5 wks of gestation and almost always by 9wks.

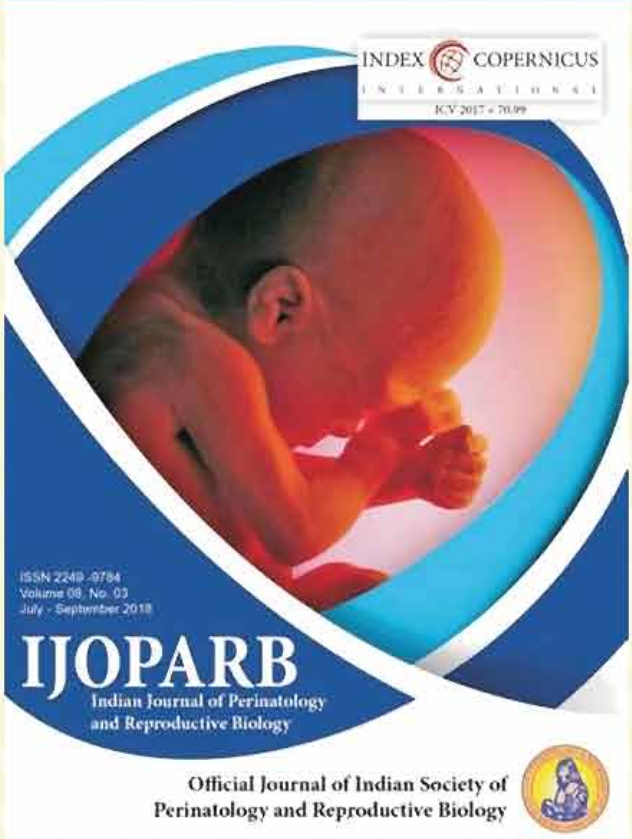
Indication of NIPT-
A) It is commonly used as a secondary screening after a positive biochemical screen or soft markers on ultrasound suggestive of high risk for aneuploidy.
B) History of prior pregnancy with trisomy
C) Advanced maternal age
D) Parental balanced Robertsonian translocation with increased risk for trisomy13 or21.

B) Invasive diagnostic procedures –

Procedure	Gest Age	Test done
Amniocentesis	15-20wks	AfAFP Fetal cells for karyotype
CVS	10-13wks	Fetal cells for karyotyping

C) Preimplantation genetic diagnosis- It is a technique of diagnosing genetic abnormalities before the pregnancy is formally established. it has been used in couples who have an age related risk of aneuploidies or who are carriers of balanced translocations.

Conclusion- Down syndrome is the most common nonlethal trisomy with approximate prevalence of 1in 500 recognised pregnancies.Approximately 95% of liveborn Down syndrome babies survive the first year and10 yr survival rate is nearly 90%.Screening for fetal trisomy by various methods including biochemical ,sonological, NIPT, amniocentesis,CVS and Prenatal genetic diagnosis in appropriate settings can have a high detection rates with minimal false positive rate.Before screening for aneuploidy a proper pretest and post test counseling is essential.



Answer to Image Quiz

1. E. Myometrial linear striations
2. A. Paratubal cyst
3. Submucosal fibroid
4. Partial septate uterus