INDEX COPERNICUS INTERNATIONAL
ICV 2017 = 70.99

ISSN 2249 -9784
Volume 08, No. 02
April - June 2018

IJOPARB

Indian Journal of Perinatology and Reproductive Biology

Official Journal of Indian Society of Perinatology and Reproductive Biology

ISOPARB Workshop on Electronic Fetal Monitoring in Guwahati on the occasion of Midterm ISOPARB conference on 28.09.18
Front row sitting L-R: Dr (Mrs) Saswati Sanyal Choudhuri, Dr R Talukdar, Dr Hiralal Konar, Dr Sukumar Barik & Dr Narayan Jana
Back row: Standing - Residents of Guwahati Medical College attending the course

IJOPARB

Indian Journal of Perinatology and Reproductive Biology

Vol. 08 | No. 02 | April - June 2018 | ISSN 2249-9784

INDEX COPERNICUS INTERNATIONAL

Official Journal of
INDIAN SOCIETY OF PERINATOLOGY AND REPRODUCTIVE BIOLOGY (ISOPARB)

Indian Society of Perinatology and Reproductive Biology

Estd. 1978

(Reg No. 71 of 1978-1979 under the Societies Registration Act 21 of 1860)

Executive Committee (2018-2019)

President	Dr Suchitra N. Pandit	09820416474
Secretary General	Dr Meena Samant	09334105945
Immediate Past President	Dr Milind R. Shah	09822096280
Editor-in-Chief	Dr Hiralal Konar	09433033225
Vice Presidents	Dr Arup Kumar Majhi	
	Dr Narayan Jana	
	Dr Gangadhar Sahoo	
	Dr Shanti H. K. Singh	
Treasurer	Dr Pragya Mishra Chaudhary	09835273668
Communicator	Dr Supriya Jaiswal	09431207284

Zonal Chairpersons

East Zone	Dr Ojaswani Patel
West Zone	Dr Parul Kotdawala
North Zone	Dr Anjoo Agarwal
South Zone	Dr Rooma Singh

Executive Members

Patna	Dr Abha Rani Singh
Patna	Dr Amita Singh
Ranchi	Dr Archana Kumari
Kolkata	Dr Biswajyoti Guha
Chennai	Dr Lakshmi Ravindran
New Delhi	Dr Mala Srivastava
Lucknow	Dr Rajul Tyagi
Patna	Dr Rita Kumari Jha
Hyderabad	Dr S. Madhumathi
Kolkata	Dr Sukumar Barik
Chennai	Dr Vijay Lakshmi Seshadri
Lucknow	Dr Yashodhara Pradeep

Head Office:

IMA Building, Dr A. K. N. Sinha Path, South East Gandhi Maidan, Patna 800004
Web: www.isoparb.org

Secretary General's Office

Dr Meena Samant, Secretary General, ISOPARB
21/D, Road No 10, Rajendranagar, Patna - 800016
Phone: +91 93341 05945 | E-mail: meenasamant@rediffmail.com

Indian Journal of Perinatology and Reproductive Biology

CD 55, Sector I, Salt Lake City, Kolkata 700 064
E-mail: ijoparb1978@gmail.com

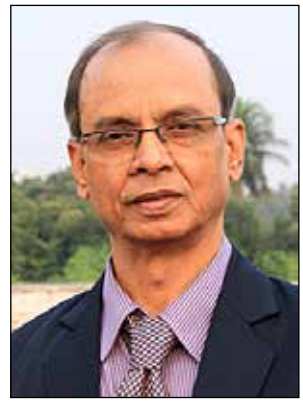
ISSN 2249-9784 RNI No. WB ENG/2010/39056

EDITORIAL BOARD

Editorial Office: CD-55, Salt Lake City
Sector-I, Kolkata 700064
Email: ijoparb1978@gmail.com

Contents

Editor's Choice



Indian Society of Perinatology and Reproductive Biology (ISOPARB) *Membership Survey*

We are all back home after two days of the midterm conference of ISOPARB. The conference organized by the Assam Society, was an unique academic meet with all the experts from different parts of the country. The conference reminded us to practice "*more of touch in the world of tech*" as a rational management approach. The conference was wonderful in all its aspects of scientific deliberations, member participation and hospitality. Above all we have enjoyed the peaceful ambience of the NEDFI convention centre, at Ganeshguri in Guwahati. Many thanks to the organizers and their team members.

The Society of ISOPARB is growing with its increasing number of members and popularity. During the current year 2018, more than 130 new members have joined the society.

We welcome all the new members to the society. Members have joined from all zones of the country. Majority are from the eastern zone, West Bengal, Bihar, Odhisa and Agartala (Tripura).

We feel encouraged and confident that the growing strength of membership, will raise true voice in the professional and academic field of the society. Interestingly many of the incoming members are from the speciality of neonatology, pediatrics, and anesthesiology, besides the main discipline of Obstetrics and Gynecology. This society from the very inception encompasses all the category of members from the other related fraternity. It is true, united together we can focus our patient care more effectively. This society is affiliated with the international organization Federation of Asia and Oceania Perinatal Societies (FAOPS).

However, one young member may think what they have special with the membership of ISOPARB. *Indian Society of Perinatology and Reproductive Biology* (ISOPARB) offers one time admission to an individual, with subscription that ensures lifetime membership to the society. Society provides every member a journal; "*Indian Journal of Perinatology and Reproductive Biology* (IJOPARB)". This journal is a periodical one with four issues a year. Until society decides further, the member need not pay any additional amount for the Journal.

Through the Journal of ISOPARB (IJOPARB), members have the opportunity of national and international recognition, readership and acceptance. Members have the advantage to come out with their research work for publication through the journal. As an author one does not need to wait too long for publication. New author can get the benefit of quality feedback from the expert editorial team of IJOPARB, as few of them are of national and international repute. IJOPARB has extended its horizon with two new sections. Letter to the editor for further information and the *book review* which are also informative. Members are encouraged to attend the ISOPARB national conference. Presently there are two in a year. Interested members can enjoy the opportunity of oral or poster presentation and can go for a competition in the national platform.

Moreover, from this national platform, a member comes to know what's new across the spectrum of Obstetrics, Gynecology, Perinatology, and the reproductive biology. The conference is an opportunity to meet the teachers, consultants, colleagues and

the acknowledged leaders in their field of work. A member can tailor his/her attendance according to one's own interest. CMEs, Workshops organized by the society, are of immense value to any one specially the young specialists in the discipline, to update their knowledge. Most of the conferences and CMEs are validated and approved by the academic bodies and credit points are given. As a professional, it is essential that we should participate regularly in Continuing Professional Development programme (CPD), at least two to three times a year. This is a golden opportunity for a member within the society.

IJOPARB, the journal of ISOPARB, is recently approved by an international indexing authority, 'Index Copernicus International (ICI)'. It is the whole hearted and very sincere effort of all the members in the editorial board to achieve this. Thanks to all the editorial board members for their hard work, the authors for their submission of quality articles, senior members of the society for the continued support and guidance and finally the printing house " Phildon", Mr. Samar Mullick, for the quality production of the journal.

We have made a thorough survey of our existing members for year 2018. Unfortunately we were unable to trace 276 members. Their names have been published in the IJOPARB, Vol. 7, No. 4: 2017 issue. I like to bring it to the notice of our members. Anyone who is able to provide information or current address for any of those untraceable members, kindly write to Dr. Meena Samant, the Secretary General of the Society (E-mail: meenasamant@rediffmail.com) and to Dr Hiralal Konar, the Editor in Chief of the Journal (E-mail: ijoparb1978@gmail.com), for the necessary address correction. Society has decided to update the member list for the deceased members. Society intends to express obituary note provided ISOPARB office is communicated with this.

If any member is interested to have more information about the society and the journal, we would request them, please visit our website: ***www.isoparb.org***

I would like to finish by saying *membership survey is for the members*. We look forward your views, ideas and suggestions for further betterment of the society (ISOPARB) and the journal (IJOPARB).

Prof (Dr) Hiralal Konar
MBBS (Cal), MD (PGI), DNB, MNAMS, FACS (USA) FRCOG (London)
FOGSI Representative to Asia Oceania Federation of Obstetricians and Gynaecologists (AOFOG)
Chairman, Indian College of Obstetricians and Gynaecologists (ICOG), 2013
Consultant Obstetrician & Gynaecologist
Calcutta National Medical College and Hospital, Kolkata

Views & Reviews

Vaginal Birth after Cesarean Section

Dr. Picklu Chaudhuri

Increasing Cesarean delivery (CD) with its adverse consequences is a currently a major issue globally. One of the leading indications of cesarean section is repeat section in a women with previous CD. Therefore, the scope for vaginal birth after cesarean (VBAC) is a topic for debate and discussions.

The common belief that 'once a cesarean, always a cesarean', is a myth. It should be replaced by "once a cesarean, always a delivery in a well equipped Hospital".

Who are the Candidates for VBAC?

Singleton pregnancy with Cephalic presentation at 37 weeks or more of gestation who had a single previous lower segment cesarean section with / without previous vaginal birth and not having the contraindications is a suitable candidate.

What are the Contraindications?

ABSOLUTE contraindications are: Previous classical cesarean scar, previous uterine scar rupture, absolute contra indications of vaginal birth (Major placenta Previa, grossly contacted pelvis etc) — two or more previous section is not a contraindication to VBAC. They require opinion of senior obstetrician and they should be counselled regarding the risks and benefits.

RELATIVE contraindications are: women with 40 years or more of age, short inter-pregnancy interval, multiple pregnancy, macrosomia, post dated pregnancy, pregnancy with medical complications.

Antenatal Care for Women with previous CS

Women with previous CD should be considered high risk and needs to be thoroughly interviewed and examined in each antenatal visits.

Women with previous Cesarean delivery should be interviewed regarding the following specific points in order to individualize the feasibility of VBAC.

WHY It was done? Recurring or non recurring indication.

WHEN it was done? Elective or emergency?

WHERE it was done / WHO did it?

HOW was the post operative recovery?

WHAT was the type of Incision: If previous records are available, it is important to check whether T, J shaped incisions were required or any if any extension /tear occurred which relatively contraindicates VBAC.

The integrity of the scar is likely to be better if it was an elective section, done in a better equipped operation theatre and by a consultant and without postoperative complications. Indications as placenta previa, obstructed labor and post operative infection are likely to weaken the scar.

Standard General and obstetric examination to assess maternal wellbeing and fetal growth is recommended. Scar tenderness is not a reliable sign to predict scar integrity.

Associate Professor, NRS Medical College, Kolkata
✉ E-mail: picklu.chaudhuri@gmail.com

Routine investigations and standard antenatal care should be provided. Ultrasonography for localization of placenta should be done in third trimester.

ANTENAL COUNSELLING is the most important part for VBAC.

INFORMED CONSENT regarding the mode of delivery is essential before the decision for VBAC is taken.

Following points need to be informed preferably as a written document/booklet.

a) The risks of VBAC: Risk of scar rupture is 1 in 200 (0.5%)
b) The Perinatal death during VBAC is low and is comparable to nulliparous women in labor.
c) Successful VBAC has few complications. Adverse outcome occurs most often in failed trial of VBAC resulting in emergency Cesarean section.
d) VBAC is successful in 72-75% cases. Previous vaginal birth or previous VBAC increases the success rate of VBAC to 85-90% and reduces the risk of uterine rupture.

ALTERNATIVE MODE OF DELIVERY: Elective Repeat Cesarean Section (ERCS) after 39 weeks is the alternative method of delivery. It is associated with a small increased risk of morbid adherence of placenta in future pregnancies and risk of pelvic adhesions.there is also increased incidence of respiratory morbidity in neonates if the section is done before 39 weeks.

How should VBAC to be conducted? Intra–Partum Care during VBAC Trial of Labour

PLACE OF VBAC: It should be done in a well equipped hospital with availability of adequate staff for continuous maternal and fetal monitoring and availability of operation theatre where Cesarean section can be done round the clock if emergency arises. Availability of advanced neonatal care is also needed.

CLOSE MONITORING: One to One care is preferable. Maternal symptoms should be reviewed time to time. Maternal pulse rate should be recorded half hourly as maternal tachycardia is an early sign of scar dehiscence. Progress of labor should be documented in a standard WHO partogram.

Continuous Electronic Fetal monitoring is necessary. Unexplained Fetal tachycardia is also a predictor of scar dehiscence.

Maternal IV access with wide cannula should be done. Hemoglobin and blood grouping reports should be available.

Analgesia and Epidural anesthesia are not contraindicated. However, the increased requirement of analgesia may alert the obstetrician regarding the possibility of scar dehiscence.

INDUCTION – AUGMENTATION of labor: As chances of scar rupture is 2-3 fold higher and chances of Cesarean section is 1.5 fold higher in induced/ augmented labor compared with spontaneous VBAC labor, a senior obstetrician should be involved in the decision to induce /augment labor in VBAC trial. For, induction of labour, mechanical methods as amniotomy or Foley's catheter are safer than prostaglandins. Oxytocin, for augmentation, although not contra indicated but should be judiciously used and close observation is mandatory.

Second stage of labor may be cut short by prophylactic outlet Forceps.

Active manaagemant of third stage of labor should be done as usual. Exploration of uterus for checking the scar should not be practised.

What are the Dangers of VBAC?

THE MOST DREADED RISK IS SCAR RUPTURE

RISK OF RUPTURE IS MORE IN- Maternal age 40 years or more, Obesity, Short inter pregnancy interval of less than 1 year since last delivery, Multiple pregnancy, macrosomia, Post dated pregnancy, Poor pre labor Bishop's score, Induced / augmented labor, Decreased ultrasonographic lower segment myometrial thickness.

WHAT ARE THE EARLY CLINICAL FEATURES OF SCAR DEHISCENCE/ RUPTURE

SYMPTOMS like severe abdominal pain persisting in between contractions,vaginal bleeding, hematuria should be considered important.

ADVANTAGES and DISADVANTAGES of VBAC VS ERCS at 39 weeks

MATERNAL	
VBAC	ERCS at 39 weeks
1. Scar rupture-0.5%, If occurs, maternal and neonatal mortality and morbidity increases.	1.No risk of scar rupture.Risk of anesthesia, increased blood loss is more.
2. Successful in 72-75% cases .shorter hospital stay and recovery if successful.	2. Certainty regarding the intervention .longer hospital stay.
3. Short and long term vaginal birth related complications as Perineal/ sphinterinjuries/Pelvic organ prolapsed/urinary incontinence	3. Risk of Pelvic organ prolapsed/urinary incontinence is lower.
4. Sterilization should be done as separate operative procedure if wished.	4. Sterilization can be done at the same time.
5. Good prospects of future vaginal birth	5. Incresed risk of placenta previa/morbidly adherent placenta and pelvic adhesions.
6 Risk of maternal death is 4/ 100000	6. Risk of maternal death is 13/100000.
NEONATAL OUTCOME	
1. Transient respiratory morbidity -2-3%	1. Transient respiratory morbidity -4-5%
2. Hypoxic ischemic encephalopathy (HIE) risk-0.08%	2. Hypoxic ischemic encephalopathy (HIE) risk-<0.01%
3. 0.1% risk of stillbirth if spontaneous labor is awaited after 39 weeks and 0.04% risk of delivery related perinatal death.	3. These risk are not applicable.

SIGNS as maternal tachycardia, acute onset of scar tenderness, sudden cessation of uterine contractions, fetal tachycardia/bradycardia are alarming.

Sudden onset of Abnormal CTG without any apparent reason often predicts a dehiscence of scar.

VBAC trial should be given to judiciously selected women with informed consent in well equipped centres. Close monitoring of maternal and fetal parmeters are essential to detect the complications at the earliest. Overall, the benefits appears to be more than the risks of VBAC when compared with that of ERCS.

REFERENCES

1. Royal College of Obstetricians and Gynaecologists. Birth after Previous Caesarean Birth (Green-top Guideline No. 45) London, RCOG, 2015.
2. SOGC clinical practice guidelines. Guidelines for vaginal birth after previous caesarean birth. Number 155 (Replaces guideline Number 147), February 2005. Society of Obstetricians and Gynaecologists of Canada. Int J Gynaecol Obstet. 2005 Jun; 89(3):319-31
3. Macones GA, Peipert J, Nelson DB, et al. Maternal complications with vaginal birth after cesarean delivery: a multicenter study. Am J Obstet Gynecol 2005; 193:1656.
4. ACOG Practice Bulletin #54: vaginal birth after previous cesarean. Obstet Gynecol 2004; 104:203.
6. Guise JM, Eden K, Emeis C, Denman MA, Marshall N, Fu R, et al. Vaginal Birth After Cesarean: New Insights. Evidence Reports/ Technology Assessments, No. 191. Rockville, Maryland, USA: Agency for Healthcare Research and Quality; 2010.
7. Gardner K, Henry A, Thou S, Davis G, Miller T. Improving VBAC rates: the combined impact of two management strategies. Aust N Z J Obstet Gynaecol 2014; 54: 327–32.
8. Dodd JM, Crowther CA, Huertas E, Guise JM, Horey D. Planned elective repeat caesarean section versus planned vaginal birth for women with a previous caesarean birth. Cochrane Database Syst Rev 2013; (12): CD004224.
9. Scott JR. Intrapartum management of trial of labour after caesarean delivery: evidence and experience. BJOG 2014; 121: 157–62.

Review Article: Obstetrics

Preconceptional & Conceptional Nutrition

Dr. Rita Kumari Jha

We are not only concerned about 'adding years to life but also adding life to years' and this shows the role of nutrition. Nutritional science is changing at a fast pace especially in the last few decades and so are its impacts on women. It covers a wide spectrum from scarcity and deprivation to excess of nutrition and obesity. There are three main components of nutritional science -

Inadequate nutrition - A significant factor contributing to maternal and perinatal morbidity and mortality esp. nutritional anaemia.

Over-nutrition - Causing exposure of fetus to adverse environment leading to epigenetic changes and in utero origin of adult onset diseases like metabolic syndrome, diabetes, hypertension, coronary artery disease & even some cancers. In a Finish study, adult onset lung cancer has been linked to newborn with a large ponderal index (weight/ length3)

Special dietary needs of already existing problems like - Diabetes, Obesity, PCOS, Hyperemesis, Constipation, Cravings, Allergies, Food borne illnesses etc,

Pre-conceptional Nutrition - Because of the recent focus on Pre-conceptional Care (PCC) as a tool for promoting the health of prospective parents, the need for consensus was perceived by FOGSI and the current guidelines were developed by an expert panel of obstetricians and gynecologists from across the country with vast experience.

Nutritional Advice for women - Women trying for a baby are advised to eat a healthy, varied and balanced diet similar to that recommended for the general population. In practice, this means adopting a dietary pattern based on starchy foods (choosing wholegrain varieties or potatoes with their skins), and including plenty of fruit and vegetables, moderate amounts of meat, fish and/or other protein sources (such as eggs and pulses), and moderate amounts of dairy products (such as milk, yogurt or cheese). Foods and drinks high in fat and sugar should only be consumed in limited amounts. Women who are 20% above or below the normal range of BMI require evaluation and counseling. They are advised to stop drinking alcohol altogether. They are also advised to stop smoking (including passive smoking), as it reduces the chances of conceiving.

Folic Acid – Strength of Recommendation 'A'
All women of childbearing age are advised to take

- Folic acid - 0.4/0.5 mg daily
- At least 1 month before conception to up to 3 months after conception

Patients at moderate risk of NTDs

- Family history of NTD in a first or second-degree relative
- Maternal diabetes (type I or II), maternal malabsorption syndrome
- Are advised to take folic acid in dose of 1mg/ day

1. MBBS, M.S., PhD, FICOG
Assistant Professor, Dept. of Obst & Gynae
Patna Medical College & Hospital, Patna
Vice President, ISOPARB Patna Chapter
Executive Member ISOPARB (2018-2020)
Executive Member POGS, Patna
✉ E-mail: emocpmchpatna@yahoo.in

Patients at high risk of NTDs

- History of NTDs in women or their partners
- NTDs in previous pregnancy
- Hemolytic anemia,
- Increased BMI (>20kg/m2),
- Hemoglobinopathies
- Medications affecting folate metabolism such as anti-convulsants
- Are advised to take Folic acid – 4.0 mg daily

Advise for men

It is also important for men to eat a healthy, varied diet. Specific nutrients which are found in a healthy, varied diet are known to be important for male fertility. For example, selenium is needed to make healthy sperm. Zinc is needed to ensure healthy testosterone levels and long-chain omega-3 fatty acids found in oily fish help produce prostaglandins, which are important for making sperm. Excessive alcohol intake may affect sperm quality and men are advised not to drink more than the Department of Health recommendation of 3 to 4 units per day. Men who smoke are more likely to have reduced semen quality. Stopping smoking can increase the chances of conceiving Obese men (BMI over 30 kg/m2) may also have reduced fertility and should aim for a healthy body weight to improve their chances of conception.

Nutritional Advice During Pregnancy

Nutrition in pregnancy has to be studied under the following headings:

1. Energy requirement during pregnancy
2. Weight at start of pregnancy and weight gain during pregnancy.
3. Anemia in pregnancy
4. Requirement of Macronutrient & micronutrients with supplementation.
5. Special situations or diseases associated with pregnancy.

1. Energy requirement during pregnancy- Energy requirement increases in pregnancy by about 12%. and there is average 10-15% increase in BMR, for the development of new fetal tissues. Beside there are maternal physiological changes in pregnancy to build energy reserves for postpartum lactation.

Energy Requirements during pregnancy:

- 1st trimester – same as pre-pregnancy requirements
- 2nd trimester - 300 kcal more than pre-pregnancy requirements
- 3rd trimester - 450 kcal more than pre-pregnancy requirements

However in U.K. the recommendation is an extra 200 kcal/day during 3rd trimester only.

2. Weight gain during pregnancy- Weight gain is a sign of healthy pregnancy. The average weight gain during pregnancy is around 10 to 12.5 kg. Underweight woman are particularly encouraged to put on weight to avoid low birth weight of baby. Women who are overweight or obese need to put on less weight. Excessive weight gain should be avoided. Women who put too much weight during pregnancy have a higher risk of complication like gestational diabetes, miscarriage, preeclampsia, thromboembolism & even maternal death. In addition baby born to obese mother is at higher risk of fetal death, congenital abnormality and subsequent obesity. However dieting to lose weight during pregnancy is not advisable.

3. Anaemia in Pregnancy- Anaemia is the most important part of nutrition especially iron deficiency. In the developing world, nearly half of the population is iron deficient. Iron is needed in pregnancy to fulfill the new needs & prevent depletion of maternal iron stores. Iron needs increase little during 1st trimester – RDA (Recommended dietary allowance – 2.7 mg/day. But a marked increase is there during 2nd & 3rd trimester up to 5.6 mg/day

Its dietary sources include animal protein, green leafy vegetable, dried beans, fortited grains and any food cooked in iron cookware. Approximately only 10% of oral iron is absorbed. Parenteral iron is given only in case of intolerance to oral, poor compliance or hyperemesis. Iron treatment to be continued for 3 months after correction of anemia for replenishment of depleted iron stores.

4. Requirement of macronutrient & micronutrients with supplementation

- **Folic acid** - A water soluble B complex vitamin is important for DNA synthesis and cell replication. It is found in fortified grains, dried beans, green leafy vegetables, oranges, berries,

beetroot etc. Deficiency in pregnancy has been linked with maternal megaloblastic anaemia & fetal NTDs. The RDA is 0.2mg. The pregnancy RDA is 0.4 mg.

- **Vitamin A** - A fat soluble vitamin, important for maintenance of visual function. Its main influence is on retina, but it also aids glycoprotein synthesis and promotes cellular growth. It is found in green leafy & yellow or orange vegetables. RDA in pregnancy is 800 mg. Higher doses exceeding 15000 IU/day are associated with an increased risk of birth defects and should not be used in pregnancy. But alpha-carotene, a vitamin A precursor, is not teratogenic.
- **Vitamin B1** - Vitamin B1, also known as thiamine, is a water-soluble B-complex vitamin. It is involved in the release of energy from cells. Its food sources include milk and raw grains. The RDA is 1.1 mg. In pregnancy it increases to 1.5mg.
- **Vitamin B2** - also known as riboflavin, is a water-soluble B-complex vitamin. It is also involved in the release of energy from cells. Vitamin B2 is found in green vegetables, milk, eggs, cheese and fish. The RDA is 1.3 mg. In pregnancy, the RDA increases to 1.6 mg.
- **Vitamin B6** - also known as pyridoxine, is a water-soluble B-complex vitamin. Its deficiency is associated with low apgar score, pre-eclampsia, carbohydrate intolerance, hyperemesis gravidarum & neurological disease of infants It is found mostly in vegetables. The RDA is 1.5 mg. In pregnancy, it increases to 2.2 mg.
- **Vitamin B12** - a water-soluble B-complex vitamin, is essential for DNA synthesis and cell division. It is found in animal proteins. Deficiency is usually secondary to compromised intestinal function. Dietary deficiency is rare, but it is occasionally encountered in women who follow strict vegan diets. The RDA is 2 mcg. The pregnancy RDA is 2.2 mcg.
- **Vitamin C** - also known as ascorbic acid, is a water-soluble vitamin with numerous functions. These include reducing free radicals and assisting in procollagen formation. it is found in fruits and vegetables. Chronic deficiency impairs collagen synthesis and leads to scurvy. The RDA is 60mg. The pregnancy RDA is 70 mg. Amla is a rich and cheap source of vitamin C in India and should be used in diet in routine in various forms.
- **Vitamin D** - A fat-soluble vitamin, is found in fortified milk. Exposure to ultraviolet light is necessary for vitamin conversion. Deficiency of vitamin D is associated with tooth enamel hypoplasia. The RDA is 200-400IU. The RDA in pregnancy is 400 IU. But in women living is slums or where light source is poor, supplementation is recommended.
- **Vitamin E** - a fat-soluble vitamin, is an important antioxidant. It is found in animal protein and fats. The RDA is 8 mg. The pregnancy RDA is 10 mg.
- **Vitamin K**, a fat-soluble vitamin, is required for synthesis of clotting factors VII, IX and X. It is found in green leafy vegetables, tomatoes, dairy products and eggs. The RDA is 60 mg. In pregnancy the RDA increases to 65 mg.
- **Niacin** - is a water-soluble vitamin involved in the release of energy from cells. It is found in poultry, fish and nuts. The RDA is 15 mg. In pregnancy, the RDA increases to 17mg.
- **Calcium** - The RDA for calcium is 1,200 mg/day. Leg cramps during pregnancy may reflect altered calcium metabolism. Calcium supplementation of 1-2 g/day during pregnancy may reduce the risk of developing the hypertensive disorders of pregnancy.
- **Zinc** - The RDA for zinc for pregnant women is 11 mg/day, 3 mg more than that allotted for the non-pregnant women, although up to 40 mg/day is considered safe. The RDA is doubled for vegetarians because less zinc is absorbed with the diet.
- **Sodium** - In pregnancy, sodium should neither be restricted nor used excessively. Well-balanced diets "salted to taste" satisfy sodium requirements and obviate any need for supplementation.
- **Iodine** - The current RDA for iodine is 150mg/day in nonpregnant females, increasing to 200mg/day during pregnancy. Maternal deficiency can cause miscarriage, stillbirth, congenital anomalies, goiter, cretinism, impaired brain function and hypothyroidism.
- **Phosphorus** - Along with calcium, phosphorus is required for bone formation. The RDA for

nonpregnant and pregnant women is 1000 mg. Well-balanced diets easily provide the RDA, supplementation is not recommended.

- **Alcohol** - Alcohol can cross the placenta to the fetus and at high levels can affect fetal development. High intakes of alcohol are linked with miscarriage, still birth and premature labour. It can cause fetal alcohol syndrome in the child, characterized by distinctive facial deformities, growth deficiencies and developmental problems.
- **Caffeine** - Pregnant women may need to cut down on their caffeine intake but do not have to avoid it completely. High intakes of caffeine can result in low birth weight and have been linked with miscarriage. It is recommended that caffeine intake during pregnancy should be limited to 200mg/day.

5. Special situations or diseases associated with pregnancy.

- **Obesity** - Pre-pregnancy counseling should be done in obese women with a BMI greater than 29.9; to reduce weight by diet and exercise.
- **Hyperemesis** – Can be overcome by frequent small semisolid meals, avoidance of oily/ spicy foods & vitamin B6.
- **Constipation** - can be corrected by adequate fluid intake & high fibre diet
- **Cravings & food aversion** – can be over come by finding healthier option & distraction.
- **Allergies** – Peanut allergy was previously found in some studies but current evidence suggest that pregnant women who eat peanut are at no greater risk of having a child with peanut allergy
- **Foodborne illness** – must be avoided.

Key points

- Sufficient nutrient intake and a good nutritional status of the mother are important for optimal development of the fetus. A healthy varied diet is important both before conception and during pregnancy.
- Excessive weight gain should be avoided.
- Pregnant women are advised to take folic acid supplements before conception and during pregnancy to lower the risk of neural tube defects in the fetus. Vitamin D supplements are recommended during pregnancy to allow optimal bone development of the unborn child and to help avoid rickets during childhood.
- To help avoid iron deficiency during pregnancy, a healthy, varied diet containing iron rich foods such as meat, eggs, beans, nuts, dark green vegetables and fortified foods (such as some breakfast cereals), should be consumed.

REFERENCES

1. Meeting to develop a global consensus on preconception care to reduce maternal and childhood mortality morbidity. Geneva, World Health Organization, 2013.
2. Insel, P. Turner, RE. Ross, D. Nutrition. Jones and Bartlett Publishers, Massachusetts, 2001.
3. Preconception maternal nutrition: a multi-site randomized controlled trial: K Michael Hambidge, Nancy F Krebs, [...], and Shelly Sundberg BMC Pregnancy Childbirth. 2014; 14:111.
4. The clinical content of preconception care: nutrition and dietary supplements: American Journal of 2008.
5. D.C. Dutta, Textbook of obstetrics -9th edition 2018.

Original Article: Obstetrics

Correlation of Feto-Maternal Hemorrhage and Intra Uterine Fetal Demise

Dr Reshita,[1] Dr Meena Samant[2]

Abstract

Background: Intra uterine fetal death and stillbirth though common occurrence are largely unaddressed. Feto-maternal hemorrhage as a cause of stillbirth has yet not found its place in the usual spectrum of clinical suspicion.

Aims & Objectives: This observational study was done with the aim to observe and record incidence of stillbirth in our hospital, to identify various risk factors with special emphasis on correlation of feto-maternal hemorrhage and intra uterine fetal death and to identify preceding clinical features suggestive of massive feto-maternal hemorrhage.

Maternal & Methods: It is an observational study. 97 patients with the diagnosis of intrauterine fetal death at gestation of more than 28 weeks were included in the study. Along with numerous investigations for the evaluation of cause of IUFD, Kleihuer betke test to detect fetomaternal hemorrhage was done for all patients. Blood sample was sent prior to delivery.

Statistical Analysis: The data was analyzed using statistical package for social sciences (SPSS) version 15.0. Chi-square test was used to compare the proportions. Confidence level of the study was kept at 95%, hence a "p" value less than 0.05 indicated a statistically significant association.

Results: Incidence of stillbirth in our hospital is 18.94 per 1000 live birth. FMH was detected in 32.98% of cases. Correlation of incidence of FMH with that of age, parity, gravidity, socioeconomic status, period of gestation, associated maternal complications, placental complications and congenital anomaly was seen. In all the above mentioned conditions association was found to be insignificant.

Conclusion: In this study, case of still birth was thoroughly investigated and FMH was seen in significant number of cases, though significant FMH was rare. FMH was seen more commonly in multigravida, Advanced maternal age and post dated pregnancy. Mode of delivery stood out as most influential factor for FMH.

Keywords: Stillbirth, IUFD, Feto-maternal hemorrhage.

1. DNB (OBGY), Consultant Referral Hospital Barhiya.
2. MS, DNB (OBGY), Head of dept. KHFH, Patna.
✉ E-mail: meenasamant@rediffmail.com

Introduction

Stillbirth is a common experience and is often underestimated in terms of its frequency and impact. Despite great improvements and recent developments in antenatal and intrapartum care, stillbirth still remains an important problem, especially in developing countries like India.

The perinatal mortality surveillance report (CEMACH)[1] defines stillbirth as a baby delivered with no signs of life and known to have died after 24 completed weeks of gestation.

In large proportion of stillbirths the cause remains unidentified, despite intensive investigations of potential causes.

Improvements in obstetrical care and awareness among population have significantly decreased the rate of stillbirth. But because of nonspecific signs of presentation, adverse outcome associated with massive fetomaternal hemorrhage has not followed this trend.[2]

Feto-maternal hemorrhage (FMH) accounts for 4.1% of antepartum stillbirth. Antenatal feto-maternal hemorrhage is a pathological condition with wide spectrum of clinical presentation. Anaemia secondary to FMH may have devastating consequences for the fetus such as neurological injury, stillbirth and neonatal death.[3]

In this study detail investigations were performed as per RCOG guidelines and KB test was also done to assess fetomaternal hemorrhage in each patient with iud to know if significant fetomaternal hemorrhage was the cause of IUFD and to find associated risk factors causing fetomaternal hemorrhage.

Nearly all pregnancies include an insignificant hemorrhage of fetal blood into the maternal circulation. In some cases, the hemorrhage is large enough to compromise the fetus, resulting in fetal demise, stillbirth or delivery of a severely anemic infant. Bowman suggested that 75% of all pregnancies have a degree of FMH.[4]

Massive FMH may be the cause of around 1 in every 50 stillbirths. No antecedent historical or clinical features allow sufficient selection so that with any selectivity a large proportion of FMH remains undetected. Therefore, stillbirth assessment should, in all instances, incorporate testing of maternal blood for evidence of massive fetal-maternal hemorrhage.

The initial symptoms of an acute FMH are often subtle and nonspecific. It is usually diagnosed retrospectively when an infant is stillborn, experiences unexplained fetal distress or is born with symptoms consistent with a hemorrhage.[5] Prenatally, the mother may present with a history of decreased or absent fetal movement.[6] A 1997 found in 27% of cases, decreased or absent fetal movement was the presenting symptom of a fetal hemorrhage.[7] Unexpected stillbirth was the only presenting sign in 12.5% of cases.

Material & Methods:

Study Design: This Prospective observational studyw was done in Department of Obstetrics and Gynaecology and Pathology at Kurji Holy Family Hospital, Patna between a period of one year from March 2015 to February 2016.

Study Population: Women attending the Department of Obstetrics and Gynaecology at Kurji Holy Family Hospital, Patna with diagnosis of intrauterine fetal death and giving consent to participate in study.

Permissions and approvals: The study was approved by Institutional Ethical Review Board. Informed consent was obtained from all patients enrolled in the study.

Inclusion criteria: All women with intra uterine fetal death with gestational age of more than 28 weeks (in our hospital POG> 28 weeks are registered as stillbirth).

Exclusion criteria:
1. Any fetal death before 28 weeks of gestation
2. Patients who refused required investigations.

Investigations were performed at 3 different stages – During antental diagnosis of fetal death, immediately following stillbirth, and 8-12 weeks postpartum if these women came for follow up. The aim was to indentify causes and to group them in such a way that a preventable strategy can be put in place. The investigations were directed to identify fetal, maternal and placental conditions along with special emphasis on Kliehaeur-Betke test to identify feto-maternal hemorrhage in cases of intra uterine fetal death.

OBSERVATIONS & RESULTS

Table 1: FMH in relation to maternal age

Maternal age	Age < 20 Years	20-30 Years	> 30 Years
FMH Positive	2	25	5
FMH Negative	4	54	7
	33.33%	31.64%	41.66%

FMH was highest in the group of women > 30 years of age. The p value by chi square test for trend is 0.365 (p>0.05), not significant and indicate non-causal relationship of maternal age with risk of FMH. (Table 1)

FMH was found in 27.9% of primipara, 35.13% of multigravida with living issue and 29.16% of multigravida without living issue.

Table 2: FMH in relation to period of gestation

Gestational age	28-36 weeks	36-40 weeks	>40 weeks
FMH present	10	18	8
FMH absent	33	27	5
	23.25%	40%	80%

Chi square test for trend gave value of P value > 0.05, not significant.

Table 3: FMH in relation to mode of delivery

Mode of delivery	Vaginal	LSCS
FMH present	21	11

Table 4: FMH in relation to maternal complications

Maternal complications	Present	Absent
FMH	16	16
FMH	29	36

The Chi square test for this trend was 0.73. P value is > 0.05 which is not significant

Table 5: Incidence of FMH in various maternal complications

	FMH present	FMH absent	Percentage
PIH	8	2	80%
APH	3	0	100%
IUGR	2	5	28.57%
DM/GDM	2	2	50%
Others	1	20	4.76%

FMH was present in 100% of patients with APH and in 80% of patients with PIH. (Table 5)

Table 6: FMH in relation to congenital anomaly of foetus

	Congenital anomaly present	Congenital anomaly absent
FMH Present	4	28
FMH Absent	13	52

The P value by Chi Square Test for trend is >0.05, [(Chi square (1.25)] which is not significant.

Table 7: FMH in relation to still birth of unknown cause

Stillbirth due to unknown cause	FMH Present	FMH Absent
43	11	32
Percentage	24.2%	74.4%

FMH was present in 24.2% of stillbirth due to unexplained cause and was absent in 74.4% of stillbirth due to unexplained reason. (Table 7)

Table 8: Volume of FMH

Volume of FMH	Total No. of cases with FMH	No. of cases according to volume	Percentage
Upto 1 ml	32	9	28.1%
1-3 ml	32	8	25%
>3 ml	32	15	46.8%

The volume of FMH was found to be less than 1 ml in 28.1%, 1-3 ml in 25%, and in 46.8% of cases it was more than 3ml, and in this only one case had FMH of 15 ml. (Table 8)

Discussion

Incidence of FMH in relation to maternal age :

Most of the cases included in the study belonged to the age group 20-40 years. In our study the incidence of FMH in the age group 21-30 years was found to be 31.6% and in age group >30 years as 41.66%.

Similar finding were demonstrated by Chovaratna R, Uerareewong S, Makanantokosi S in their study on feto-maternal transfusion in normal pregnancy and during delivery. They found that FMH occurred in 65.94%. In the first, second, third trimester and during delivery the incidence was 53.5%, 63%, 71.1% and 75.7% respectively. The volume of transfusion was varied from 0-12.65 ml and greater in the advancing maternal age.[8]

Incidence of FMH in relation to parity :

FMH incidence in primipara (30%) were found comparable to the incidence of FMH in multipara

patient (29.7%). But rising trend of incidence of FMH among primigravida (27.9%), multigravida with living issue (35.13%), and multigravida without living issue (41.17%) was seen. But p value for this trend as calculated by chi square test was >0.05 which is insignificant.

Incidence of FMH with relation to period of gestation:

In the current study, FMH was detected in 23.25% of cases with POG 28-36 weeks, 40% of cases with POG 36-40 weeks and in 44.44% of cases with POG more than 40 weeks of gestation. p value for this trend > 0.05 as calculated by chi square test.

De Wit H, Nabbe KC, Kooren JA, Adriaansen HJ, Roelandse Koop EA, Schuitemaker JH, Hoffmann JJ studied fetal erythrocytes in maternal blood during pregnancy and concluded that the fetal RBC count in maternal blood shows no correlation with gestational age.[9]

Incidence of FMH with relation to mode of delivery :

In the current study, higher number of trans placental haemorrhage was observed in those undergoing caesarean section 61.11%. In cases having vaginal delivery FMH was 26.58%.

The indications of LSCS may expliain the higher incidence of FMH in patients who underwent LSCS.

Study of feto-maternal haemorrhage in relation to mode of delivery by Banerjee J, Banerjee S states that FMH was affected by mode of delivery. Incidence of FMH was nil in spontaneous normal delivery without oxytocin drip but the incidence of FMH in normal delivery preceded by oxytocin drip was 19.05%, in forceps delivery 40%, in lower section uterine caesarean section 50% and in normal delivery followed by manual removal of placenta 100%.[10]

Incidence of FMH in relation to maternal complications :

Amongst complications FMH was positive in 100% of cases with antepartum hemorrhage.

FMH was positive in 80% of cases with PIH and 28.57% of cases with IUGR.

Study by Jones P, MC Nay A and Walker W. followed up 200 primiparious women and investigated for a possible association between FMH and hypertension in pregnancy. Evidence of FMH was found in 61% of hypertensive pregnancies and 51% of normotensives; a difference which is not statistically significant.[11]

Although massive FMH was not seen in any of the patients but then also, FMH of > 3 ml was seen in significant number of patients with IUFD. A large FMH of 30 ml is estimated to occur with a frequency of one in 300 (Giacosia, 1997). A 50 ml FMH has been suggested as the volume likely to affect the outcome of the pregnancy resulting in anaemia at birth, unexplained stillbirth and neonatal death (Giacosia, 1997).[7]

Cost of KB test is insignificant thus, it should be done in all patients with IUFD and even in patients coming with decreased fetal movement or no fetal movement and in patients with sinusoidal heart tracing and all high risk patients such as APH, PIH, twin pregnancy etc.

In patients who are tested as FMH significantly positive, those neonates should be followed for anaemia.

Conclusion

1. During this study period total number of delivery was 5648 and total number of stillbirth was 105. Incidence calculated was 18.93 per 1000. The incidence was less in comparison in national data because in this study patients taken as stillbirth when intrauterine fetal death occurred after POG>28 weeks as in our hospital registry is made at that POG whereas WHO defines stillbirth as intrauterine fetal death at or after 22 weeks of gestation.
2. Massive feto-maternal hemorrhage though rare but may lead to devastating complications such as fetal anemia, hydrops, stillbirth, neonatal death. In this study, the incidence of FMH was detected by Kleihaur Betkes test in patients with intrauterine fetal death.
3. Total number of cases studied were 97, along with other tests as mentioned in materials methods, Kleihaur betkes test was performed on all patients following diagnosis of intra uterine fetal death before delivery.

(a) Most of the patients belonged to peak reproductive group.

(b) FMH was detected in 32.98% of cases.
(c) Massive FMH was not seen in any of the cases studied.
(d) Higher incidence was seen in multigravida in comparison to primigravida.
(e) Incidence of FMH was higher in patients of age more than 30 years and in period of gestation more than 40 weeks.
(f) Incidence of FMH following operative delivery was more compared to vaginal delivery.
(g) Incidence of FMH was 100% in patients with antepartum hemorrhage, 80% in cases with PIH.
(h) Except for mode of delivery none of the factors was seen to have significant association with FMH.

Recommendations

1. Proper antenatal care throughout pregnancy.
2. Patients coming with decreased or no fetal movement should undergo K B Test.
3. Sinusoidal heart tracing should be evaluated with K B Test.
4. Following delivery neonates of patients with FMH positive should be evaluated for anemia.
5. All cases with intra uterine fetal death should undergo K B test.

REFERENCES

1. Confidential Enquiry into Maternal and Child Health (CEMACH). Perinatal Mortality 2007 : United Kingdom. CEMACH : London, 2009 (http://www.cmace.org.uk/getattachement/ 1d2c0ebcd2aa-4131-98ed-56bf8269e529/ Perinatal-Mortality-2007.aspx).
2. O'Leary BD, Walsh CA, Fitzgerald JM, Downey P, McAuliffe FM. The contribution of massive fetomaternal hemorrhage to antepartum still birth : A 25 year cross-sectional study. Acta Obstet Gynecol Scand : 2015 Dec; 94(12) : 1354-8.
3. Wylie BJ, D'Alton ME. Fetomaternal hemorrhage 2010 May; 115 (5) : 1039-51. Clinical Practice Guideline : Investigation and Management of Late Fetal Intrauterine Death and still birth, Institute of obstetrician and gynaecologist, Royal College of physicians Ireland and Directorate of strategies and clinical programmed, health service executive. Version 1.0, Guideline No. 4, October 2011, revised 2013.
4. Bowman J.M., Pollock J.M., Penston L.E., Fetomaternal transplacental hemorrhage during pregnancy and after delivery. Vox Sang. 1986; 51 (2) : 117-121.
5. Fliegner J. R.H., Fortune D.W., Barrie J.U., Occult fetomaternal haemorrhage as a cause of fetal mortality and morbidity. Aust. N. Z.J. Obstet Gynaecol. 1987; 27 (2) : 158-161.
6. De Almeida V. Bowman J. M., Massive fetomaternal hemorrhage : Manitoba experience. Obstet Gynaecol. 1994; 84(3) : 323-328.
7. Giacoia G.P. Severe fetomaternal hemorrhage : A review. Obstet Gynaecol Surv. 1997; 52(6) : 372-380.
8. David M. Smidt J. Chen F.C. Stein U. Dudenhausen J.E., Risk factors for fetal to maternal transfusion in Rh-D negative women results of prospective study on 942 pregnant women. J. Perinata Med. 2004 ; 32(3) : 254-257.
9. Banerjee J. Banerjee S. Study of fetomaternal hemorrhage in relation to mode of delivery. J. Indian Med. Association 1989, May; 87(5): 107-108.
10. Lubesky M. Simetka O. Studinkova M. Prochazka M. et. al. Fetomaternal haemorrhage in normal vaginal delivery and in delivery by caesarean section. Transufsion 2012, Feb. 8.
11. Jones P., Mc Nay A, Walker W. Association between fetomaternal bleeding and hypertension in pregnancy. Br. Med. J. 1996 Sept. 27; 3(5673): 738-742.

Case Report: Obstetrics

A Rare Case of Late Presentation of Spontaneous Rupture of Bladder During Normal Delivery

Neelu Soni,[1] Divya Jain[2]

Abstract

Spontaneous bladder rupture is usually due to underlying bladder pathology. Bladder rupture during labor or postpartum is extremely rare. Most common presentation is acute abdomen. Other features maybe suprapubic pain, anuria or hematuria. We report a case of a woman with abdominal distension and anuria about 14 days after normal vaginal delivery. There was intraperitoneal rupture of bladder which was probably sealed by intestine.

Keyword: Bladder rupture, normal delivery, Urinary ascites.

Introduction

The term "spontaneous bladder rupture" is applied to those cases in which there is neither a history of trauma nor any underlying bladder pathology. Spontaneous bladder rupture during postpartum is rare. It was first reported by Kibel AS et al in 1995.It has an incidence of 1 in 126,000 admissions.

Case report:

A 25 year old woman was referred to our hospital with abdominal pain and distension about 14 days after normal vaginal delivery which was performed successfully in another hospital. Her antepartum and intrapartum events were uneventful. She was discharged after 2 days. She mentioned that she was unable to urinate for approximately 1 week till she went to a hospital, and her bladder was emptied by a catheter. After that she suffered from abdominal pain and distension that was progressing during the week. Finally she was referred to our hospital for further managment. She did not have any history of trauma to her abdomen.

On examination she was very dyspnoeic,toxic looking.

Vitals were as:

PR -140/min, BP-110/70mmHg, RR-38/min, SpO2-82% on room air.

Abdomen was distended and had generalized tenderness.Shifting dullness could be demonstrated.A vaginal examination revealed a tenderness in the posterior fornix. Episiotomy sutures were dehiscent. Sonography revealed massive ascites. Her blood investigations at the time of admissions were:

Hb 9.3
TLC 24320
PLT 3.2 lacs
UREA/CREAT 386/20.32
Na/K 136/8.9

1. MBBS,MS,FICOG, Head of Department, Obstetrics and Gynaecolgy, Choithram Hospital, Indore
2. DNB resident, Obstetrics and Gynaecology, Choithram hospital, Indore

✉ piscesmyluck@gmail.com

Foleys catheter was introduced. Around 1.2L urine was drained. 3L of ascitic fluid was tapped, sent for examination. IV fluids started and titrated as per urine output along with sodabicarbonate infusion and IV antibiotics.

After 6 hours of conservative treatment.

Serum creatinine was 11. Serum potassium-5.4.

Patient was much comfortable with dyspnea settled, SpO2 95 at room air, RR 20/m, Vitals maintained. Urine output 100ml/hr. In this patient, cystogram didn't reveal any leak.

Repeat sonography after 5 days revealed no aseites.

She was catheterised for 14 days and was watched for recurrence, for possible bladder outflow obstruction and/or neurogenic bladder.

Conclusion:

This is a case of spontaneous rupture of bladder which lead to urinary ascites.There could be a small rent that might have healed due to unobstructed urinary drainage or might have been sealed by intestine.

Discussion:

Spontaneous rupture of the bladder typically presents as acute abdomen with guarding and rigidity, this is often accompanied by anuria.[1,2] Some patients with intraperitoneal bladder rupture may be asymptomatic, so the diagnosis of intraperitoneal rupture may be difficult.[1]

If affected patients present after 24 hours, significant peritoneal absorption of urea and creatinine that occurs may present a biochemical picture of renal failure.[2] This is evident in the urea and creatinine values of our patient whose symptoms started days before her referral to our centre. The urea and creatinine values were also elevated in ascitic fluid .

Increased urinary retention during intrapartum period, may cause bladder rupture if distended bladder is not evacuated. This condition is totally preventable by evacuating the bladder before the patient goes into second stage of labour.[3]

Postpartum patients with episiotomy or perineal repair frequently experience difficulty in voiding which may lead to urinary retention and rupture. So it is important to observe postpartum patient's urine output.[4]

Early diagnosis and prompt surgical treatment decreases the morbidity and mortality associated with this condition.[5] In patients without sepsis or the protrusion of the bowel through the perforation, conservative management is usually sufficient. Cystogram can be helpful in diagnosing the perforation.[5]

Full urological evaluation of all patients with spontaneous bladder rupture is mandatory to identify possible underlying diseases that may result in recurrence.

REFERENCES

1. Mokoena T, Naidu AG. Diagnostic difficulties in patients with a ruptured bladder. Br J Surg 1995;82:69-70
2. Shroff S, Lee JO, Townsend AR. Spontaneous rupture of bladder in pregnancy. A case report. Urol Int 1994;52:179-80. Back to cited text no. 4
3. Ekuma-Nkama EN, Garg VK, Barayan S. Spontaneous rupture of bladder in a primipara. Ann Saudi Med 1997;17:646-7.
4. Wandabwa Julius, Otim Tom, Kiondo Paul. Spontaneous rupture of bladder in puerperium. Afr Health Sci. 2004 Aug;4(2):138–139
5. R. Faraj, P. O'Donovan, A. Jones, S. Hill.Spontaneous rupture of urinary bladder in second trimester of pregnancy:Int J Gynecol Obstet, 10 (2) (2008)

Original Article: Gynecology

Awareness about Cervical Cancer in Educated Working Women in Southern India

Dr Mamilla Sarada[1]

Abstract

Objective: Cervical cancer is a major public health problem in India having the second largest incidence in world for cervical cancer. There are many screening options for early detection of cervical cancer. Usage of these options depends on awareness among our women. We here assessed knowledge of two groups, Hospital staff and educated women living around hospital about cervical cancer, HPV virus and Pap test.

Methods: We conducted questionnaire survey of two groups, 30 each in each group.

Results: The results indicate similar level of knowledge between both group regarding cervical cancer, aetiology, risk factors and prevention. It was only regarding HPV and Pap smear that women in community had less knowledge than Health care workers.

Conclusions: This study in the contrary to previous studies shows that women are aware of cervical cancer, its risk factors and prevention. Educated Young India is aware of this problem and so more effort should be on implementation of screening programme.

Key words: Pap smear, cervical cancer, screening programme.

Introduction

Globally, cervical cancer is one of the most common cancers among women. Cervical cancer is the single largest killer of middle aged women in India. The incidence of cervical cancer per 100,000 Indian women of all ages varied between 30.0 and 44.9.[1] India bears about one fifth of the world's burden of cervical cancer.[2] About 75-80 % of the cases are reported in advanced stage.[3]

[1] DGO,DNB,MRCOG
Consultant Obstetrician & Gynaecologist,
Continental Hospitals, Gachibowli, Hyderabad
✉ Email: sarada.m@continentalhospitals.com

Population-based screening program utilizing exfoliative cervical cytology, the Papanicolaou (Pap) test, has reduced the cervical cancer morbidity and mortality in developed countries. Most studies done about awareness of cervical cancer in India show poor knowledge about cervical cancer. The aim of present study is to assess awareness among educated working women living in this part of India. The outcome of this short study can give us inputs to implement cervical cancer screening programme.

Material & Methods

Consent was taken from Ethical committee of Hospital. Questionnaire was prepared based on previously established facts for cervical cancer.[4] First

part of questionnaire was to collect information on age, occupation marital status. The remaining part of questionnaire had questions about awareness of HPV Virus, risk factors and aetiology of Cervical Cancer and awareness about Pap test.[5,6] We did not include questions about vaccination as they are not cost effective in the present circumstances.

Questionnaire was given to 30 female Hospital staff (Nurses, Operations Lab technicians etc.)This constituted Team A. We went to nearby communities, around our hospital and gave questionnaire to women living in community. About 30 women filled up the questionnaire and they constituted Team B. All the participants voluntarily filled the questionnaire.

Continental hospital is the large Corporate Hospital in Hyderabad surrounded by IT Companies. People living around Hospital are mostly women working in these companies. So this study represents knowledge based about cervical cancer in educated women of this part of India.

All the results were compared in percentages between both groups.

Results

Table 1: Demographic factors

1.Age	Team-A	Team B
21-30	20 (67 %)	3 (10%)
31-40	5 (16 %)	21(70 %)
41-50	4 (14 %)	5 (16 %)
>50	1 (3 %)	2 (4 %)
2.OCCUPATION		
Nurse	7 (24 %)	
Non medical staff	15 (50 %)	1 (3%)
House wife		21(76%)
Others	8 (26 %)	8(27 %)
3. MARITAL STATUS		
Married	15 (50 %)	30 (100 %)
Unmarried	15 (50 %)	

Table 1 shows social demographic characteristics between both groups. Mean Age among Health care workers was 28, while it was 36 in community women. 56% were nurses in Team A while 70% were house wives in Team B.

Knowledge level about Cervical cancer is shown in table 2, 80% in team A and 70% in Team B answered correctly as to who can get Cervical cancer.63%in Team A and 50% in Team B knew infection as cause of Cervical cancer. 94% of health care workers know HPV as causative agent.

Table 2: Etiology for cervical cancer

Characteristics	Team A	Team B
1.who can get cervical cancer		
Any one including me	24 (80%)	21 (70%)
Only very poor women		
Poor genital hygeine	4 (14 %)	1 (3 %)
No answer	2(6%)	8 (27%)
2. cause of cervical cancer		
Genetically influenced	4 (13 %)	1(3%)
Infections	19(63 %)	8 (27%)
Environmental cause	2 (7 %)	1 (3 %)
Don't Know	5 (17 %)	15 (50 %)
3.Organisim causing cervical cancer		
HPV virus	28 (94%)	18 (60%)
HIV Virus		
Don't know-	2 (6 %)	12 (40 %)

Knowledge about HPV between both groups is shown in Table 3. 87% of health care workers answered sexual contact as method of transmission, while 53% in Team B answered that they don't know. 80% in Team A knew that HPV can cause other diseases like Warts, Cancers while 47%in team B did not know the answer.

Table 3: Knowledge about HPV

	Team A	Team B
1.HPV TRANSMITTED BY		
Orofeacal route		2 (7%)
Sexual contact	4 (13 %)	11 (37%)
Blood transfusion	26 (87%)	1 (3 %)
Dont Know		16 (53 %)
2. HPV can cause other diseases also		
Yes	24 (80%)	13 (43%)
No	3 (10%)	3 (10%)
Dont Know	3 (10 %)	14 (47%)
3.What other diseases -		
warts	10 (33%)	1 (3%)
Other cervical cancers	18 (60%)	10(33%)
Dont Know	2 (7%)	19 (64%)
4.HPV infection can be detected		
Yes	20 (67%)	20 (67%)
No	10 (33%)	10(67%)

Table 4 shows knowledge about risk factors and prevention of cervical cancer. 67% in the Team A knew multiple sexual partners as one of risk factors

and 70% in the Team B knew about the same. 80% in the Team A knew pap test and vaccination are preventive options for cervical cancer while 60% in the Team B had knowledge about these options.

Table 4: Etiology and risk factors for Cervical cancer

1. RISK FACTORS	Team A	TEAM B
Early Marriage	4 (13 %)	2 (7%)
Early pregnancy		
Oral contraceptive pills	6 (20 %)	4 (13%)
Multiple sexual partners	20 (67 %)	24 (80%)
2. HOW TO PREVENT		
Good genital hygeine	3 (10%)	4 (13%)
Use of condoms	1 (3%)	
Pap test	12 (40%)	9 (30%)
vaccination	12 (40%)	9 (30%)
All	2 (6%)	8 (27%)

Table 5 shows knowledge about Pap test. 77% of health care workers knew that pap test detects pre cancerous stage, 47 % in the Team B did not know answer. 60% in the team A answered Pap should be done in 3 years after starting sexual activity while 53% in team B thought it should be done at the age of 35 yrs. 67% in the team A & 50% in the team B knew pap test should be done at least once in 3 yrs.80%of Team A answered doctor advises depending on pap report if it is not normal but 34% in Team B answered Hysterectomy when pap report is abnormal.

Table 5: Knowledge about pap test

CHARACHETRISTICS	Team A	Team B
What does pap test detect		
1. ANY INFECTION	7 (23%)	12 (40%)
2.ANY PRECANCEROUS STAGE	23 (77%)	4 (13%)
3.DETECTS ONLY CANCER		14 (47%)
Who should get a pap test-		
1. ANY WOMEN STARTING SEXUAL ACTIVITY	18 (60%)	10 (33%)
2. WOMEN ABOVE 35 YRS	12 (40%)	16 (53%)
3. DONT KNOW		4 (14%)
How frequently do you get a PAP test ?		
1. ONCE EVERY 3 YRS	20 (67%)	15 (50%)
2. ONCE IN LIFE TIME	1 (3%)	5 (17%)
3. ONCE EVERY 5 YRS	9 (30%)	10 (33%)
What happens if my Pap test is not normal		
1. HYSTRECTOMY	5 (17%)	10 (34%)
2. CANCER SURGERY		1 (3%)
3. DOCTOR ADVICES	25 (83%)	9 (30%)
4. Dont Know		10 (34%)

The result indicate similar level of knowledge between both group regarding cervical cancer, Aetiology, Risk factors and Prevention. It was only regarding HPV and Pap smear that women in community had less knowledge than Health care workers.

Discussion

Our study revealed good knowledge among both health care workers and educated women living in society about cervical cancer and prevention.

63 % of health care workers could identify infection as aetiology for cervical cancer, while study done in Karachi showed 78 % awareness about HPV infection being the causative factor.[7] 80 % of health care workers could identify Link between HPV and cervical cancer in our study while study done in Cameroon showed 60 % awareness.[8]

Knowledge about HPV was more in health care workers when compared to women living in community in the present study. 37 % of women knew about HPV and its risk factors like multiple sexual partners while a study done in UK revealed 50 % of them were aware of HPV.[9]

In our present study 80 % of health care workers and 60 % of women knew about Pap smear and vaccination as preventive modalities for cervical cancer. In contrary, study done in Nigeria showed that Only 8% of the respondents had knowledge of the prevention of cervical cancer, but none of them were aware of the introduction of the human papillomavirus vaccine.[10]

In this study 77% of health care workers had Knowledge about Pap smear, like for whom it should be done, how frequently it's repeated and what do if pap report is not normal. Similarly in the study done in Gujarat, knowledge regarding Pap test was present in 88.4% of respondents.[11]

Conclusions

This study in the contrary to previous studies shows that women are aware of cervical cancer, its risk factors and prevention. Educated Young India is aware of this Problem. The sample size of the study may be less to draw a conclusion but a continuation of this study into future may tell us about prevalence of cervical cancer in women with this Knowledge.

Acknowledgments

We thank all our health care workers who participated in this study. We also thank all the women who could fill the questionnaire voluntarily. This work was supported by Dept of OBG, Continental Hospitals, Gachibowli, HYD.

REFERENCES

1. World Health Organization (WHO) (2010). Human papillomavirus infection and cervical cancer. Available at www.who.int/vaccine_research/diseases/hpv.
2 Shanta V. Perspectives in cervical cancer prevention in India, (2003). The international network for cancer treatment and research.
3. National Cancer Registry Programme (2006). An overview. Indian Council Med Res, New Delhi.
4. Brinton LA (1992). Epidemiology of cervical cancer-overview. IARC Sci Publ, 119, 3-23.
5. Wong LP1, Wong YL, Low WY, Khoo EM, Shuib RKnowledge and awareness of cervical cancer and screening among Malaysian women who have never had a Pap smear: a qualitative study. Singapore Med J. 2009 Jan; 50(1):49-53.
6. Thippeveeranna C1, Mohan SS, Singh LR, Singh NN. Knowledge, attitude and practice of the pap smear as a screening procedure among nurses in a tertiary hospital in north eastern India.Asian Pac J Cancer Prev. 2013;14(2):849-52.
7. Ali SF, Ayub S et al. Knowledge and awareness about Cervical Cancer and its prevention amongst interns and nursing staff in tertiary Care Hospitals in Karachi, Pakistan. (2010) PLOSONE 5(6): e 11059
8. Ogembo JG, Mutth TP et al. Cervicel Cancer in Cameroon: A three pronged approach to Inverse Awareness, Vaccination, Sereening and Treatment. (May 2014) U Mess e scholarship@ UUmS http://escholorship.umassmed.edu/its-relreat/2017/postero/90.
9. Emma L Low, Jo Walter et al. What do British women know about Cervical Cancer symptom and risk factor? European J of Cancer, Vol 48, Issue 16, Nov 2012, pages 3001-3008.
10. Abiodun AB, Olicwasola DAT, et al. Awareness and Pereation of risk for Cervical Cancer among Women in Ogbomoso, Nigeria, Tropical 5 of Obst and Gunaecol, 2017, Vol 34, issue 3, pages 218-223.
11. Shah V, Vyas S et al. Awareness and Knowledge of Cervical Cancer and its Prevention among nursing Staff of a tertiary health instute in Ahmedabad, Gujarat, India. Ecancer Medical Science 2020; 6: 270.

Case Report: Gynecology

A Rare Case of Uterovesical Fistula with IUCD in Urinary Bladder, with Urolithiasis

Dr. Steffi Gandhi,[1] Dr. Shivani Valia,[2] Dr. Deepak A Desai[3]

Introduction

Misplaced IUCD is a condition when the thread of the IUCD is not seen through the cervical os. It may be due to enlarged uterus, thread curled inside the uterus, uterine perforation or IUCD buried inside the myometrium.

An IUCD may be misplaced following an uterine perforation after a faulty insertion technique. But migration may also occur following initial partial perforation with subsequent myometrial contraction.[1] Incidence varies from 1-3 per 1000 insertions.[2] If there is inadequate mobilization of bladder inferiorly or laterally during cesarean section, it may be injured or accidentally included in the suture used to close the uterine incision. Fistula forms when sutures are absorbed.[3]

Sites where the misplaced IUCD reported are bladder, sigmoid colon, rectal wall, mesoappendix and omentum.

Utero-vesical fistula is an abnormal communication between the bladder and the uterus. It is one of the rarest urogenital fistula with a prevalence of 1-4%,[4] of all urinary fistulae.

However the incidence of utero-vesical fistula may be attributed to lower segment cesarean section. It is feared and postulated that the incidence may increase after a repeat cesarean section, though, definite data to support this postulated possibility are lacking.

The most common location of the fistula is along the posterior bladder wall in the midline or, from the genital side, just cephalad to the internal cervical os.[4]

Case-History

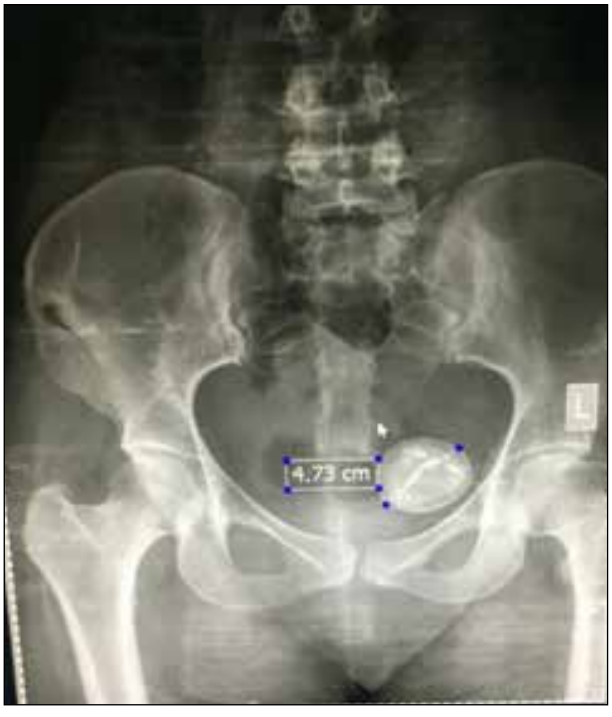
A 33 year old female patient was referred from the medicine ward for complaint of burning micturition, left lower abdominal pain and occasional urinary incontinence since 12 days. She had undergone a lower segment cesarean section 12 years ago. She had history of Cu-T insertion done 10 years back. Her menstrual cycle was regular.

On examination, patient was afebrile and vitally stable. On per abdominal examination, left iliac fossa tenderness was present. On per speculum examination, cervix was cone shapped, narrow and with a pin point os, as in a nulliparous, and pulled up. Cu T thread was not seen. Ocassionally, urine was seen coming out through cervical canal. On per vaginum examination, uterus was retroverted and normal size. Left fornix was tender.

Her USG showed abnormal communication between lower part of uterus and the urinary bladder. IUCD with calcification around it was seen in the bladder. CT scan confirmed the similar findings. Micturating cystourethrogram did not reveal any fistulous tract between bladder and uterus. On Laparotomy, there

1. MS, Senior Resident, Dhiraj Hospital
2. 3rd year resident MS OBGY, Dhiraj Hospital
3. MD DGO, Professor and Head of Unit, OBGY Department, Dhiraj Hospital

✉ E-mail: sdgbim@gmail.com



Plain X-ray showing misplaced IUCD in the bladder with urolithiasis

IUCD seen within the bladder stone.

were dense adhesions between isthmus and bladder which were separated with sharp dissection. Thickened fibrotic tissue between posterior wall of bladder and isthmus was sharply dissected. Rent in anterior wall of isthmus was sutured with vicryl no.1. Cystolithotomy was done and approximately 5*4 cm in size black coloured stone was removed. Bladder was closed in 3 layers with vicryl no.2-0 on round body needle. Watertight suturing was confirmed with retrograde filling of bladder with methylene blue . Omental patch was placed between bladder and uterus. Abdomen was closed in layers. K-90 catheter was placed which was removed after 12 days.

Postoperative period was uneventful and the patient was discharged on day 14.

Discussion

There are 3 types of utero-vesical fistula.

Type-1- (youssef's syndrome) is menouria, amenorrhoea and complete continence of urine.

Type 2- is dual direction menstrual flow via bladder and vagina.

Type 3- is normal vaginal menses but lack of menouria.[5] Our patient falls into type 3 category. Our patient had symptom of urinary incontinence since 12 days. This seems unusual as she might not have noticed it earlier.

Cystoscopy, intravenous urogram, hysterosalpingography, sonohysterography, cystography trans-vaginal sonography and MRI are some of the procedures to diagnose an utero-vesical fistula.

The best method to diagnose an utero-vesical fistula is MRI.[3]

Management options include conservative and surgical management. Conservative management by continuous urethral catheterization is indicated when a small fistula is detected early.

Surgical treatment is indicated when the conservative management has failed or the fistula is large. This can be achieved by abdominal or vaginal routes. In abdominal route, laparoscopy or laparotomy (transperitoneal and extraperitoneal transvesical route) are the options. Surgery should be performed immediately (within 48 hours) after formation of fistulous tract or after 4 months if diagnosis is delayed.

In this case, the bladder suturing was done in 3 layers to make it water-tight. This was then checked with retrograde bladder inflation of saline with methylene

blue, and it was done so as to confirm absence of the leakage of urine in the peritoneal cavity, through suture line. Leakage will impede good healing and may cause another fistula to develop between the bladder and the uterus, if adhesions occur between bladder and uterus.

An omental patch was kept between the bladder and the uterus to prevent the adhesions and recurrence of fistula. The entire structural part of repair was then isolated to be extraperitoneal, by suturing the edge of bladder peritoneum—uterovesical pouch – reflected earlier, back to the anterior surface of uterus, above the repaired area, as we suture the bladder peritoneum to lower segment during closure of an L.S.C.S., thus rendering the entire raw area, extra-peritoneal, and avert the possibility of abdominal contents forming adhesions there anew.

Catheter was kept in situ for 12 days, instead of the usual 7 days, to play safe. This allowed the healing to take place properly. Bladder atony due to the continuous drainage of urine by the catheter was prevented by giving the patient tablet Urotone 1 tab. TDS.

There was no urinary retention after catheter removal and patient was discharged on the following day.

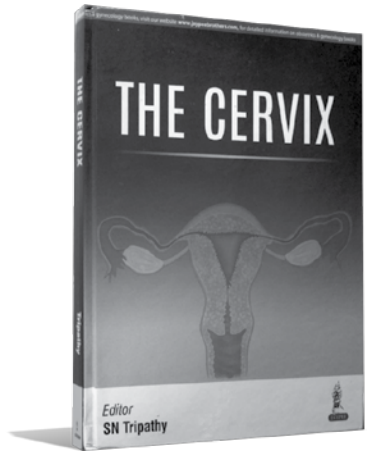
Conclusion

Utero-vesical fistula are the rarest of the urogenital fistulae. They are mostly found after repeat cesarean section or faulty insertion of the

REFERENCES

1. Dutta D, Konar H. DC Dutta's textbook of gynecology. 7th ed. Jaypee Brothers Medical Pub; 2016
2. Jozwik-M, Jozwick M, Lotocki W. Vesicouterine fitula-an analysis of 24 cases from Poland. Int J Gynecol Obstet. 1997;5792:169-72
3. Issa MM, Schmid HP, Stamey TA. Youssef's syndrome: Preservation of uterine function with subsequent successful pregnancy following surgical repair. Urol Int. 1994;52:220-2
4. Campbell M, Wein A, Kavoussi L. Campbell-Walsh urology. 9th ed. Philadelphia: Saunders Elsevier; 2007
5. Youssef AF. Menouria following lower segment caesarean section. Am J Obstet Gynecol. 1957;73:759.

Book Review



THE CERVIX

Editor: Prof (Dr) SN Tripathy

ISBN 978-93-5270-209-1 / Hard Bound / 180 pages
Publisher: Jaypee Brothers Medical Publishers (P) Ltd, New Delhi

The book is primarily aimed for the obstetricians and the gynecologists that they are working in the speciality. The editor is an Ex-Professor in Obstetrics & Gynecology. The book is designed to provide a quick and essential information related to the development of the organ, anatomy, physiology, biochemical changes in pregnancy and labor and above all the pathologies and its functions in health and disease. This has been discussed in respect to the different phases of a woman's life.

The book comprehensively covers all the aspects of cervix. The book is divided into five sections with a total of seventeen chapters. The first section covers information related to its anatomy, physiology and the effects of drugs. The other sections cover areas in obstetrics, gynecology, oncology and the psycho-social aspects. It is good to see that psychosocial aspects of cervical pathology has been considered.

The individual sections are well written by the experts in their field. The book is concise and covers most of the relevant issues with updated information. Management issues in relation to medical and surgical procedures are well covered. However, few images need to be updated. What I liked most about the book is the format of presentation which is simple, easy to read and understand. Adequate number of references are there in each chapter for further reading.

I feel this book to be read by all the obstetricians and gynecologists and the post graduates. It will certainly be useful to have a copy of the book as a reference guide in the hospital library.

Reviewer:
Prof Hiralal Konar,
MBBS, MD (PGI), DNB, MNAMS, FACS (USA), FRCOG (London)
Professor, Dept of Obs & Gyn
Calcutta National Medical College & Hospitals

Instruction to Authors

The Journal of Indian Society of Perinatology and Reproductive Biology which is the official publication of the Indian Society of Perinatology and Reproductive Biology (ISOPARB) invites original research articles in gynaecology / obstetrics / related subjects in the following category: Clinical Articles; Review Articles; and Brief Communications (including Case Reports).

All manuscripts should be prepared according to the guidelines detailed below. Any manuscript that has not been formatted as per the ISOPARB requirements will be returned to the author for correction. All manuscripts should be created and submitted in Word format.

1. SUBMISSION

Authors must submit manuscripts by Email ID –
picklu.chaudhuri@gmail.com
dr_gita _banerjee@yahoo.co.in
hkondr@gmail.com

Hard-copy submissions will not be considered.

Please submit a cover letter to the Editor-in-Chief mentioning the following:

- Each author's name, address, and email address.
- Each author's affiliation and qualifications.
- The name of the author who is to deal with correspondence and proofs.

Once submitted, manuscripts undergo initial screening by the editorial staff and editors and then papers will undergo peer review.

2. Authors must give a separate "Author Guarantee" document mentioning the following:

(1) that all authors have met the criteria for authorship and have participated sufficiently in the work to take responsibility for it;

(2) that all authors have reviewed the final version of the manuscript and approve it for submission to the ISOPARB journal.

(3) that neither this manuscript nor one with substantially similar content by the authors has been published elsewhere or is being considered for publication elsewhere;

(4) that the manuscript has been submitted with the full knowledge and approval of the institutions or organizations given as the affiliation(s) of the author(s);

(5) that the authors have informed the editor in a cover letter and in the manuscript itself of any conflicts of interest; and

(6) that the corresponding author affirms the manuscript to be an honest and transparent account of the study being reported.

In line with ICMJE standards, the criteria for authorship are as follows:

(1) Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND

(2) Drafting the work or revising it critically for important intellectual content; AND

(3) Final approval of the version to be published; AND

(4) Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

3. CLINICAL TRIALS AND REVIEW ARTICLES

Clinical trials

Submission of clinical trials must include reference to ethics approval (or explanation of why ethics approval was not received). Authors must consult the CONSORT statement and checklist and submit a CONSORT flow chart as an editable figure in Word/PowerPoi ntformat.

The clinical trial registration is preferable and information should be included at the end of the abstract of the submitted manuscript.

Review articles

Reviews based on the recent and relevant subjects of clinical interest should be considered.

4. LAYOUT OF MANUSCRIPTS

Manuscript text should be in English (US spelling), double-spaced, font size 12, in Arialmmes New Roman font.

First page

The first page of the manuscript should contain the following: (1) title; (2) full names of authors (6 maximum, although listing more authors may be considered on an individual basis if authorship requirements have been met and a request has been included in the cover letter); (3) affiliations of authors (i.e. department, section or unit of

an institution, hospital or organization, city, and country (4) full contact details (postal address. email address) of the corresponding author ; (5) a list of up to 8 keywords for indexing and retrieval:

Footnotes linking author names to affiliations should be listed as 1,2,3 etc..

The first page should also list the type of article: Clinical Article; Brief Communication: or Review Article.

Abstract

Clinical Articles

A structured abstract not exceeding 200 words is required for all full-length clinical articles. It should contain all and only the following headings: Objective; Methods; Results; and Conclusion.

The Objective reflects the purpose of the study: that is, the hypothesis that is being tested. The Methods should include the setting for the study, the participants (number and type), the treatment or intervention, and the type of statistical analysis. The Results include the outcome of the study and statistical significance, if appropriate. The Conclusion states the significance of the results.

Review articles

An abstract not exceeding 200 words is required for all review articles.

Narrative reviews require an unstructured abstract. Systematic review articles should have a structured abstract with the headings; Background; Objectives; Search strategy; Selection criteria; Data collection and analysis; Main results; and Conclusions.

Brief communications

Brief communications should not include an abstract.

Main text

In full-length articles, subject matter should be organized under the following headings, with no subheadings: Introduction; Materials and methods; Results; Discussion; Acknowl edgments; Conflicts of interest; and References.

Brief communications should not have any headings separating the text.

Clinical articles

The main text of clinical articles should not exceed 2500 words, excluding the first-page information, abstract (no more than 200 words), author contributions, acknowledgments, Conflicts of interest, references (no more than 25), figure legends, and tables and figures. Please include the word count in the cover letter and on the first page of the manuscript.

Review articles

Review articles should have no more than 3000-3500 words in the main text and 40 references. Please include the word count in the cover letter and on the first page of the manuscript.

Brief communications

Brief communications should be no more than 400 words, excluding the first-page information, synopsis, keywords, author contributions, acknowledgments, conflicts of interest, references, figure legends, and tables and figures. There should be no more than 4 references and no more than 1table or 1figure.

Power calculations, statistics, and reporting of numbers.

Power calculations

Where appropriate (e.g. for clinical trials), power calculations should be performed as part of the study design, and a statement providing the power of the study should be included in the Materials and Methods. Authors should state how the power calculation was determined, including what type of difference the calculation was powered to detect and on what studies the numbers are based.

Statistics

The statistical tests used and the significance level set should be listed in the methods for all studies that employed statistical analysis. Information regarding the statistical software programs used should be included in the methods: for example, "SPSS version 20 (IBM, Armonk, NY, USA)." This information should not be included in the reference list.

P values should be provided where calculated. The largest P value that should be expressed is $P>0.99$. The smallest P value that should be expressed is $P<0.001$.

For measures of effect (e.g. relative risks, risk ratios, odds ratios), authors should also report confidence intervals (e.g. 95%) so that the precision of the effect estimate can be assessed.

5. Ethics approval and informed consent

Studies of patients, patient records, or volunteers require Ethics Committee approval and informed consent.

Ethics approval

Include a statement in the methods that the research protocol was approved by the relevant Institutional Review Board or Ethics Committee before the study began; if such approval was not needed/obtained, include an explanation. Authors must provide copies of the appropriate documentation if requested.

Informed consent

Include confirmation in the methods that all human participants gave written informed consent before the study began; if consent was not needed/obtained, include an explanation. Authors must provide copies of the appropriate documentation if requested.

6. Acknowledgments

Sources of funding should be acknowledged by the author(s), along with the names of individuals who do not fulfil the criteria for authorshi p, but who have made a substantial contribution to the manuscript.

7. Confllcts of Interest

A conflict-of-interest statement must be included in the cover letter and before the reference list in the manuscript. It should list any relationships (for any author) that may be deemed to Influence the objectivity of the paper and its review, or state that no such relationships exist. Commercial associations, either directly or through immediate family, in areas such as expert testimony, consulting, honoraria, stock holdings, equity interest, ownership, patent-licensing situations or employment that might pose a Conflicts of interest should be stated. Conflicts for other reasons, such as personal relationships or academic competition, should also be stated.

8. References

The number of references should not exceed 25 for clinical articles, 40 for review articles, and 4 for brief communications; in general, they should be limited to the past decade. They must be numbered and listed as they are cited in the article, using Index Medicus abbreviations for journal titles. Cite the names of all authors when there are six or fewer; when there are seven or more, list the first three authors followed by "et al." Include the volume number.

Journal article

[1] Vellacott ID, Cooke EJ, James CE. Nausea and vomiting in early pregnancy. Int J Gynecol Obstet. 1988;27:57-59 .

Book

[2] Speroff L, Glass BH, Kase NG. Clinical Gynecologic Endocrinology and Infertility. Baltimore: Williams and Wilkins; 1982.

Chapter in a book

[3] Disaia PJ, Creasman WT. Invasive Cancer of the Vulva. In: Disaia PJ, Creasman WT, eds. Clinical Gynecologic Oncology. St Louis: C.V. Mosby; 1984:214-219.

Web reference

[4] World Health Organization. WHO Recommended Surveillance Standards, Second Edition [WHO website). 1999. http://www.who.int/csr/resources/publications/surveillance/whocdscsrisr992.pdf.

Text references can be indicated by Arabic numerals in superscript. abc[1]

Tables

Each table should be titled, numbered (with Arabic numerals), and placed on a separate page after the reference list (not embedded within the main text).

All tables must be cited in numeric order in the main text as "Table 1" etc.

Footnotes to tables should be listed as a, b, c etc.

9. Figures and photographs

Figures and photographs should be submitted as jpg format. CONSORT flow charts should be created and submitted as editable Word/ Power Point files. All figures must be cited in numeric order in the main text as "Figure 1" etc.

Figure permission

All authors wishing to use figures (or any material) that have already been published must first obtain the permission of the original author and publisher and/or copyright holders, in addition to giving precise reference to the original work. This permission must include the right to publish in electronic media. Confirmation should be included in the cover letter (the actual permission correspondence from the copyright holder does not need to be submitted).

Photograph/video consent

If photographs or videos of identifiable people are used, authors must obtain and submit a signed statement of informed consent from the identifiable person(s) or their next of kin. Authors should not try to conceal identity with black bars over eyes etc.

9. Drugs

Give generic names of all pharmaceutical preparations and, where appropriate, include the trade name and manufacturer's name and address. Review drug names and dosages with care. The author is responsible for all recommended dosages.

10. Plagiarism

Plagiarism entails the "use or close imitation of the language and thoughts of another author and the representation of them as one's own original work." Self-plagiarism, a form of misconduct in which an author reuses his/her previously written text, data, or ideas, wholly or in part, without indicating previous dissemination, will also be considered plagiarism. Verbatim copying of sentences, even if a citation is provided (unless the sentence appears in quotation marks), is considered to be plagiarism.

11. ON ACCEPTANCE

If your paper is accepted for publication, you will receive an email informing you of this decision.

12. Copyright

Once accepted and published, all copyright will belong to ISOPARB. No part of the article could be published without permission. All disputes are subjected to Indian Jurisdiction.

13. It is desirable that the, author(s) submitting article in IJOPARB be a member of ISOPARB.

If undelivered, return to:
Indian Journal of Perinatology and Reproductive Biology
CD-55, Salt Lake City, Sector - 1, Kolkata 700064