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Indian Journal of Perinatology and Reproductive Biology (*IJOPARB*)

Indian Journal of Perinatology and Reproductive Biology (IJOPARB) is the official Publication of the Indian Society of Perinatology and Reproductive Biology (ISOPARB). This was initially introduced to support its members to publish their works of experience and the research works. This society is unique of its kind as the founder members could foresee such a need of working together in the field of perinatology and reproductive biology along with maternal and child health care.

The speciality of Perinatology has an inter disciplinary coverage. This encompasses the care for fetal health during the entire ante partum, intra partum period and also the neonatal health care in the post natal period. Perinatal health care is essentially targeted to reduce the still birth rate, prematurity, hypoxic brain injury, neonatal deaths and to prevent congenital malformations. Obstetricians are primarily looking after the maternal health. In reality the care of a pregnant woman covers the entire period of ante partum, intra partum and post partum period. It also includes the immediate care of the newborn. Therefore it is aimed to improve the health of both the mother and the fetus /newborn. There is no doubt that obstetrician is the best person for this primary and essential care. However obstetrician may seek the help of a physician when pregnancy is complicated with any medical disorder. So also, we the obstetricians seek the help of a neonatologist when pregnancy is complicated with preterm birth, septic labor and neonatal sepsis or perinatal hypoxia. Interestingly, current day obstetric practice recommends prenatal fetal wellbeing assessment. Prenatal genetic screening and diagnosis is a routine practice irrespective of maternal age. The obstetricians are again dependent on other interdisciplinary experts like the "fetal medicine". This makes our understanding now clear that we need to work together.

This year (2017), in the annual conference in Delhi, ISOPARB organised a daylong workshop covering important areas of perinatal health care. There were workshops for prenatal diagnosis, intra partum electronic fetal monitoring (cardiotocography) and Ultrasonography for fetal health including the prenatal screening and the diagnosis. All these workshops were well attended by the post graduates and the clinicians. It appears, there is a growing awareness and at the same time increasing demand for such multi-disciplinary approach of understanding and patient care.

This unique society also extends its membership to those who are interested in reproductive biology. Reproductive biology is another important field of women's health care having extended horizon. It includes the entire area covering conception to parturition, contraception and the beyond. Reproductive biology in general covers genital health, including social and sexual health and the gender equity starting from a young adolescent girl to a post menopausal senior woman. In sum, this "Indian Society of Perinatology and Reproductive Biology" *(ISOPARB),* covers many interrelated disciplines besides pure obstetrics and gynaecology. ISOPARB extends its partnership with neonatalogists, paediatricians, endocrinologists, physicians and many others. ISOPARB is working closely with other disciplines to ensure quality care in total, for women's health.

The current editor in chief, is the ninth in rank since the first appearance of the journal in 1978. Most of the predecessors namely Professor Tarun Banerjee (Kolkata), Prof. N. N. Roychoudhury (Kolkata), Prof. K M Gun (Kolkata), Prof. G. I. Dhall (PGI Chandigarh), Prof. Gita Ganguly Mukherjee (Kolkata) are/ were the teachers. It is my immense pleasure and again a pride to have this opportunity to succeed their works.

This journal at present is mainly contributed by the obstetricians and Gynaecologists of the society. We would request all our colleagues from the interrelated disciplines for their contribution also. Publications in this ***national journal*** are credited by many medical universities and Universities of state Health Sciences. We are interested in receiving high quality research articles from all the disciplines which have relevance to this practice and clinical care. *Case reports of importance, case series, observational studies, review articles,*

systematic reviews, basic science papers, Letter to the Editor will be considered for publications.

Besides the academic credit points for professional promotion, publications in *IJOPARB*, a national journal, has many additional benefits. We, as members, enjoy the national and international relationship through this society. This journal has fast turnaround time. One need not wait too long for getting the article published. Moreover the author, will get a quality feedback of the his/her research work from our experienced editorial board members who are of national and international repute.

This journal has growing popularity with its periodic publications. Questions may arise about the need of IJOPARB when we have other society of obstetricians and gynaecologists. Simple answer to this question is, society needs more and more subspecialists to give quality care to our patient. This will provide much of skill, and expertise of a sub-speciality. No doubt that in the foreseeable future, practice of space gynaecology to be learned for we the gynaecologists on the earth.

Sustainable Development Goals (SDG) 3 to 5 stress on maternal and neonatal health along with sexual health and gender equity. In India current national figure of maternal mortality is 167 per 100,000 live births and that of perinatal mortality is 41 per 1000 total births. We need to bring the rates for the both below 100 and 20 respectively. ISOPARB is an organisation that gives you the opportunity to work for the both.

Editor-in-Chief

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Acute Kidney Injury in Pregnancy and the Obstetric Practice

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During pregnancy renal function changes significantly due to its physiological adapations. Renal plasma flow and Glomerular Filtration Rate (GFR) start rising from the first trimester and it increases as high as 80% in the third trimester.

Physiological changes in pregnancy bring major hemodynamic and biochemical alterations. There are fall in the levels of serum albumin, hematocrit values and plasma oncotic pressure. There is pregnancy induced hypervolemia, alongwith structural and functional changes in the kidney. While there is increase in renal plasma flow and glomerular filtration rate (GFR), at the same time there is reduced plasma sodium (hyponatremia) and bicarbonate level. There is also fall in the level of serum urea, uric acid and creatinine. These changes in the biochemical parameters are important to understand and to interpret their values in pregnancy specially to recognise the early onset of acute kidney injury (AKI)[1]. Levels of serum creatinine fall well below the level of non-pregnant condition (1.0 mg/dL or 90 µmoL/L). Average creatinine level in pregnancy is around 53 µmoL/L. Levels of serum creatinine >1.2 mg/dL or >90 µmoL/L[2] is considered impaired GFR during pregnancy.[3]

Therefore levels of serum creatinine within "normal" range in nonpregnant condition, should alert physician to the possibility of renal dysfunction while in pregnancy. Unfortunately AKI in pregnancy has not been defined separately, though the international definition of AKI in non pregnant condition is there.

Overall prevalence of AKI in pregnancy is difficult to quote. In the developed world there is decline in the incidence AKI. This is mainly due to fall in the septic abortion cases and also with the fall of other causes of sepsis (pyelonephritis). Unfortunately in the developing world it is still high. Prevalence of AKI in India as obtained from different report is about 10%.[3] Sepsis related AKI is associated with a high number of maternal morbidity and mortality in India.[4]

AKI complicates 1-2% of obstetric admissions in the developed world and the most common cause being pre eclampsia[5]. The other common causes of AKI in pregnancy are : septic abortion, urosepsis, hemorrhage (early and late pregnancy), severe preeclampsia (PE) and eclampsia (E), HELLP Syndrome, placental abruption, post partum hemorrhage (PPH) and disseminated intra vascular coagulapathy (DIC). There are some causes due to renal pathology (nephritis) and postrenal causes (ureteric obstruction due to surgical causes or due to calculus). Besides the above mentioned causes, current observation is that some drugs used in pregnancy are to cause AKI.

AKI due to Preeclampsia (PE) Eclampsia (E) and HELLP syndrome

Overall prevalence of AKI in relation to PE, E and HELLP syndrome is about 1.5% to 2%.[6,7] Pathology involves glomerular endotheliosis, decreased permeability of glomerular capillaries and ultimate fall in GFR. Glomerular disease is the commonest pathology in cases with PE, E and HELLP syndrome. Currently oliguria has been eliminated as the diagnostic criteria of severe preeclampsia[8]. Rising level of serum creatinine (>100 µmol/L) has been observed to be associated with adverse maternal outcome. Clinical problem is further aggravated in such a patient when she is under magnesium sulphate therapy because of her severe hypertension. $MgSO_4$ is excreted through the kidneys. $MgSO_4$ dose adjustment is essential when there is suppression of urine production in this patient. In such a clinical scenario, when the women develops oliguria, serum $MgSO_4$ level need to be estimated to detect toxicity.[4] Underlying renal pathology due to severe hypertension, make the women more prone to develop AKI even with the usual dose schedule of $MgSO_4$.

Women with severe hypertension need careful monitoring during fluid therapy. Intravenous fluid therapy in a woman with oliguria due to severe hypertension results in sudden development of pulmonary edema and acute respiratory distress syndrome (ARDS). This is due to the underlying pathology of endothelial dysfunction and increased capillary permeability as observed in PE, E and HELLP syndrome. This is one of the significant

cause of maternal mortality. Otherwise these women go into the phase of natural diuresis by the next 48 hours in post partum period. Oliguria is the common observation in these women and fluid challenge should be avoided to reduce the risks of AKI. In women with HELLP syndrome, the incidence of AKI is about 3% -15%.[9] The pathology is further aggravated when a pregnant woman with severe hypertension is complicated with placental abruption, disseminated intravascular coagulation (DIC) or intra uterine fetal death (IUFD).

Sepsis As An Etiology of AKI

Severe sepsis in pregnancy causes decreased GFR mostly due to endotoxic shock. In majority of septic cases, women suffer acute tubular necrosis. Septic abortion, puerperal sepsis, chorioamnionitis and pyelonephritis still remain the leading cause of sepsis in India. Acute tubular necrosis is a reversible condition whele renal cortical damage due to severe ischemia is irreversible. Renal tabular vasoconstriction develops due to activation of renin-angiotensin-aldosterone system (RAAS). In India sepsis related maternal death is about 15% .[10]

Drugs in Pregnancy and AKI

Drugs remain a potential cause for AKI. Many a drug cause acute interstitial nephritis. Non-steroidal anti-inflammatory drugs (NSAIDS), antibiotics (amino glycosides), proton pump inhibitors and H_2 receptor antagonists are often associated.[11]

Nonsteriodal anti-inflammatory drugs (NSAIDS)

NSAIDS are the commonly used drug in obstetrics all over the world. Common indications of NSAIDS therapy are in the peripartum period and less often in pregnancy. It is prescribed to control pain of the episiotomy wound and to relieve musculo skelletal pain in pregnancy before 30 weeks. NICE guidelines recommend use of NSAIDS for cases where pain relief is insufficient with paracetamol.

Pharmacologically NSAIDS works through inhibition of prostaglandin biosynthesis by blocking the action of cyclo-oxygenese (COX) enzyme. Inhibition of synthesis of PGE_2, PGI_2, leads to absense of pain, pyrexia and inflammation. It is important to note that the most beneficial effect of the COX enzyme is to maintain the normal homeostasis in the cardiovascular system, gastrointestinal system and in the Kidney functions.

Suppression of normal enzyme function therefore manifests with some recognised adverse effects of many organ functions of the body. Adverse cardiovascular effects are manifested with hypertension, myocardial infarction and even cardiac failure. Abnormalities in the gastrointestinal system are: dyspepsia, G. I. tract ulceration, G.I. bleed that may be alarming at times. Inhibition of platelet aggregation is a known adverse effect. This again adds to many organ function adversely. Adverse kidney functions are: hyperkalemia, sodium retention, renal papillary necrosis and ultimately AKI.

Renal blood flow is decreased due to the absence of vasodilatory prostaglandins. Persistent vasoconstriction and hypoxia causes renal papillary necrosis renal tubular necrosis and AKI. Renal complications are observed in about 1% - 5% of woman exposed to NSAIDs. However it may be as high as 20%, if the individual has got pre existing risk factors for AKI. Considering all these, NSAIDs are to be avoided specially in a woman with risk factors like preexisting chronic kidney disease(CKD), severe PE, E, volume depletion (PPH) or disseminated intravascular coagulopathy (DIC). In most situations, it has been observed that more than one risk factors are present in one individual patient to cause AKI. It is not uncommon to see a woman with severe PE and E with $MgSO_4$ therapy and to receive aminoglycoside and NSAIDs during the peripartum period.

Selection of drugs for a woman with high risk for AKI is essential for any clinician. Majority of NSAIDs are nephrotoxic. Naproxen, indomethacin, fenoprofen are known to be of higher risk category.[12,13] Risks of AKI is higher when such drugs are used over a long period of time. Ibupofen at a lower dose (800-1200 mg) has been found have lower risk and it has been considered the analgesic of first choice in the postpartum period. NSAIDs of low risk category when used for a short term basis, usually not associated with any adverse effects. Even if it occurs, it usually subsides once the therapy is withdrawn.

It's always a good practice not to prescribe NSAIDs to a woman known to have CKD. NSAIDs are contraindicated in all women with PE and E as it increases the risk of hypertension and fluid overload. Woman suffering from the problems of hypovolemia (post partum hemorrhage, uncontrolled hyperemesis), severe sepsis, should not be prescribed with NSAIDs. Paracetemol remains the alternative analgesia. It is safe both for the mother and the neonate. Breast feeding is not contraindicated in this situation.

Other Relatively Uncommon Causes of AKI :

Thrombotic thrombocytopenic purpura (TTP), hemolytic uremic syndrome (HUS), autoimmune disease like lupus erythematosus, lupus nephritis (20% - 40%) are the other few causes.[14,15] The woman presents with the features of AKI, proteinuria and hypertension. Acute fatty liver of pregnancy (AFL) may cause AKI, though rare. Majority of women with AFL in pregnancy reveal tubular free fatty acid deposition. Nearly 3 to 5% of woman with AFL in pregnany need renal transplant therapy.[16]

Management of AKI in Pregnancy is the domain of a nephrologist. Obstetrician should be alert to make the early recognition of the condition. Supportive care is to be organised at the earliest opportunity. Maintenance of circulatory volume and renal perfusion specially in situations of hypovolemia and hypotension are to be done promptly. We need to adjust the drug doses when urine output is below 30ml/hour. Drugs known to be

nephrotoxic should be withdrawn. Renal replacement therapy may be needed in the presence of hyperkalema (serum K^+> 6.5mEq /L), metabolic acidosis (serum HCO^-_3<13 mEq/L), fluid overload specially when it becomes refractory to usual medical therapy. Prophylactic dialysis may be considered with serum area >100mg/dL or serum creatinine >5mg/dL.

Summary:

There are major alterations in the structural and functional component of the kidney due to physiological changes in pregnancy. Interpretation of kidney function test values are to be carefully made during pregnancy. Causes of AKI are many. We are concerned with some of the important causes like sepsis, hypovolemia and the drugs. We the obstetricians, need to keep in mind the conditions of hypovolemia like haemorrhege both in early (abortion related, etopic pregnancy) and late pre pregnancy (antepartum hemorrhage, DIC) and also the postpartum hemorrhage. Timely volume replacement and appropriate intervention many reduce the risk of AKI. At times there may be more than one factor to precipitate AKI for one patient. NSAIDs are the commonly prescribed drugs known to be nephrotoxic. Serum creatinine is not a sensitive biochemical parameter to diagnose AKI. Obstetricians should be able to recognise AKI early and to initiate the supportive care. Actual management to this is the domain of a nephrologist. Renal replacement therapy is needed for a woman who does not improve with usual management.

Long term prognosis of AKI in pregnancy is unknown. Outside pregnancy AKI is associated with an increased risk of chronic renal didease (CKD), end stage renal disease and mortality.[17]

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Comparison of the Combination of Mifepristone and Vaginal Misoprostol with vaginal Misoprostol alone for Cervical Ripening and Labor Induction at Term - (A Randomised Controlled Trial).

Kinjal Shah[1], Shonali Agarwal[2]

Abstract

Aims & Objectives: To compare the efficacy of a combination of the Oral Mifepristone and vaginal misoprostol with vaginal misoprostol alone for labor induction and to test the hypothesis that use of the Oral Mifepristone plus vaginal misoprostol will result in shorter induction to delivery time.

Method: This was a Randomized controlled trial. The subjects included in the study were admitted in the labor room. Per vaginal examination was done and pre-induction Bishop score noted. Cardiotocography was done on admission and pre-induction fetal heart tracing noted. Indication for the induction was clearly explained to the participant. Then subjects were induced with respective method of induction of the group. In GROUP A: Oral Tablet Mifepristone (200mg) followed by 48hrs later Tablet Misoprostol (25 microgram 4 hourly) pervaginally was given and in GROUP B: Tablet Misoprostol (25microgram) every 4 hourly pervaginally was given.

Results: The differences in results were statistically significant in combination group in outcomes like induction active phase interval, number of doses required. The other parameters like induction delivery interval, augmentation of labor, normal vaginal deliveries, neonatal Apgar score at 1 min, NICU admissions, incidences of fetal distress, presence of meconium stained liquor, non reassuring fetal heart pattern were also favoring the combination group but the difference was not statistically significant.

Conclusions: it can be concluded from the study, that combination of Tablet oral Mifepristone and vaginal misoprostol was more effective for induction of labor in full term pregnancies with live fetuses.

Keywords: Oral Mifepristone and per vaginal misoprostol, per vaginal misoprostol alone, induction of labor, induction delivery interval, induction active phase interval.

Introduction

Induction of labor is a common obstetric intervention. It is defined as stimulation of uterine contractions before the spontaneous onset of labor with or without spontaneous rupture of membranes[1]. The term is generally limited to the pregnancies which have crossed the gestational age for fetal viability. It is stated that in USA incidence of induction of labor is increased from 9.5% to 22.5% between 1990 to 2006[2]. Overall it is done in about 20% of pregnancies[3].

Various pharmacological (prostaglandins, oxytocin) and mechanical methods (supracervicalfoley's bulb, laminaria tents) can be used alone or in combination in order to achieve cervical ripening, regular uterine contractions, cervical dilatation and subsequent delivery. The best method remains uncertain.

It is stated that for successful delivery, Bishop Score should be favourable i.e. >6. If Bishop score is <6, then spontaneous vaginal delivery is less likely and it is recommended that cervical ripening agent should be used[4]. Once the cervix becomes favourable i.e. bishop score>6, labor can be augmented with other methods such as amniotomy, oxytocin or both[5].

As a fall in the level of progesterone is considered one of the important events in the onset of spontaneous labor, the antiprogesterone agent mifepristone was used in several trials to induce labor at term.

Mifepristone (RU 486) is a 19-nor steroid that binds strongly to progesterone receptor and inhibits the activity of progesterone at cellular level with potent antiprogestogenic, antiglucocorticoid and a weak antiandrogenic actions, has minimal effects on uterine contractility as it ripens the cervix, making it an option for use in induction and enhance the rates of spontaneous labor, with no apparent maternal or neonatal side effects[6].

Tablet misoprostol is PGE1 analogue which was primarily manufactured as an anti peptic drug. But studies show that it is very effective for cervical ripening[7] Mifepristone, administered before misoprostol, increases the sensitivity of the uterus to prostaglandins and ripens the cervix, thereby allowing lower doses of misoprostol to induce expulsion of the fetus. Combining both methods may have synergistic or additive effect resulting in a shorter induction to delivery time.[12]

Synthetic prostaglandins imitate normal physiological cervical ripening and increase the sensitivity of the uterine myometrium to Oxytocin.

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Although the best agent and method for induction of labor remains uncertain, it is biologically plausible that a combination of a chemical agent (synthetic prostaglandin and antiprogestins) may have an additive or synergistic effect, resulting in a greater degree of cervical ripening and shorter induction-to-delivery time. The dose of Misoprostol used also may be less in presence of the additive effect of Tablet Mifepristone thus reducing possibility of adverse effects of Misoprostol.

Thus a timely and a safe delivery can be achieved in the presence of an unfavourable cervix by combination method. The shortening of induction to delivery time would be significant for patients, health care providers and hospitals.

Aims & Objectives

- To compare the efficacy of a combination of the oral Mifepristone and vaginal misoprostol with vaginal misoprostol alone for labor induction.
- To test the hypothesis that use of the oral Mifepristone plus vaginal misoprostol will result in shorter induction to delivery time compared with only vaginal misoprostol.

Materials & Methods

After getting ethical committee approval, This randomised controlled trial was carried out at SSG Hospital, Baroda during one year period from December 2014 to November 2015.

A total of 140 women attending the obstetrics and gynaecology department for delivery in whom induction of labor was indicated and who fulfilled the inclusion criteria were included in the study.

The eligible subjects were given a patient information sheet and were enrolled in the study after obtaining written and informed consent to participate in the study.

The following INCLUSION CRITERIA were used while selecting the subjects for the study :

1) Singleton pregnancy ³ 37 weeks of gestation
2) Cephalic presentation
3) Intact membranes
4) Bishop score <6

The following EXCLUSION CRITERIA were used for selecting the subjects for study

1) < 37 weeks of gestation
2) Fetal mal-presentations
3) Multi fetal gestation
4) Non reassuring fetal heart rate tracing
5) Congenital anomalies of the fetus
6) Intrauterine growth restriction
7) Intrauterine death of fetus
8) Previous caesarean delivery or other uterine surgery (myomectomy, hysterotomy)
9) History of antepartum hemorrhage
10) Cephalopelvic disproportion

The subjects enrolled in the study were asked to choose one envelop containing their number randomly (randomization by envelop method) and accordingly they were divided into 2 groups - group A and group B containing 70 subjects each.

Group A - Tablet Mifepristone (200mg) orally followed by Tablet misoprostol (25microgram) 48 hours later every 4 hourly Pervaginally

Group B - Tablet misoprostol (25 microgram) only every 4hrly Pervaginally .

The subjects included in the study were admitted in the labor room. Routine investigations were sent. Complete history, general examination and systemic examination was done. Per vaginum examination was done and pre-induction Bishop score noted. Cardiotocography was done and pre-induction fetal heart tracing noted. Indication for the induction was clearly explained to the participant. . Then subjects were induced with respective method of induction of the group.

Group A:

This group comprised of the women were induced with both Tab Mifepristone and Tab Misoprostol. In this group woman received 200 mg of Tab Mifepristone orally 2 days (48hours) prior to the day of vaginal misoprostol and were asked to report to labor room if they have leaking PV, abdominal pain prior to that.

- After 48 hrs, if bishop's score less than equal to 6, 25 microgram Misoprostol will be administered vaginally every 4 hourly to maximum of 5 doses.
- Even after 5 doses of Misoprostol the Bishop's score has not change the induction attempt is categorised as failed.

Group B:

This group comprised of the women who were induced with tab Misoprostol only. They received 25 micrograms of tab Misoprostol per vaginum every 4 hourly and the time was noted each time. Once the cervix became favourable i.e. Bishop's score greater than 6 or the subject entered active labor (cervical dilatation more than 4 cms), misoprostol administration was discontinued. If regular uterine contractions defined as >3 contractions/10 minutes were present and the progress of labor was normal then expectant management was continued. If the progress of labor was not normal then management was done actively either by amniotomy and/or starting intravenous oxytocin. Where indicated, intravenous oxytocin was started as per standard protocol 4 hours after the last dose of misoprostol. Oxytocin was administered as per standard protocol starting at 2 miliunits/min increasing by 2 miliunits every 20 minutes until regular uterine contractions occurred,maximum upto(40miliunit/ml) adequate uterine contaction of 2-3 lasting for 30-40 seconds in 10mins is achieved.

Other aspects of labor management were similar for both groups. Electronic fetal monitoring was done prior to induction and 2 hourly thereafter. Fetal heart rate auscultation with stethoscope was done every 30

minutes prior to active stage of labor, every 15 minutes in active first stage of labor and every 5 minutes in second stage of labor. Uterine contractions were assessed clinically for frequency and duration. They were considered subnormal if the frequency was <3 in 10 minutes lasting for <20-30 seconds. Amniotomy was performed when feasible. Fetal heart rate tracing was considered normal when basal heart rate was between 110 to 160, beat to beat variability of fetal heart was >5, >1acceleration and no deceleration in 20 minutes trace. The tracing was considered abnormal if there was persistent reduced baseline variability, tachycardia, late decelerations or variable decelerations. (as described by NICE7) During labor, the fetal heart tracing was carefully viewed for the presence of tachysystole which was defined as more than 5 uterine contractions in 10 minutes. If tachysystole was present with subsequent decelerations, oxytocin infusion was stopped and tocolytics in the form of Tab Nifedipine (40mg stat) was given. If still the fetal heart tracing remained abnormal, then the method was terminated immediately and necessary actions including caesarean section was taken.

The subjects were followed up intra-partum and post-partum. Both groups were compared with respect to following outcome measures.

Primary outcome measure:

1. Induction-to- delivery time. (In both groups it was taken as time from first vaginal misoprostol to delivery)
2. Induction to active phase interval

Secondary outcomes measures:

- Mode of delivery ,

Incidence of followings

- Non reassuring fetal heart pattern ,
- Tachysystole,
- Postpartum hemorrhage (defined as estimated blood loss greater than 500 mL for vaginal delivery or greater than 1,000 mL for caesarean delivery),
- Chorioamnionitis,
- Neonatal Apgar scores (1 minute Apgar score £ 6, 5 minute Apgar score £ 7),
- Neonatal intensive care unit admission,
- Caesarean delivery for failed induction or fetal distress,
- Instrumental delivery for fetal distress (forceps delivery, ventouse)
- Presence of meconium stained amniotic fluid

Data Collection :

Participant data including demographic characteristics, medical and obstetric history, labor course and outcome was collected and documented. Each indication for induction of labor was documented.

Data Analysis :

Independent 't' test was applied for comparing selected baseline characteristics and outcome measures which were continuous variables. And for categorical variables chi square test was applied. The mean induction to delivery interval in two groups was compared using standard error of difference between two mean.

Obsrvation, Analysis & Discussion

This was a randomised controlled trial. In this study, total 140 subjects satisfying the inclusion and exclusion criteria were enrolled which were randomised into 2 groups by envelope method.

The observations of the study are discussed and analysed as follows.

The majority of subjects were booked cases (78.6% in group A, 61.4% in group B), primigravidas (68.6% in group A, 60% in group B, overall 74.5%) and in the age group of 21-25 years (60% in group A, 70% in group B,).

Table 1 : Indications For Induction

Indications	Group A (Total Patients=70)	Group B (Total Patients=70)
Oligohydramnios	20(28.6%)	30(42.8%)
Postdatism	19 (27.14%)	13(18.6%)
Hypertensive disorders	30 (42.8%)	27(38.5%)
Bad obstetric history	1	0

Table 1 shows various indications for induction of labor and their distribution.

Overall the most common indication for induction was hypertensive disorder consisting 45.1% of total subjects (42.8% of group A and 38.5% of Group B) followed by oligohydramnios (28.6 in Group A and 42.8 in Group B), and then postdated pregnancy (27.6% in Group A ,18.6% in Group B). Bad obstetric history, prolonged latent phase and precious pregnancy were minor indications. In group A and Group B patients of oligohydramnios were those who were having normal Fetal Doppler study were included for induction.

Table 2 : Gestational Age

Gestational age in weeks	Group A	Group B
37.1 – 38	5(7.14%)	9(12.8%)
38.1 – 39	15 (21.42%)	17 (24.3%)
39.1 – 40	13 (18.5%)	22 (31.42%)
40.1 – 41	31 (44.28%)	14(20%)
>41	6(8.5%)	8 (11.42%)

Table 2 shows the distribution of subjects according to gestational age.

The cut-off criteria for inclusion in our study was >37 weeks. The data shows that around 40% subjects were

having gestational age in the range of 38-40 weeks. 8.5 %subjects in Group A while 11.4% subjects in Group B were having gestational age >41 weeks

Table 3: Initial Bishop Score

Bishop's score	Group A(Before giving tablet Mifepristone)	Group B(Before giving Tablet misoprostol P/V)
1	0	1 (1.9%)
2	7 (13.7%)	2 (3.9%)
3	19 (37.3%)	23 (45.2%)
4	21 (41.2%)	21 (41.2%)
5	4 (7.8%)	4 (7.8%)

Table 3 shows the comparison of initial Bishop score of the subjects in two groups.

Bishop score was an important parameter in our study for including or excluding the cases. It was also observed that higher the Bishop score,more is the probability of normal delivery and also less induction to delivery interval. All the subjects enrolled in the study were having Bishop score of <6.

Wilcoxon test was applied to Group A Pre Mifepristone and Post Mifepristone bishops score and p value was <0.0001.Difference in bishops score was significant following administration of mifepristone tablet.

Group A	Median	Interquartile Range	P Value
Premifepristone Bishops Score	1.0000	1.0000 TO 2.0000	<0.0001
Post Mifepristone Bihops Score	4.0000	3.0000 TO 4.0000	

Table 4: Total doses of Misoprostol for Induction Required in both Groups

Doses	Group A	Group B
0	11	0
1	18	26
2	32	25
3	4	10
4	2	4
5	3	5

No,of misoprostol	Group A	Group B
<=2	61(87%)	51(72%)
>2	9(13%)	19(28%)

Table 4 shows the requirement of doses of misoprostol compared in two Groups

According to our study, <2 doses were required in 87% subjects of group A and 72% subjects of Group B. Subjects in misoprostol only Group required more doses for delivery as compared to combination Group.

The difference was statistically significant with P=0.005.

K. yelikar et al[8] they have found that no. of Mean dose of misoprostol in Study Group was less 40 ± 27.2compared to Control group, while the same in Control Group was 52 ± 19.46.

Table 5 : Mode of Delivery

Mode of delivery	Group A	Group B
Normal Vaginal delivery	44 (62.8%)	41(58.6%)
Operative (caesarean or instrumental)	26 (37.2%)	29(41.4%)

Table 6 : Distribution of Operative Deliveries

Mode of delivery	Indication	Group A (28)	Group B (31)
Caesarean	Failure of induction	2	2
	Fetal distress	23	27
	Non progression in 1st stage of labor	2	1
	Non progression in 2nd stage of labor	1	1

Table 5 and 6 compares the mode of delivery and distribution of operative deliveries in two groups along with their indications.

The study showed that 62.8% subjects in Group A and 58.6% subjects in Group B had normal vaginal deliveries. In rest cases, intervention in the form of of caesarean section or instrumental vaginal delivery was required. But The difference in the two groups was not statistically significant (P=0.17 λ^2=0.12)

The indication for operative intervention was either fetal distress or nonprogression. 2 subjects in each group of our study had failure of induction. 23neonates in Group A and 27neonates in group B had fetal distress. There was no significant difference in either the indication for intervention or type of intervention in the two groups.

In study of R. Athawale et al[9] they have found that Vaginal delivery Rate was(76%) and Iscs (36%) in mifepristone group and in control group vaginal delivery rate was 24% and Iscs rate was 64% the difference was significant (p<0.0001).

Table 7 : Need for Augmentation

Methods	Group A	Group B
Oxytocin	27 (38.6%)	42 (60%)
Amniotomy	36 (51.42%)	64 (91.42%)

Table 7 shows the need and type of augmentation required in two groups.

It was found that need for augmentation with oxytocin or amniotomy in Group B was more as compared to Group A but the difference was not statistically significant (P=0.8, c^2 0.06).

R. Athwale et al[9] concluded in their study that Augmentation required was 26% in mifepristone group and 80% in control group with p<0.0001 Significant

Induction -Active Phase Interval

	Median	Interquartile Range	Mann Whitney U Test	P Value
Group A	340	190-520	1927	0.02
Group B	420	300-600		

On comparing median Induction-active phase interval of two groups using statistical MANN WHITNEY U TEST-, P value came to 0.02. This suggests that Induction-Active phase interval was statistically lower in group A as compared to group B. Whatever difference observed in induction-delivery interval between the two groups is real and not by chance.

Table 8 : Induction - Delivery Interval

	Median	Interquartile Range	Mann Whitney U Test	P Value
Group A	510	250-725	2309	0.5
Group B	485	387-690		

Table 8 shows the comparison of our primary outcome measure i.e induction delivery interval between the two groups.

On comparing median Induction-delivery interval of two groups using statistical MANN WHITNEY U TEST-, P value came to 0.5. This suggests that Induction-Delivery interval was not statistically lower in group A as compared to group B. Whatever difference observed in induction-delivery interval between the two groups is not real and by chance.

K.Yelikar et al[8] fund in their study Mean induction to delivery interval was 1,907 ± 368.4 min for mifepristone + misoprostol group versus 2,079 ± 231.6 min for misprostol Group

Table 10 : Neonatal Apgar Scores

Apgar	Group A	Group B
Normal Apgar	67 (95.7%)	66 (94.3%)
1 min Apgar <7	3 (4.3%)	4 (5.7%)

Table 10 shows the comparison of neonatal Apgar score at 1 min and at 5 mins.

Apgar score is the reflection of the neonatal well being. It is calculated at 1 and 5 mins. Normal Apgar score is 9.

In this study, 95.7% of neonates in Group A and 94.3% neonates in Group B were having normal Apgar score and rest were <7 at 1 min. No baby was having abnormal Apgar score at 5 mins.

Table 11 : Other Secondary Outcomes

Parameters	Group A	Group B	
Meconium stained liquor	25 (35.7%)	30 (42.8%)	0.49
Non reassuring CTG	23(32.8%)	32 (45.7%)	0.16
Post partumhemorrhage	1	1	
Chorioamnionitis	0	0	
Tachysystole	0	0	

Table 12 shows the comparison of rest secondary outcomes between the two groups.

From our study, it was seen that there were more incidences of meconium stained liquor and non reassuring CTG in Group B, but there was no difference in significance level (P=0.49for meconium stained liquor, P=0.16, There was no incidence of post partum hemorrhage (PPH) or chorioamnionitis in either group. There was no case of tachysystole in the study K. Yelikar et al[8] have found that no increase in maternal morbidity.

Summary

This study compared the efficacy of 25 mcg vaginal misoprostol with a combination of Oral Mifepristone and vaginal misoprostol 25 mcg for labor induction in full term pregnancies with no previous uterine scar and live fetus.

The demographic characteristics were comparable with respect to maternal age, parity, type of admission, gestational age, indication for induction and initial Bishop score. The outcome measures compared were induction to delivery interval (which was the primary outcome), induction to active phase interval, number of doses, mode of delivery, need for caesarean section with indication, non reassuring fetal heart rate pattern, augmentation with oxytocin or amniotomy, fetal outcome, meconium stained liquor, neonatal Apgar score, NICU admissions and maternal complications.

The majority of subjects were booked cases (78.6% in group A, 61.4% in group B), primigravidas (68.6% in group A, 60% in group B, overall 74.5%) and in the age group of 21-25 years (60% in group A, 70% in group B). Hypertensive disorder was the most common indication (42.8% in group A, 38.5% in group B) followed by Oligohydramnios (in Group A 28.6%,Group B 42.8%). There was no significant difference in the two groups for the above mentioned parameters.

The median induction to delivery interval in Mifepristone + Misoprostol Group was 510(IQ 250-725min and in Misoprostol only Group was 485(IQ 387-690).This difference was not significant with P value less than 0.5IThe median induction . to active phase interval in mifepristone + misoprostol 340(IQ 190-520) misoprostol only group was 420 (IQ 300-600). The difference was statastically significant with p value 0.02 The mean number of doses required in Group A was 1.6 where as in Group B, it was 2.1. Less doses were required for delivery in combination group which was statistically significant (P=0.005). Normal vaginal deliveries were more in combination group (62.8% vs 58.6%) . the difference was not significant statistically (P=0.17,?2 0.12).

Augmentation was required in less number of subjects in combination group (38.6% vs 60%) but the difference was not statistically significant (P=0.8). Fetal outcome was equal in both Groups. Neonatal Apgar score at 1 min was less than 7 in 3/70 in group A vs 4/70 in group B. Incidences of fetal distress were more in group B (42.8% vs 35.7%). The difference was not significant (P=0.49). NICU admissions were less in Group A as compared to Group B (9 vs 13).

The proportion of subjects having meconium stained liquor and non reassuring fetal heart pattern were more in misoprostol only group (35.7% vs 42.8%, 32.8% vs 45.7% respectively) but the difference was non-significant [(P=0.49) and (P=0.16) respectively]. There was no incidence of post partum hemorrhage, chorioamnionitis or tachysystole in our study.

Conclusions

Considering the results of this study, it can be concluded that combination of Tablet Mifepristone and pervaginal misoprostol was more effective as compared to pervaginal misoprostol alone for induction of labor in full term pregnancies with live fetuses.

The differences in results were statistically significant in outcomes like induction active phase interval, number of doses required. The other parameters like need for induction delivery interval, augmentation of labor, normal vaginal deliveries, neonatal Apgar score at 1 min, NICU admissions, incidences of fetal distress, presence of meconium stained liquor, non reassuring fetal heart pattern were also favouring the combination group but the difference was not statistically significant.

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Emergency Obstetric Hysterectomy- A 5-Year Retrospective Study At Patna Medical College, Patna, Bihar

Sneh Kiran[1], Abha Rani Sinha[2]

Abstract

Background- Emergency obstetric hysterectomy is a life saving procedure, which is often performed to treat some obstetric complications as a last resort to prevent maternal mortality.

Objectives- To review the incidence, maternal profile, indications of obstetric hysterectomy & the maternal mortality following this procedure.

Methods- A retrospective analysis of emergency obstetric hysterectomy performed over a period of 5 years from 2010 to 2014 in department of obstetric and gynaecology , Patna medical college & hospital, Patna , Bihar.

Results- In 5 -year, total 34,020 deliveries were conducted and amongst them 256 emergency hysterectomies were performed giving an incidence of 0.75%. it was most common in the age group 26-30 years and in multiparous women.

The most common indication for emergency obstetric hysterectomy was rupture uterus (60.4%) followed by placental pathology (22%). The maternal mortality was 15%

Conclusion- Emergency obstetric hysterectomy is a life saving procedure in women with life threatening haemorrhage in cases of rupture uterus, placental pathology & intractable post partum hemorrhage. Augmentation of health care facilities, identification of high risk cases, early referral, timely performance of surgery and resort to procedure like internal iliac artery ligation, ballon tamponade etc can reduce the incidence of emergency obstetric hysterectomy.

Key words- EOH, PPH, Rupture uterus, Placenta previa.

Introduction

Emergency obstetric hysterectomy is a surgical procedure usually performed as a life-saving measure to control massive hemorrhage. It includes cesarean hysterectomies that are performed after cesarean delivery and postpartum hysterectomy performed after vaginal delivery. Worldwide its incidence varies from 0.24- 8.9 / 1000 delivery. Following vaginal delivery, its incidence is 0.1- 0.3/1000 delivery and in C- section, incidence ranges from 0.17- 8.7/1000 delivery.

Emergency obstetric hysterectomy is a catastrophic life saving procedure. In no other gynecological and obstetrical surgery is the surgeon in as much dilemma as when deciding to do an emergency obstetric hysterectomy. On one hand it is last resort to save women's life and on the other hand her reproductive capability is sacrificed. The common indications of emergency obstetric hysterectomy are uterine rupture and atonic uterus. With increasing number of C-section rate, abnormal placental adhesions, placenta previa has emerged as a common indication.

Aim of the Study-

a) To know the incidence of emergency obstetric hysterectomy

b) To find the commonest cause for performing emergency obstetric hysterectomy

c) To study the maternal morbidity and find out the incidence of maternal mortality

Method-

This retrospective observational analytical study of 256 cases of emergency obstetric hysterectomy was performed over a period of 5 years from January 2010 to December 2014 at Patna Medical College, Patna. Data were collected from record room, Patna Medical College, Patna. The study population included all patients who underwent emergency obstetric hysterectomy during labour and puerperium. Evaluation of maternal age, parity, gestational age, indications for hysterectomy and type of operation was done. The maternal outcomes were also analysed.

Results-

Incidence of Emergency Obstetric Hysterectomy- A total of 34,020 deliveries were conducted during the period of study, 11,919 were caeserian section and 22,101 were vaginal delivery. A total of 256 emergency obstetric hysterectomies were done.

Table 1- Incidence of EOH-

No of deliveries	34,020
No of LSCS	11,919
NO of vaginal deliveries	22,101
No of EOH	256
Ratio of EOH:TD	0.0075
Ratio of EOH:LSCS	0.0214
Incidence of EOH	0.75%
Incidence of EOH in LSCS	2.14%

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Year Wise Incidence-

2010	0.83%
2011	0.91%
2012	0.83%
2013	0.65%
2014	0.51%

Hence the incidence of EOH in this study is 7.5/1000 deliveries and it shows a decreasing trend in recent years.

Maternal Characteristics-

Table 2- Age-

20 yr	4(1.5%)
21-25 yr	85(33%)
26-30yr	97(37%)
31-35yr	50(19%)
36-40yr	14(5.4%)
41-45yr	6(2.3%)

Table 3- Parity-

1	1(0.3%)
2	47(18%)
3	71(27%)
4	46(17%)
5 or>	91(35.5%)

The mean age of patient was 32.5 years (20-45 years). The youngest was 20 years old and the oldest was 45 years old. Two were primipara and rest were multipara. 70% were unbooked & 30% were booked.

Indications-

Table 4-

	Indications	No of pt	%
1)	Rupture uterus	155	60.5%
2)	Abnormal Placentation	67	26.1%
3)	Uncontrolled PPH	26	10.1%
4)	Abruptio placentae	3	3.3%
5)	Cornual rupture	2	
6)	Supralevator tear extending upto uterus	1	
7)	Abdominal pregnancy	1	
8)	Hemoperitoneum after LSCS	1	

Rupture uterus (60.5%) & placental abnormality (26.1%) were the two major indications of EOH in this study.

Risk factors-

Table 5-

Previous C-section	128(50%)	
Multiparity	94(36.7%)	
Placenta previa	24(9%)	
Multiple pregnancy	5	4.3%
Abruptio placentae	3	
Obstetric manipulations	2	

Previous C-section & multiparity were the significant high risk factors for EOH.

Complications & Postoperative morbidity -

Table 6-

Septicemia	48(18.9%)
Wound infection	41(16.2%)
Bladder injury	2(1%)
Vesico- vaginal fistula	13 (5.4%)
Urinary tract infection	13(5.4%)
Pneumonia	10 (4.1%)
Burst abdomen	10(4.1%)
Bowel injury	2(1.4%)
Psychosis	2 (1.4%)
Maternal death	39 (15.23%)

Many patients had more than one complications.

Maternal mortality-

Table 7- Causes of maternal mortality-

Hemorrhagic shock	23(58.9%)
Consumptive coagulopathy	10(25.6%)
Pulmonary embolism	3(7.6%)
Septic shock	3(7.6%)

There were 39 maternal mortality (15.2 %.)

Discussion -

Emergency obstetric hysterectomy still remains a life saving procedure. This study reviewed 5 year experience of EOH at Patna Medical College & Hospital, Patna. There were 11,919 LSCS, 22,101 vaginal deliveries and 256 emergency obstetric hysterectomies. The incidence of EOH in present study is 0.75%, which is comparable with the studies by Archana et al (2009) & Shaikh N B et al (2010) shomting incidence of 0.73% & 0.63%. In contrast Agashe et al (1995) & Praneshwari devi et al (2004) reported a lower incidence of 0.056% & 0.07%. This higher incidence in this study is due to that our institution is a tertiary care referral hospital and most of the cases were referred from periphery with a very poor general condition.

Table 8. Comparison with other reported series

Sturdee and Rushton (1986)	0.05%	UK
Ambiye et al (1988)	0.12%	India
Mantri et al (1993)	0.32%	India
Agashe et al (1995)	0.056%	India
Kore et al (2001)	0.18%	India
Praneshwari Devi et al (2004)	0.07%	India
Mrinalini S et al (2008)	0.35%	India

Mathe JK (2008)	0.28%	Congo
Archana K et al (2009)	0.73%	India
Shaikh NB et al (2010)	0.63%	Pakistan
Nwobodo EL et al (2012)	0.51%	Nigeria
Present study	0.75%	P.M.C.H., Patna

Most of the patient were multipara and in the age group of 26-30 years which is quite comparable to the study done by Archana et al (2009), Mrinalini S et al (2008) and Shaikh N B et al (2010). This observation highlights the need of widespread usage of contraceptive methods and counselling.

Rupture uterus was the commonest indication for emergency obstetric hysterectomy in our study accounting for 64.4% of cases. This indication was also reported in Archana et al (75%), Mantri et al (67.28%) and Pati et al (64.4%) study. Rupture uterus is still encountered because in rural areas women are being monitored and delivered by unskilled birth attendants.

Prabhjot et al (1994) reported a rapidally increasing incidence of C-section which is a contributing factor for rupture uterus and subsequently high risk factor for emergency obstetric hysterectomy.

Placental abnormality was the second most common indication in our study. Placental abnormality was most common indication in various studies including Marina Ibrahim et al study. The rising rate is due to increasing rate of C-section with morbidly adhered placenta.

The maternal mortality rate in our study was 15.2%. This is comparable to that reported by Mantri et al (14%), 12.19% reported by Shaikh N B et al and 32% by Allahabadia & Vaidya study. Hemorrhagic shock, Consumptive coagulopathy, pulmonary embolism and Sepsis were the commonest complication leading to maternal mortality.

Conclusion -

Emergency obstetric hysterectomy is a life saving procedure in most of the cases. A timely decision to perform hysterectomy can be the difference between life and death of a woman.

Judicious use of oxytocics and supervision of labor by skilled birth attendant can lower the incidence of PPH and uterine rupture and indirectly reduce the incidence of obstetric hysterectomy. Other management modalities for uncontrolled haemorrhage like ligation of uterine artery, internal iliac artery ligation, B-Lynch suture and radiological embolization of vessels also decreases the incidence of obstetric hysterectomy. Adequate antenatal health facilities, transport facilities and trained staff right upto the level of primary health centres, blood transfusion facilities, early identification of risk factors, early referral to a tertiary hospital and early identification and management of complications are important to reduce the incidence and morbidity and mortality associated with emergency obstetrical hysterectomy.

Attempts should be made to reduce the rate of primary caesarean section by performing it only for valid indications. Antenatal recognition of placental pathology by USG or MRI can help the obstetrician to convert EOH into Elective OH thereby reducing the complications associated with EOH. In all cases of Previous C-Section with anterior placenta, morbid adhesions of placenta should be ruled out.

Every obstetrician should be trained to perform emergency obstetric hysterectomy Prompt decision making and excellent surgical skill with a speedy intervention are the key component of this life saving procedure which can ultimately help in lowering the maternal morbidity and mortality

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A study comparing the outcome of early (at day 4) and late (at day 6) stitch removal after caesarean section in a tertiary care hospital in Kolkata

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Abstract

Objective : Caesarean section is a very commonly performed operation in women which sometimes leads to prolonged hospital stay, increases the incidence of nosocomial infection and significant cost burden. Early stitch removal on day 4 may reduce morbidity and shorten hospital stay.

Method : From January^013 to June 2013, 300 patients who underwent caesarean section for the first time were prospectively enrolled and randomly distributed into two groups of 150 each. Patients with prolonged PROM (more than 24 hours), diabetes, severe anaemia, morbid obesity, post Caesarean section pregnancy and massive intra-operative blood loss were excluded. Stitch removal was done in Day 4 (96 hours) (Group A) and Day 6 (144 hours) (Group B) post operative period.

Result : The average hospital stay was 4.15 days and 6.11 days in Groups A and B respectively, and patient satisfaction was more with early stitch removal (96% vs 70%). The post operative complication rate was similar in two groups.

Conclusion : Thus, early stitch removal could be implemented after caesarean section for a more satisfactory outcome.hysterectomy.

Introduction

Wound healing is a complex and dynamic process of replacing devitalized and missing cellular structures and tissue layers. It is divided into four distinct phases, which appear sequentially- the haemostasis phase, the inflammatory phase, the proliferative phase and the remodelling phase. The inflammatory phase occurs immediately following the injury and lasts approximately 6 days. The fibroblastic phase occurs at the termination of the inflammatory phase and can last up to 4 weeks. Scar maturation begins at the fourth week and can last for years.[9] The goals of wound closure include obliteration of dead space, even distribution of tension along deep suture lines, and maintenance of tensile strength across the wound. It is intended to achieve adequate tissue tensile strength after approximation and eversion of its epithelial portion. Methods employed for mechanical wound closure include staples, tape, adhesives, and sutures. Caesarean section is one of the most commonly performed abdominal operation in women in most countries of the world. Based on the DLHS-3 data1 , the caesarean section delivery rate in India is 9.2 percent with variations among different states. These women pass through a period of postoperative pain and a morbidity period. These women translate into a substantial proportion of the population and hence there is a load on the financial resources of health care system. Prolonged hospital stay in the post operative period increases the chances of nosocomial infection of both mother and neonate as well. In our institution, wound closure technique in caesarean section usually employed is that with large mattress sutures instead of subcutaneous sutures. Stitch removal is usually done between day 5 and day 7 with a resultant increase in the duration of hospital stay. Early stitch removal on day 4 may reduce the morbidity as well as shorten the hospital stay. The intention of our study is to compare the outcomes between conventional and early stitch removal.

Materials and Methods

Data was collected between January 2013 and June 2013 from 300 patients who attended Department of Gynaecology and Obstetrics, Nilratan Sircar Medical College, Kolkata and had a caesarean section. It was a hospital based prospective study. Patients undergoing abdominal surgery for the first time were included. Patients with prolonged PROM (more than 24 hours), diabetes, severe anaemia, morbid obesity, post Caesarean section pregnancy and massive intraoperative blood loss were excluded. All selected women were randomly divided into two equal groups of 150 each. All of them had undergone emergency caesarean section under spinal anaesthesia. The average duration of the operation was 30-45 minutes. In each of the cases, the uterus was exteriorised and repaired. Skin wound was closed with non absorbable suture material (Ethilon) on a cutting needle with interrupted mattress sutures. In group A, stitches were removed 96 hrs post operative (Day 4) and in group B stitches were removed 144 hrs post operative (Day 6). During stitch removal the wound was observed for discharge, infection and wound gaping. The patients were discharged on the same day if no complications

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were found and were asked to come for follow up after 4 weeks to note any kind of abnormal healing or herniation.

Results

The data when analysed indicate a definite trend which has great public health importance for women in the reproductive age group. It was found that the average hospital stay in group A was 4.153 days and in group B was 6.113 days. Patients in group A were more satisfied (96%) than group B (70%) regarding their duration of hospital stay and their stitch condition. The hospital turnover rate and cost were also reduced in group A.

Table 1: Comparison between group A and group B in terms of average duration of hospital stay, patient satisfaction and cost benefit ratio.

Parameters	Group A (n=150)	Group B (n=150)
Average hospital stay (days)	4.153	6.113
Patient satisfaction	96%	70%

There were no significant differences in terms of complications in both the groups.

Table 2: Comparison between group A and group B in terms of complications

Complications	Group A (n=150)	Group B (n=150)
Disruption	1	1
Discharge	5	3
Infection	2	2
Hernia	0	0

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Discussion and Conclusion

The rates of caesarean section (CS) have increased drastically over the past decade which has been reported in United States as 32%[1], Canada 22.5%[2] and United Kingdom 23.8%[3]. A study by the Indian Council of Medical Research in 33 tertiary care institutions noted that average CS rates increased from 2 1.8% in 1993-1994 to 25.4% in 1998-1999[4]. The World Health Organisation (WHO) recommends that a CS rate of more than 15% is not justified. According to WHO 2005 global study report, a higher rates of CS was associated with greater risk of maternal and perinatal mortality and morbidity compared to vaginal delivery[5].

With the increase in caesarean section rate worldwide, the burden and cost of hospital stay have increased simultaneously. There is an increase in concern over a healthy stitch line.

Based on this observation, we felt the need to study a method which has a lesser hospital stay without compromising on the quality of care to the postoperative patients.

Comparing early versus late stitch removal following caesarean section provided us an opportunity to reduce hospital stay and the risk of maternal and neonatal nosocomial morbidity.

In the present study it is seen that, patients with early stitch removal (about 96 hours after operation) had significantly lesser duration of hospital stay than those with late stitch removal (about 144 hours after operation).

In our study, we found that patient satisfaction in the early stitch removal group was significantly higher than the late stitch removal group probably due to good outcome and early discharge from the hospital.

We found that risks of wound disruption, discharge, infection and hernia were not significantly increased when stitches were removed on fourth post operative day as compared to stitch removal on sixth post operative day.

From the above results, it could be concluded that early stitch removal (about 96 hours after operation) had no significant adverse outcome when compared to late stitch removal. Early stitch removal also increased patient satisfaction and reduced the duration of hospital stay. Thus, early stitch removal could be implemented after caesarean section for a more satisfactory outcome. However, further similar studies are required to substantiate the conclusion.

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Comparison between Noninvasive and Invasive Procedures in Evaluation of Women with Postmenopausal Bleeding

Picklu Chaudhuri[1], Arindam Halder[2], Hiralal Konar[3]

Abstract

Objectives: To study consistency of the noninvasive tests as Pap's cytology, endometrial cytology and TVS in comparison to traditional fractional curettage and cervical biopsy in detecting etiological factors of postmenopausal bleeding.

Methods: This is a prospective non-randomized observational study .One hundred and ninety-seven women ?45 years of age with at least one year of cessation of menses with one or more episodes of bleeding and without any clinically identifiable suspicious lesion anywhere were enrolled. They were initially subjected to cervical and endometrial cylogy and TVS and subsequently to fractional curettage and cervical biopsy. Standard formulae for calculating sensitivity, specificity, positive and negative predictive values and efficacy were adopted. Student t -test and chi square tests were used to test the significance as appropriate and $p < 0.05$ was considered significant.

Results: Thirty eight women (38.14%) had premalignant and malignant lesion of genital tract. Cervical cancer and CIN (18.44%and 5.22%) were most frequently encountered followed by endometrial cancer (7.22%) . A cut off endometrial thickness of 4mm by TVS has 100% sensitivity and 56.7% specificity in detecting endometrial cancer.

Conclusion: Colposcopy directed cervical biopsy was the most effective tool for detecting cervical malignancy. Endometrial curettage with biopsy in women with endometrial thickness ³4mm by TVS was most useful in diagnosing endometrial cancer.

Key Words: Postmenopausal bleeding, endometrial cancer, Cancer cervix.

Introduction

Postmenopausal bleeding is an episode of bleeding occurring 12 months or more after cessation of periods. The importance of PMB in gynecological practice lies in the fact that 22% of women with this concerning symptom has significant pathology of which 10-15% has malignancy.[1] With a rise in the mean age of survival of women and liberal use of exogenous estrogen to treat menopausal symptoms ,more PMB cases are reported now. The reported incidence is variable in different age groups ranging from 13 per thousand at the age 50 years to 2 per thousand at 80 years.[2]

The present study aims at finding the incidence and etiology of PMB in a tertiary care Govt. teaching hospital and studying the comparative efficacy of different available diagnostic tools in diagnosing malignancy in order to formulate a diagnostic protocol for low resource setup.

Methods

The present study has been conducted in the department of Obstetrics &Gynecology, N.R.S. Medical College, Kolkata . Women ³45years of age with one or more episodes of bleeding irrespective of amount and duration following one year of cessation of menses, were included in the study. Women presenting with suspicious growth in the vulva, vagina, or cervix were excluded after initial interview and inspection of vulva, urethral orifice, vagina and speculum examination of cervix. Women with palpable adnexal mass detected by abdominal and pelvic examination were also excluded. Necessary permissions were obtained from the instiutional ethics committee. Informed consent was taken from the participating women. Papanicolaou cervical smear was taken from the vaginal fornix, ectocervix and cervical canal. Pipelle sampler was used to obtain cylogical sample from endometrial cavity.

TVS was performed in all cases. Cervical biopsy (Colposcopy guided) and fractional curettage under general anesthesia were performed next. Hysteroscopy was done in a limited number of cases with recurrent episodes of bleeding where endometrial thickness by TVS was ³4mm and routine endometrial biopsy was inconclusive.

Results were statistically analyzed according to Steel & Torrie (1980) to detect true positive (a), false negative (b), false positive (c), true negative (d) results in relation to different diagnostic tools in detecting malignancy. Sensitivity, specificity, positive predictive value, negative predictive value and efficacy was calculated using standard formulae. Student t-test and Chi-square were used to test the significance of variables as appropriate and $p < 0.05$ was considered significant.

Results

One hundred and eighteen women aged ³45years who attended the outpatient department with one or more episodes of postmenopausal bleeding after at least one year of menopause were initially evaluated. Twenty nine of them had identifiable suspicious lesion in the cervix (27cases) or vagina (2 cases) and 7 had palpable adnexal mass and were excluded. Therefore 82 women

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were finally enrolled.

The mean age was 57.59 ± 7.50 years (Mean ± S.D), range 46-81 years. The parity ranged between P_0 - P_7 with a median of 3. Thirteen women were nullipara while twenty-one were grandmultipara (i.e.-parity ³4). Mean age of menopause was 51.09 ± 4.10 years (mean ± S.D), range 43-59 years. The interval period between menopause and presentation varied widely between1.5-31 years with a mean of 6.5 ± 5.68 years (mean ± S.D). Twelve women received some form of hormone replacement therapy to allay menopausal symptoms. Hypertension and Diabetes were associated in fourteen and nine women respectively.

Cervical Pap's smear labeled 33 cases as normal, 28 cases as inflammatory, 11 as dysplasia and 10 as malignant (7 squamous cell and 3 adenocarcinoma). Histopathology detected malignancy in 2 of the 61 pap's negative candidates and confirmed CIN and malignancy in 12 of the 21 pap's positive women. Colposcopy designated 57 as normal and 12 as unsatisfactory and visualized atypical transformation zone in 10, frank invasion in 3 with only 2 false positive and 3 false negative results. With endometrial cytology, cancer was detected in 9 (6 adenocarcinoma, 3 endocervical squamous carcinoma). Rest were negative for cancer.

Endometrial thickness by TVS was ³15mm in 9 women, 7 of whom were diagnosed with endometrial carcinoma by histopathology. None of the 45 women with endometrial thickness £4mm had histopathological evidence of endometrial cancer. Endometrial biopsy sample was not representative in 14.4% cases. One case diagnosed as endometrial carcinoma by biopsy later proved to be hyperplasia, constitute the only false positive for endometrial biopsy.

Adnexal mass >5cm was found in 2 women. None of them had elevated CA-125, Borderline granulose cell tumor of ovary were later confirmed by biopsy of operated specimen in both the cases. Hysteroscopy was done in 21 cases in presence of diagnostic dilemma with endometrial thickness >4mm and endometrial biopsy not-representative (14 cases) and TVS showing inhomogeneous echogenecity and biopsy negative for malignancy (7 cases). Endometrial polyp was detected in 4 cases; sub mucous fibroid in 3 while the rest had atrophy. Endometrial cancer was not detected in any of them. However one rare case of sarcoma was misinterpreted as myoma. A Lippies loop was removed by hysteroscopy from the uterus of a 65 year old woman, 37 years after its insertion.

Table-I : Incidence of PMB in different age group

AGE (Yrs)	PMB Cases	Total NO. (Attending OPD)	Incidence (Per Thousand)
45-55	41	4328	9.47
56-65	45	3267	13.77
66-75	10	864	11.57
76-85	1	349	2.78
Total	97	8808	11.0

Table II : Comparison of Histopathology with Endometrial thickness in relation to age

Final Histopathlogy.		Age (Yrs, mean ±S.D)	Endometrial thickness (mm, mean ±S.D)
Carcinoma	7	62.14±2.7	21.5 ±4.6
Submucosal fibroid	6	53.66±9.0	7.3±3.35
Polyp	5	58±3.9	7.0±2.90
Hyperplasia	7	55.28±7.89	13.2±4.03
Atrophy	22	57.31±9.27	2.41±.68
Proliferative	7	55.14±4.52	5.65±2.02

Table III : Statistical Analysis of Findings by Cervical Cytology Colposcopy, TVS & CA-125, Endometrial Biopsy in Diagnosing Premalignant & Malignant Lesions of Genital Tract

Method	Sensitivity	Specificity	+ve predictive value	–ve predictive value	Efficacy
Cervical Smear	85.71%	86.76%	57.14%	96.72%	86.58%
Colpo-scopy	78.57%	97.05%	84.61%	95.65%	93.90%
TVS(4m Cut-off)	100%	56%	17.5%	100%	59.75%
Endometrial Biopsy	100%	98.66%	87.50%	100%	98.78%
Cervical biopsy (colposcopy directed)	92.85%	100%	100%	98.55%	98.78%
CA-125	100%	50%	28.57%	100%	58.33%

Table-IV: Aetiology Of Pmb (Final Diagnosis: Mainly Based On Histopathology) In Relation To Age.

Aetiology Site	Lesion	Age In Yrs 45-55	56-65	66-75	76-85	No. (n=97)	%
UTERUS	Atrophy	10	10	1	1	22	22.68%
	Proliferative	5	2	0	0	7	7.22%
	Endometrial Hyperplasia	4	3	0	0	7	7.22%
	Polyp	1	4	0	0	5	5.15%
	Endometrial Carcinoma	0	7	0	0	7	7.22%
	Myoma (Submucous)	2	3	1	0	6	6.18%
	Foreign Body	0	0	1	0	1	1.04%
	Sarcoma	0	1	0	0	1	1.04%
CERVIX	Cervicitis	2	1	0	0	3	3.09%
	Endocervical Polyp	1	1	1	0	3	3.09%
	CIN	2	3	0	0	5	5.15%
	Decubitus Ulcer	0	1	1	0	2	2.06%
	Carcinoma	10	5	3	0	18	18.56%
VAGINA	Carcinoma	0	0	1	0	1	1.04%
	Trauma	0	1	1	0	2	2.06%
	Vault Carcinoma	0	2	0	0	2	2.06%
ADNEXA	Ovarian tumour-Benign	1	0	0	0	1	1.04%
	Borderline	2	0	0	0	2	2.06%
	Malignant	1	1	0	2	2	2.06%

Discussion

Postmenopausal bleeding, as depicted in the present

study occurred most frequently in the age group 45-65 years (88.65%) and sharply declining after 65 years with only one case registered above the age of 75 years. The same pattern of age related incidence had been observed by Grademark T.et al1995[2].

Thirty-eight premalignant and malignant lesion of genital tract (including 5cases of CIN and 2 cases of borderline ovarian tumor) constitute 38.14% of all cases in the present series with cancer cervix and CIN combined topping the list (62.16% of all malignancies.)

This is in contrary to Grademark T. et al 1995[2] who reported 8% Endometrial cancer in his series of 457 cases of PMB and only 6 (1.31%) cases of cervical cancer. However, a study conducted in India by Veena. S.Naik et al[6] found a 39.14%cervical endometrial cancer in their series of 104 cases and is in accordance with the present study. A Jamaican study by Escoffery. C.T et al[9] found 9.5% Endometrial cancer and 6.8% cervical cancer in a large series of 716 patients.

Atrophic endometrium is the commonest pattern observed amongst the non-malignant group in the present series as well as in most of the other studies.[2,3,6]

Endometrial cancer is found to occur in 6th decade of life at a statistically significant higher age than benign endometrial conditions. Endometrial thickness by TVS was significantly more in cancer cases in comparison to other benign pathologies. Similar age and endometrial thickness related pattern has been observed by Lawrence P.O' Connel et al 1998[3] and Jina R et al 2002[8]

Regarding the diagnostic tools, Pap's smear is much less accurate than colposcopy in screening the apparently normal looking cervix .The present study is in accordance with the observation of Anupama. J. et al, 2007[7] who reported a 93% accuracy of colposcopy in detecting cervical cancer in a series of 70 women with PMB. Endometrial biopsy proved extremely sensitive and specific in diagnosing carcinoma and this correlates with Lawrence P.O' Connel et al 1998[3]. The problem of a high percentage of samples being not representative of endometrium in the present study is encountered by many of the observers[2,3]. Endometrial biopsy was a poor tool in diagnosing polyps and submucous fibroids in the present study as also shown by Lawrence P.O' Connel et al 1998[3].

Our observation of no case of endometrial cancer in women with endometrial thickness £4mm correlated well with a large multicentric Nordic trial, 1995[5]. Gull B. et al 2000[4] however, reported 0.6% cases of cancer endometrium with the same cut-off endometrial thickness. Many authors[3,4,8] opined that endometrial biopsy is unnecessary if endometrial thickness is £4mm. Hysteroscopy has been effectively used as a primary investigative tool in PMB by some authors[1,3]. Office Hysteroscope was not available in our set-up.

CA125 concentration as a screening tool for ovarian malignancy achieved a high sensitivity with poor positive predictive value in accordance with a study by Ian Jacob et al, 1993[10].

Conclusion

Women presenting with postmenopausal bleeding needs prompt and thorough evaluation keeping in mind the possibility of malignancy. Colposcopically directed cervical biopsy and endocervical curettage for cervical lesions is the procedure of choice. TVS is an effective noninvasive screening tool in determining high risk group for endometrial lesions needing curettage and biopsy under anesthesia which is still the gold standard. Office Hysteroscopy and Sonohysterography being minimally invasive can be very effective in the hands of experts and awaits large trials.

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Role of Combined Hysterolaparoscopy in the Evaluation of Female Infertility in a Teaching Hospital

Sharmistha Ganguly[1], Samaresh Malo[2], Tapan Kumar Maity[3], Subrata Gayen[4], Sanjib Shankar Mondal[5], Chandana Das[6]

Abstract

Aims And Objectives: To study prevalence of different causes of female infertility, diagnose and treat infertility by combined hysterolaparoscopy, as well as assess success rates of hysterolaparoscopic management of infertility.

Materials And Methods: 190 infertile patients were included in this retrospective analytical study done over a period of 2 years from January 2015 to December 2016 in the Department of Gynaecology, NRSMCH, Kolkata.

Results: The mean age of 190 patients was 26 ± 4.5 yrs. Primary infertility was seen in 148 out of 190 cases (78%), while rest 42 patients (22%) presented with secondary infertility. Diagnosis of abnormalities by hysteroscopy was made in 38 cases (26%) of primary infertility. 17 cases (40.5%) of secondary infertility reported positive for pathological findings after hysteroscopy. By laparoscopy, causes of infertility were found in 136 cases (92%) of primary infertility, while 38 patients (90.5%) of secondary infertility showed abnormal lap findings. Uterine septum (45%), cornual block (21%) and polyp (28%) were commonest hysteroscopic pathologies. Endometriosis (39%), PID (25%) and ovarian/adnexal cysts (19%) were most prevalent laparoscopic abnormalities.48 patients successfully conceived after operative management.

Conclusion: Combined hysterolaparoscopy is an effective and reliable method in comprehensive evaluation of female infertility.

Keywords: Infertility, hysterolaparoscopy.

Introduction

Infertility, according to WHO, is a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. Female factors account for 40-45% causes[1]. Leading causes are tuboperitoneal diseases, ovulation disorders and uterine factors. Hysterolaparoscopy is a unique way to detect different occult pathologies leading to female infertility, as this is the only means which can serve both diagnostic and therapeutic purposes. Hysteroscopy detects intrauterine abnormalities, while laparoscopy identifies hidden pathologies like undetected endometriotic deposits, peritubal adhesions and tuboovarian pathologies due to tubercular or other chronic infections.

Our study intends to highlight the role of hysterolaparoscopy in diagnosis of treatable causes of female infertility so that appropriate management can be done in same sitting. Cases in which no pathology is found, artificial reproductive techniques (ART) are recommended.

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Materials and Methods

190 infertile patients were included in this retrospective analytical study done over a period of 2 years from January 2015 to December 2016 in the Department of Gynaecology, Nilratan Sircar Medical College and Hospital, Kolkata. Permission for the study was obtained from Hospital Ethics Committee. Diagnostic and therapeutic hysterolaparoscopy along with lap dye test was performed in all the cases after completion of routine investigations as per standard protocol followed in the hospital.

Combined hysterolap was performed in follicular phase of menstrual cycle. Appropriate curative procedures were performed in same sitting including adhesiolysis, tubal recanalization, ovarian drilling, hysteroscopic septal resection and polypectomy after taking consent for any therapeutic procedures needed on detection of pathology.

Inclusion criteria- Women between ages 18 to 45 years with female factor infertility.

Exclusion criteria- (1) Active genital infections (2) Contraindications to laparoscopy. (3) Male factor causes. Detailed clinical histories of the selected cases were obtained from case records. Indications for undergoing hysterolaparoscopy were noted and details of operative findings tabulated. The surgical curative procedures done in appropriate cases were also noted. The follow up records of post-operative patients were studied to calculate success rates of combined hysterolaparoscopic procedures.

Results

Mean age of cases selected was 26+/-4.5 years. Prevalence of primary infertility was 78%, while rest 22% presented with secondary infertility. The results of the study have been presented in the form of the following tables-

Table 1 Hysteroscopic Findings

Diagnosis	No. of patients with positive findings (n=55/190)	Primary Infertility	Secondary Infertility
Septum	25(45%)	18	7
Polyp/myoma	15(28%)	9	6
Cornual block	11(21%)	7	4
Atrophied endometrium	2(3%)	-	2
Fibrotic adhesions	2(3%)	1	1

Table 2 Laparoscopic Findings in Primary Infertility

Findings	No. of cases (n=148)	Percentage
Endometriosis	60	41
PID	39	26
Non-endometriotic cyst	29	20
PCOD	6	4
Uterine malformations	2	1
Unexplained	12	8

Table 3 Laparoscopic Findings in Secondary Infertility

Findings	No. of cases(n=42)	Percentage
Endometriosis	14	33
PID	8	19
Non-endometriotic cyst	7	17
PCOD	4	10
Adhesions	2	5
Myoma	2	5
Adenomyoma	1	2
Unexplained	4	9

Table 4 Hysterolaparoscopy in Infertility-Prevalence of abnormalities

	Primary Infertility (n=148)		Secondary Infertility (n=42)	
	Normal	Abnormal	Normal	Abnormal
Hysteroscopy	110 (74%)	38 (26%)	25 (59%)	17 (41%)
Laparoscopy	12 (8%)	136 (92%)	4 (9%)	38 (91%)

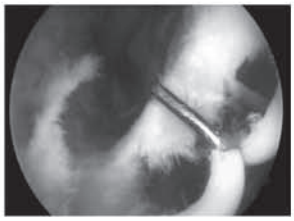
Table 5 Laparoscopic Dye test

Tubal block	Primary Infertility (n=148)	Secondary Infertility (n=42)	Total
Unilateral	22(15%)	4(9%)	26(13.7%)
Bilateral	15(10%)	10(23%)	25(13.1%)
Total	37	14	51(26.8%)

Table 6 Follow up conception rates after curative procedures (n=154)

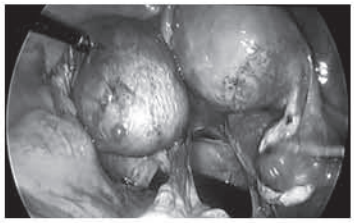
Mode of conception	Number	Percentage
Spontaneous	21	13.6
IUI/IVF	27	17.5

36 patients of the total 190 cases were lost to follow up. Successful conception rate was 31.1%.



NRS Medical College/05.09.2015

Hysteroscopic septum resection



NRS Medical College/22.06.2015

Excision of T.O mass by laparoscopy

Discussion

Out of 190 patients, 148 (78%) women had primary infertility and the rest (22%) had secondary infertility in our study. A study by Nayak et al conducted in SCB Medical College in 2008, Cuttack, reported 69% prevalence of primary infertility[2]. Zhang et al showed 53.8% prevalence of primary infertility in a study series of 132 patients, while secondary infertility prevalence was 46.2%[3].

Endometriosis and pelvic inflammatory disease (PID) were the most common abnormalities detected laparoscopically in both groups of infertility patients. This holds true for majority of available literature on endoscopic interventions for laparoscopy. Zhang et al detected 35.2% primary infertile women with endometriosis and 59.1% with PID[3]. Similarly laparoscopic prevalences were 59% and 22.9% in secondary infertility group for endometriotic disease and PID respectively. In Nayak et al study, endometriosis (14%) was commonest lap finding in primary infertile women[2]. Adnexal adhesions (12%) were most frequently identified as cause of secondary infertility.

13.7% patients showed unilateral block by lap dye test, 13.1% had bilateral block, while rest had patent tubes in our study. In Kabadi et al study, bilateral tube block was detected in 4(4.3%) patients, while 3(3.2) patients had unilateral tubal block[4]. Godinjak et al demonstated bilateral tubal block in 5% patients and unilateral block in 8.3%[5].

Uterine septa (45%) and polyps (28%) were the commonest hysteroscopic findings in our study. Kabadi et al reported 13.8% prevalence of uterine malformations of which septa accounted for 53.8% abnormalities[4].

Polyps were commonest diagnoses by hysteroscopy in a study by Shobha D et al. 10% of primary infertile cases showed polyps, whereas polyp detection rate of secondary infertility was 19%[6]. Mehta et al reported 17% detection rate of abnormalities by hysteroscopy in a larger study population of 300[7].

Overall, 55 (28.9%) patients showed positive findings on hysteroscopy. Laparoscopy was abnormal in 174 out of 190 cases in our hospital. In 91.6% of patients of infertility, we successfully evaluated the cause by laparoscopy. 57.1% of patients of infertility were diagnosed laparoscopically with pelvic and intrauterine abnormalities by Kabadi et al. Shobha et al successfully detected causes of infertility in 59% of the 100 cases by combined hysterolaparoscopy[6]. In an older study, Nayak et al detected 26% abnormalities in both the groups of primary and secondary infertile women[2]. The increased detection rates of causes of infertility can be attributed to advanced instrumentation, better techniques and appropriate case selection.

Approx 31% pregnancy rate after treatment was achieved by us. A study by Lee et al showed 41.9% (18/43) overall pregnancy rate[8]. Marcoux et al reported 30.7% conception rate after laparoscopy[9]. Thus the question of tubal morphology and patency, ovarian morphology, any unsuspected pelvic pathology, and uterine cavity abnormalities can all be resolved with accuracy at one session. Above all, appropriate management can be provided to treat correctable cause of infertility. Patients of unknown causes of infertility with negative hysterolap findings were counseled to undergo artificial reproductive techniques (ART).

Conclusion & Summary

Prevalence of primary infertility was 78%, while rest 22% presented with secondary infertility in our study. Uterine septum (45%), cornual block (21%) and polyp (28%) were commonest hysteroscopic pathologies. Endometriosis (39%), PID (25%) and ovarian/adnexal cysts (19%) were most prevalent laparoscopic abnormalities.48 patients successfully conceived after operative management.

Combined hysterolaparoscopy is an effective and reliable method in comprehensive evaluation of female infertility. The combined procedures are very effective in problems like occult endometriosis, adhesions near adnexa etc. which are difficult to diagnose by non-invasive imaging modalities. Hysterolaparoscopy is now considered the gold standard for identification of patients in absolute need of ART, thus avoiding treatment delay and further emotional and financial trauma to couples.

Acknowledgements

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Laparoscopic evaluation of chronic pelvic pain in women at their reproductive age - an observational study

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Abstract

Background: Chronic pelvic pain is most often distressing for both the gynecologists and their patient for its vast etiological extent. Diagnostic laparoscopy throws some light into the pelvic pathology.

Objective: Laparoscopic evaluation of the etiopathological aspects of chronic pelvic pain in women at their reproductive age.

Methods: The present observational study includes 120 cases who attended gynae-outdoor in RG Kar medical wcollege, Kolkata. Laparoscopic evaluation was done with standard procedure in search of pelvic pathologies.

Results: Majority (46.66%) revealed no obvious pathological lesion. Pelvic inflammatory disease (27.5%) was detected as most common pelvic pathology followed by endometriotic lesion (15%).

Conclusions: Clinicians should proceed for diagnostic laparoscopy in order to fully evaluate the cases of chronic pelvic pain. The negative laparoscopy is also a useful finding for long term follow-up.

Key words: Laparoscopic evaluation, pelvic pathology, negative laparoscopy, Clonic pelvic pain.

Introduction:

Chronic pelvic pain (CPP) can be defined as intermittent or constant pain in the lower abdomen or pelvis of a woman of at least 6 months in duration, not occurring exclusively with menstruation or intercourse and not associated with pregnancy[1]. The prevalence of CPP ranges between 8-81% worldwide[2] posing significant impacts on a woman's daily ability to function[3].

CPP presents a major challenge to health care providers because of its vast etiological extent. Causes may be of gynecological (i.e. endometriosis, adenomyosis, pelvic infection, adhesions, ovarian cysts etc.) or non-gynecological (i.e. irritable bowel syndrome or musculoskeletal, neuropathic, psychological) origin and diagnosis for each aspect vary in terms of diagnostic accuracy & patient acceptability.

Diagnostic laparoscopy has been regarded as the 'gold standard' investigation for CPP, after a careful pre-operative work-up, which involves a thorough history, physical examination & imaging in the form of pelvic ultrasound or pelvic magnetic resonance imaging, if necessary[1]. It is the only test capable of reliably diagnosing peritoneal endometriosis and adhesions[1]; but its accuracy in diagnosing other pathologies is unproven & 40% of laparoscopies may show no pathology[4]. Moreover, it carries significant risks: an estimated risk of death of approximately 1 in 10 000, and a risk of injury to bowel, bladder or blood vessel of approximately 2.4 in 1000, of which two-thirds will require laparotomy[5-7].

Nevertheless, it remains a popular test for the gynecologists in the work-up of CPP as it helps in establishing the presence or absence of pelvic pathology without resorting to major abdominal surgery and its 'see & treat' approach is preferable to multiple surgeries.

The present study was undertaken for laparoscopic evaluation of the etiopathological aspects of chronic pelvic pain in women at their reproductive age.

Methods:

The present observational study was conducted in the department of Obstetrics and Gynaecology, RG Kar Medical College & Hospital, Kolkata over a period of 12 months (August 2012 - July 2013). The study was approved by hospital ethical committee.

Altogether, 137 cases aged between 15-45 years with non-menstrual pain persisting for > 6 months located below umbilicus not associated with recent trauma or abdomino-pelvic surgery were selected from Gynae-outdoor. Out of those, 17 cases were excluded either found to be unfit for laparoscopy or not giving operative / study consent.

Laparoscopic evaluation was done with 3-ports procedure under general anaesthesia. The diagnosis of pelvic inflammatory disease was considered on detection of hyperemic/edematous/congested fallopian tube or pus oozing from fimbriae or in presence of hydro/pyosalpinx. Endometriotic spots were detected as jelly like deposits or reddish/black-brown puckered lesions. Adhesions detected were classified according to AFS adhesion scoring method; adhesiolysis was attempted in grade-I lesions. Pelvic congestion was diagnosed in the presence of dilated, tortuous veins on broad ligament and infundibulopelvic ligament.

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However, none of the patients had undergone pelvic venography as this procedure was not yet available in the institution.

Percentage distribution was done with categorical data.

Results:

Table 1 shows age-wise distribution of cases; majority (62.5%) detected to be < 35 years. 35% cases belong to Parity 1 or less as shown in table 2.

Table 1: Age-wise distribution of cases

Age	Distribution (120 cases)
19- 35 Yrs	75 (62.5%)
Above 35Yrs	45 (37.5%)

Table 2: Distribution of cases according to parity

Parity	Distribution (120 cases)
Parity 1 or less	42 (35%)
Multipara	78 (65%)

Laparoscopic findings are shown in details in table 3. 46.66% of cases reveal no obvious pathological lesion. The most common pelvic pathology seen in this study was pelvic inflammatory disease (27.5%) followed by endometriotic lesions (15%). Adhesions detected were mostly of grade-1 variety & adhesiolysis done; but in 2 cases it was not even attempted due to dense adhesion.

Table 3: Distribution of cases according to laparoscopic findings

Laparoscopy Findings	Distribution (120 cases)
Normal findings	56 (46.66%)
Pelvic Inflammatory Disease	33(27.5%)
Endometriosis	18 (15%)
Adhesion	9 (7.5%)
Pelvic congestion syndrome	4(3.3%)

Discussion:

Present study shows majority of cases (62.5%) of chronic pelvic pain belongs to age 15-35 years which is comparable to Hebbar and Chowla[8], Zuber et al[9] studies which show maximum number of cases belong to 20-30 years. Redecha et al[10] also found chronic pelvic pain in a younger population (24 ± 9 years).

In the present study 65% cases are multipara whereas 35% cases belong to Parity 1 or less; approximate results were reported by Kang et al[11], which were 20.3% and 79.7%.

On laparoscopy, no visible pathology was detected in 46.66% cases, in comparison to 24% reported by Kontoravdis et al[12], 30% by Newham et al[13] and 35% by Fred MH[14]. Thus, it is not surprising that a significant proportion of laparoscopic examinations for chronic pelvic pain fail to reveal any obvious pathology.

The commonest diagnosis made is pelvic inflammatory disease in 27.5% similar to Sebanti et al (30.3%)[15], Mara et al (17.7%)[16] studies as compared to less than 3% in the study of Kontoravdis et al[17].

The second most common abnormality found in this study was endometriosis in 15% cases in comparison to 25% reported by Kontoravdis et al[17], 16% by Newham et al[13] and 80% by Carter JE[18].

Another important laparoscopic finding in this study was adhesions in 7.5 % cases in comparison to 12% reported by Krolikowski et al[19], 48% by Carter[18] and 40% by Newham et al[13].

Surprisingly, 60% cases the negative laparoscopy patients on six months follow-up admitted complete disappearance of pain; whether it is a placebo or psychological effect cannot be pin-pointed.

Conclusion:

- Invasive procedure like laparoscopy is quite useful in order to fully evaluate the cases of chronic pelvic pain.
- Clinicians should have awareness regarding limitations & risks of the procedure.
- The implication of 'negative' laparoscopy could be reassuring for both the clinician and the patient.
- Further long-term follow-up could have thrown more light on this issue.

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A case report on Rare Case of Placenta Increta

Kanak Lata[1], Gita Basu Banerjee[2]

Abstract

Morbid adherent placenta like Placenta accreta , placenta increta , placenta percreta are potentially life-threatening obstetric conditions that require a multi-disciplinary approach to management. As the incidence of Cesarean has increased, incidence of morbidly adherent placenta also has increased and considered as an important cause of maternal and fetal/neonatal morbidity and mortality. Although multiple cesarean deliveries are at the largest risk factor for the placenta accreta, placenta increta and placenta percreta, increasing maternal age and parity, as well as other uterine surgeries are also important.

Here we report an undiagnosed case of placenta increta presenting to the emergency department with pain abdomen at term. Emergency laparotomy with cesarean hysterectomy and blood transfusion are the key steps in successful management.

Keywords: Cesarean section, hysterectomy, placenta increta, obstetric Hemorrhage.

Introduction: Morbid adherent placenta is a potential grievous obstetric condition that calls for a multi-disciplinary avenue for timely management. Maternal and fetal morbidity and mortality from placenta previa and placenta previa accreta are considerable[1,2] and are associated with high demands on health resources. With the rising incidence of cesarean sections combined with increasing maternal age, the number of cases of placenta previa and its complications, including placenta accreta , placenta increta, placenta percreta will continue to increase[3,4,5].

In patients with placenta previa, the risk of accreta is 10% to 25% with one prior cesarean section.[6]

The average blood loss at delivery in women with placenta accreta is 3000-5000 ml.7 The incidence of placenta accreta is 1 in 2500.[8] But there is a rise in the frequency of morbid adherent placenta[9] 3%, 11%, 40%, 61% and 67% in first, second, third, fourth and fifth cesarean secssion, it seem to be parallel to the increasing cesarean delivery rate. The incidence of placenta accreta syndrome was cited as 1 in 2500 in the 1980s, and currently, the American College of Obstetricians and Gynecologists (2012b) cites it to be as high as 1 in 533 deliveries. Because of this increasing frequency, accreta syndromes are now one of the most serious problems in obstetrics. In addition to their significant contribution to maternal morbidity and mortality, morbidly adherent placenta are a leading cause of intractable postpartum hemorrhage and emergency peripartum hysterectomy.

Case report: A 30 year old married Indian female Mrs T.B. was admitted through the emergency on 28.01.2016, G_2, P_{1+0}, L_1 with previous history of cesarean section 10 years back. She presented with pain abdomen and occasional spotting for last 2 days. Her gestational age was 40^{+0} weeks. Her antenatal period was uneventful. She had three antenatal checkups during this pregnancy. Routine blood investigations were done but no USG was done. Her first child was delivered by cesarean section 10 years ago probably due to oligohydramnios and postdatism, no operative note was available.

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Clinical examination

She presented with a history of lower abdominal pain and occasional spotting for last 2 days. On examination her vitals were stable, mild pallor, blood pressure 110/70 mm of Hg, pulse 87/min, respiration rate 14/min. Uterus was relaxed, Fetal heart sound was 144/min, regular. There was no scar tenderness, no bleeding per vaginum.

Diagnosis and treatment

An urgent Ultrasonography showed a single live cephalic fetus of 37 weeks gestational age, average liquor, placenta low lying within a periphery of 2 cm from internal Os.

The decision for emergency cesarean section was taken with provisional diagnosis of placenta previa. Blood requisition, all routine investigations sent, proper and documented counseling done regarding risk of operation.

General anaesthesia was given. Abdomen was opened by low transverse incision, uterus opened in lower segment, placenta was low lying and anterior. A live male baby was delivered by cutting through the placenta. The baby cried after resuscitation, birth weight 2.3 kg and was sent to SNCU for further management. The placenta could not be separated from placental bed, and there was profuse bleeding, there was also bleeding from uterine angles. Uterus was flabby in spite of use of uterotonics.

Urgent decision of total abdominal hysterectomy taken in view of placenta accreta / increta and completed family after proper counseling and consent from husband. Total hysterectomy was done by using usual clamps.

There was adhesion near the bladder base. Intraoperatively methylene blue dye was instilled in retrograde manner through Foley's catheter inside the bladder to detect any point of injury. One small leak was found which was repaired with 2-0 vicryl in two layers. Intraoperatively 1 unit of whole blood and 2 units of FFP were transfused. The specimen of uterus with adherent placenta sent for histopathological examination. (Fig 1, 2)

During post operative period she received 1 more unit of blood. Foley's catheter was kept in situ for ten days. Her baby was returned from SNCU after 24 hours. She was discharged on her 11th post operative day.

The histopathological examination reveals placental villi extending deeply into myometrium of the lower uterine segment suggestive of placenta increta. (Fig 3, 4)

Fig 1 : A case of Placenta Increta diagnosed intra-operatively

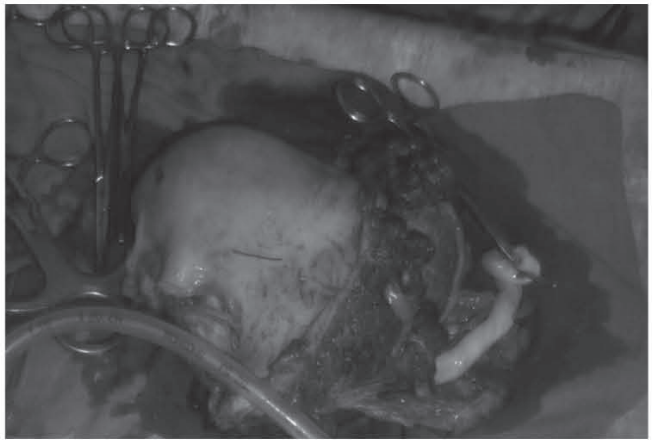

Fig 2 : Specimen of Uterus and Adherent Placenta, Total Hysterectomy done

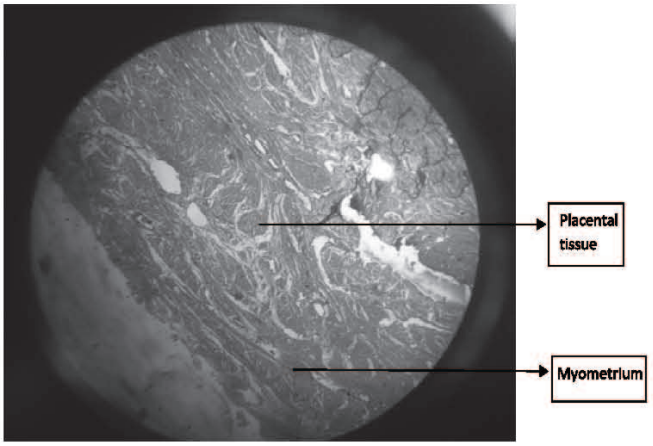

Fig 3 : Histopathological examination of specimen - Low power field

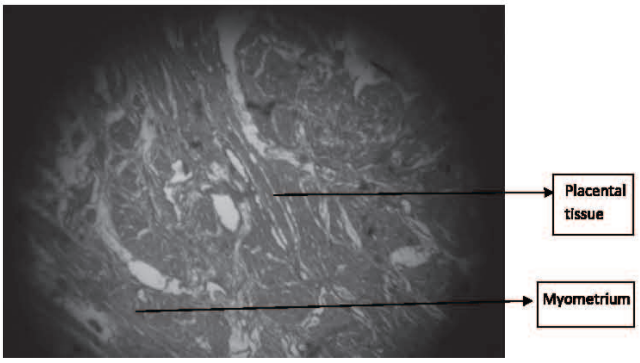

Fig 4 : High power field

Discussion

The relative incidence of all sorts of placental adhesion (placenta accreta, increta and percreta) has been up rising for the past two decades, due to increasing cesarean section rates. Other predisposing conditions are instrumentation of the endometrium, placenta praevia, uterine malformations, septic endometritis, previous manual removal of placenta and multiparity.

Antecedently, a conservative treatment, aiming at uterine rescue, was followed to a greater extent, based upon manual removal of as much placental tissue as possible.[7] Under these circumstances, the more conservative treatment can be achieved only in cases of a partial placenta accreta/ increta, when bleeding is minimal. Gray-scale ultrasound and colour Doppler imaging are the first-line imaging modalities for the diagnosis of placenta accreta. MRI is used as an adjunct tool when sonographic examination is equivocal or when the placenta cannot be reliably visualized on sonography. The 2D ultrasound criteria for the diagnosis of placenta accreta in at-risk patients are obliteration of the retroplacental echolucent zone, abnormal prominent placental lacunae and thinning or disruption of the hyperechoic uterine serosa-bladder interface[9]. 3D power Doppler imaging increases the sensitivity of the diagnosis of placenta accreta with the following parameters: intraplacental hypervascularity, inseparable cotyledonal and intervillous circulations.

Regarding treatment, hysterectomy is probably the best option for long-term outcome, as previously reported[10] Numbers of attempts have been made to treat placenta increta with various drugs to allow future child bearing. There is scope of conservative treatment of morbid adherent placenta. Few case reports are there on placenta accreta and percreta treated successfully with Methotrexate[11,12], although its safety and the efficacy in low resource setting are questionable[13,14].

Conclusion

Placenta increta is associated with high maternal mortality and morbidity. Rapid diagnosis, blood product replacement and emergency laparotomy with cesarean hysterectomy are the key steps for successful management.

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Benign Brenner Tumor of Ovary: A rare Case Report Treated Laparoscopically

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Abstract

Brenner tumor is a rare ovarian tumor that is a part of the surface epithelial group of ovarian neoplasm. It is usually asymptomatic and most of the times it is an incidental pathological finding. Here we present a case report of a married woman presenting with acute abdomen.

Introduction:

Brenners Tumor is a rare benign tumor of ovary with average age of presentation after 40 years.[1] It constitutes 1.4-2.4 % of all ovarian tumors and has a predilection for postmenopausal women. Most are benign with less than 5% borderline and proliferating.[2]

History:

A 35 year old multipara presented to the casualty with acute pain in abdomen over left flank since morning . she had few similar episodes of chronic dull aching pain over left flank for the past 4-5 months. The was non radiating, not associated with menses and relieved with pain killers.

But this time the episode was acute

On admission her vitals were stable, except for tachycardia and general and systemic examination was normal.

A palpable mobile lump of about 10 × 6cm size was found at the pelvic region. On per speculum examination, vaginal wall and cervix were found to be normal. On per vaginal examination, uterus was normal in size, and a mobile lump 8 × 8 cm size was found anterior to the uterus. The USG finding showed a 10 × 10 cm well-defined lobulated right adenaxal mass suggestive of ovarian tumor. Ovarian dopplers were normal.

Her blood was sent for examination and an emergency TVS done.

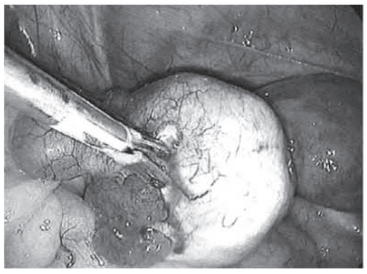

Figure 1 : Separating from Ovarian Tissue

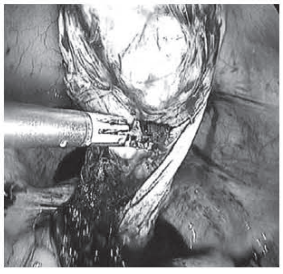

Figure 2 : Intraop Tumor with Ovary

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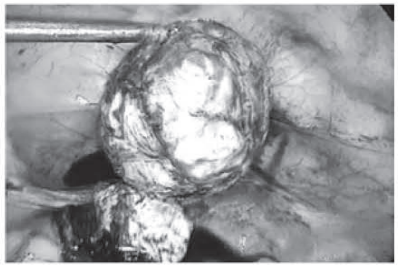

Management

Patient was taken for emergency laparoscopy.

Intraop findings showed an left ovarian tumor of 10 x 8 cm, with well lobulated solid consistency. There was no evidence of intraperitoneal haemorrhage. Right sided ovary and tube, left tube and uterus were normal. The cyst was removed. Postop was uneventful and patient discharged on post op day 2.

Histopathology:

Gross: Multiple grayish white tissue bits, firm in consistency.

Microscopy: Sections show solid nests of epithelial cells resembling transitional epithelium(urothelium) which are surrounded by abundant and dense fibroblastic stroma. The epithelial cells have sharply defined outlines with oval nuclei, having longitudinal grooves with clear cytoplasm. Nuclear atypia and stromal invasion are not seen. No evidence of malignancy. Benign Brenner tumor of Ovary.

Discussion:

Brenner tumor of ovary is a solid ovarian tumor that is generally asymptomatic. Although they are predominantly solid on imaging and pathologic examination, association with serous and mucinous cystadenomas is up to 30%.[3] It is usually an incidental pathological finding. Among symptomatic patients, common symptoms include vaginal bleeding, a palpable pelvic mass, and pelvic pain. Most of the time it is found to be unilateral. Bilaterality is seen only in 5-7% of the cases.[4] It is generally accepted that Brenner tumors are derived from the surface epithelium of the ovary or the pelvic mesothelium through transitional cell metaplasia to form the typical urothelial-like components.[5] The histological patterns observed in Brenner tumor are typically benign, with a few reports of borderline or malignant counterparts.[1]

It is difficult to diagnose Brenner tumor with imaging studies. USG and computed tomography, both the techniques are limited in specificity because of the tumor's nonspecific appearance.

In imaging studies benign Brenner tumors are generally similar to those of other solid ovarian masses such as fibroma, fibrothecoma, and pedunculated leiomyoma.[3]

Grossly benign Brenner tumors are well circumscribed, with a hard or fibromatous, gray, white, or slightly yellow cut surface. Occasionally the tissue becomes gritty because of calcific deposit. Borderline Brenner tumors are characteristically cystic and unilocular or multilocular with cauliflower like papillomatous masses protruding into one or more of the locules. Malignant Brenner tumor may be solid or cystic with mural nodules; they usually do not have any distinctive features.[6]

Microscopically, they are made of abundant dense fibrous stroma with epithelial nests of transitional cells resembling those lining the urinary bladder. The fibrous component is less prominent in borderline or malignant tumors than in benign lesions. Complex cystic tumors contain varying amounts of stroma and are more commonly found with borderline or malignant histologic findings, often in the form of papillary solid projections within a cystic mass.[7]

Most Brenner tumors are candidates for surgical resection. Because of their vividly circumscribed nature, they are easily located and do not typically affect surrounding tissue. Surgical resection is often curative and will reverse symptoms if they are present.

Malignant Brenner tumors may affect surrounding tissue and metastasize into other structures, but such incidents are so rare that a standard treatment has not been developed. Even malignant Brenner tumors, if diagnosed early, are usually candidates for complete surgical resection.

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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/PowerPoint format.

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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;

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A structured abstract not exceeding 200 words is

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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.

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

Book

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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.

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MID TERM CONFERENCE AT CHENNAI

7th & 8th OCTOBER, 2017

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The INDIAN SOCIETY OF PERINATOLOGY AND REPRODUCTIVE BIOLOGY (ISOPARB) was formed by a handful of stalwarts in Patna in 1978 as Indian Society of Fertility and Reproductive Biology and later in 1979 took its present name.

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We look forward to an enthusiastic large audience to make the conference a big success.

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9841046733
Organizing Chairperson.

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