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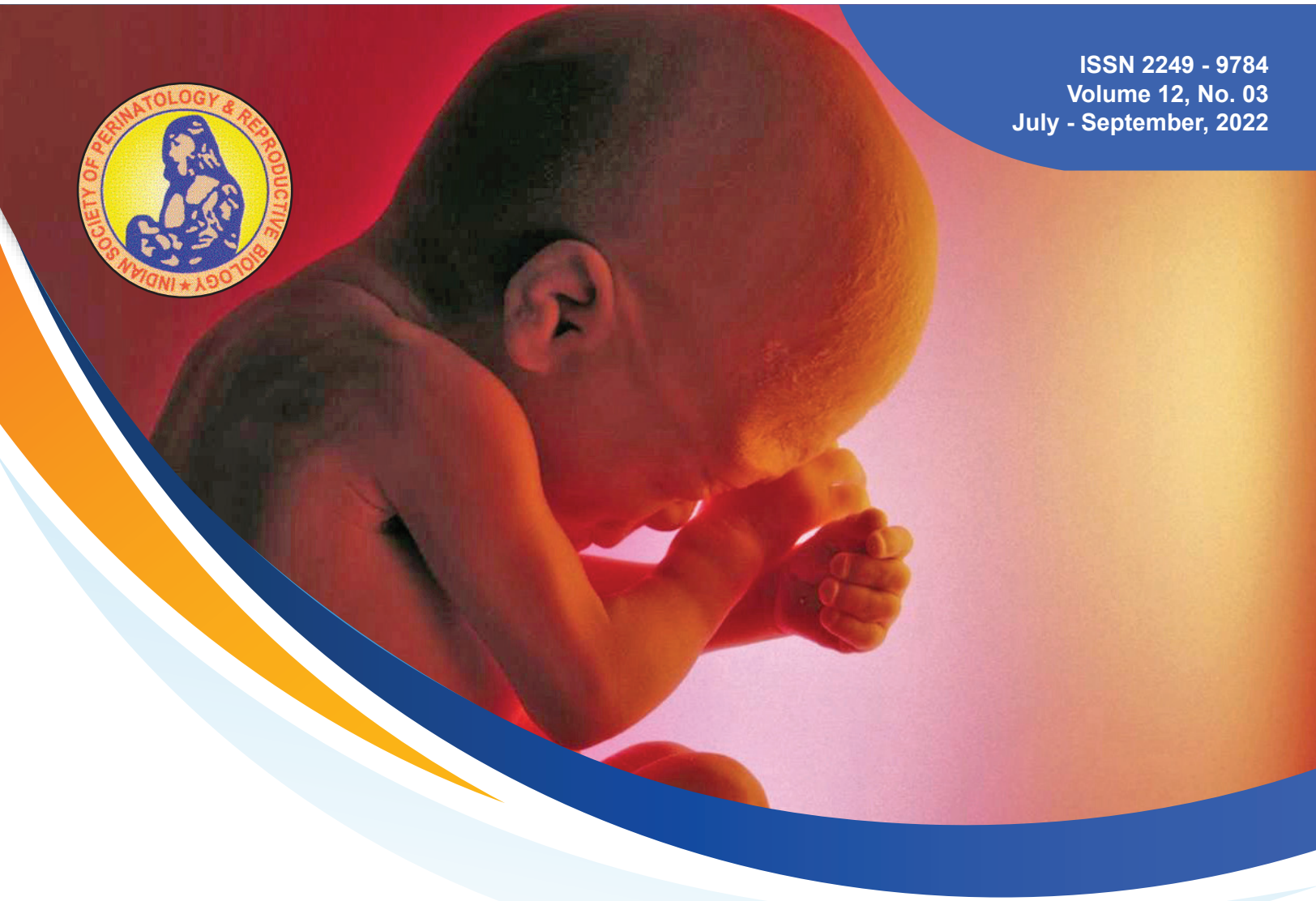

IJOPARB

Indian Journal of Perinatology and Reproductive Biology

Official Journal of Indian Society of Perinatology and Reproductive Biology

Glimpses of 38th Annual National Conference of ISOPARB 2023

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From the Desk of President

Installation Speech at 38th Annual National Conference of ISOPARB, 2023, Meerut on 29th April 2023

Respected Seniors and Dear Friends,

I am deeply humbled and, at the same time, honored to have the privilege to be installed as the 24th President of our esteemed ISOPARB organization in the **38th Annual National Conference of ISOPARB** organised under the chairperson Dr Bharti Maheswari with the supervision of Madam Padmashri Usha Sharma. Taking on this responsibility is both a humbling experience and a great honor. I am grateful for this opportunity to lead from Meerut, a city renowned as the Sports Capital of India and as the starting point of the historic 1857 Rebellion against the British East India Company.

The path ahead is undoubtedly challenging, especially given the impressive legacy left by my predecessors who have made monumental contributions. Stepping into this role when my predecessors have accomplished so much is indeed a formidable task, as expectations are naturally elevated.

My Journey within ISOPARB

My Journey within ISOPARB began in 1994, when I became a member at the behest of Dr. Gita Ganguly Mukherjee. My memories transport me back to the 11th Annual National Conference of ISOPARB in February 1995, held in Kolkata. Since then, I have been fortunate to be guided by the leaders such as Dr. S N Tripathy, Dr Dr Sudip Chakravarty, Dr. Manju Gita Mishra, and Dr. Usha Sharma. I embarked on my ISOPARB journey as a contributor to the ISOPARB journal, and over the years, I progressed to become its Editor-in-Chief, a role I held for seven years. This journey was marked by my unwavering commitment to uplift the journal's standing and reputation. Throughout, I traversed the length and breadth of our nation, participating actively in ISOPARB meetings, scientific seminars, CME programs, and public awareness initiatives, assuming various roles such as delegate, invited speaker, faculty member, and orator.

Our Team

Teamwork forms the foundation of our endeavors, a truth we must remember unfailingly. In this regard, I consider myself incredibly fortunate to lead a dedicated team during my upcoming tenure. This team includes Dr. Pragya Mishra Chaudhury as the Secretary-General, Dr. Narayan Jana as the President-Elect, and Dr. Gangadhar Sahoo as the Immediate Past President. The Vice Presidents, Dr. Sukumar Barik, Dr. Meena Samant, Dr. Mala Shrivastav, and Dr. Rooma Sinha, along with Treasurer Dr. Abha Rani Sinha, Communicator Dr. Amita Sinha, Joint Secretary Dr. Tulika Jha, and Editor-in-Chief Dr. Ramprasad Dey, form an incredibly dynamic and knowledgeable ensemble. Furthermore, four Committee Chairpersons, Dr. Laxmi Shikhande, Dr. Shobha N Gudi, Dr. Ruchika Garg, and Dr. Sheela Mane, bolster the team's capabilities. This energetic group is supported by an active cohort of eleven executive members. As new members join the Management Committee, I extend a warm welcome and also seek the continued support of our veteran team members.

Our Organization's Roots

Our Organization, ISOPARB, was birthed in 1978 in Patna with a noble vision – to advocate peace, happiness, and well-being for mothers, children, and families irrespective of their socio-economic status.

Dr. Mrs. Kamala Achari, the founder President, led the charge, supported by visionary minds like Dr. G. Achari, Dr. Tarun Banerjee, Dr. Kamala Dhall, Dr. G.I. Dhall, Dr. Ajit C. Mehta, Dr. S. Dasgupta, Dr. B. Palaniappan, Dr. K.M. Gun, Dr. N.N. Roy Chowdhary, Dr. Jagdishwari Mishra, Dr. Nirmala Saxena, and Dr. Gita Ganguly Mukherjee. These stalwarts nurtured the society, guiding it from infancy to maturity through their dedicated efforts.

My Illustrious Predecessors

I humbly bow to my predecessors, illustrious leaders who laid the strong foundation of ISOPARB:

Late Dr. Kamala Achari, Patna (1978-81)
Late Dr. S Dasgupta, Jamshedpur (1981-83)
Late Dr. Subhdra Nair, Trivandrum (1983-85)
Late Dr. Malti Rohatgi, Patna (1985-87)
Late Dr. N N Roy Chowdhary, Kolkata (1987-88)
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Dr. Rohit V. Bhatt, Baroda (1992-94)
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Dr. Sudip Chakravorti, Kolkata (2012-2014)
Dr. Manju Gita Mishra, Patna (2014-2016)
Dr. Milind R. Shah, Solapur (2016-2018)
Dr. Suchitra Pandit, Mumbai (2018-2020)
Dr. Usha Sharma, Patna (2020-2022)
Dr. Gangadhar Sahoo, Odisha (2022-2023)

The Backbone of society: Secretary Generals

I hold in deep reverence the vital role played by Secretary Generals in nurturing the backbone of our society:

Prof Mrs. D. Singh, Patna (1978-79)
Prof Mrs. Malti Rohatgi, Patna (1979-80)
Prof R L Wakhloo, Jammu (1980-81)
Prof Mrs. Kamala Acharya, Patna (1981-92)
Prof Jagadiswari Mishra, Patna (1992-96)
Prof Nirmala Saxena, Patna (1996-2002)
Prof Manju Gita Mishra, Patna (2002-2008)
Dr. Usha Sharma, Patna (2008-2012)
Dr. Rita Dayal, Patna (2014-2016)
Dr. Meena Samant, Patna (2016-2021)
Dr. Pragya Mishra Choudhury, Patna (2022 –)

We are very shocked for untimed demise of Secretary General Dr Rita Dayal. I pay my tribute to her.

The Voice of ISOPARB: Our Journal

Our journal, the Indian Journal of Perinatology and Reproductive Biology, is the vessel through which our voices resonate. Journal is published from Kolkata since the very beginning. I acknowledge the distinguished individuals who have steered the journal as Editor in Chief:

Dr. Tarun Banerjee, Kolkata (1978-1983)
Dr. N N Roy Choudhury, Kolkata (1983-86)
Dr. K M Gun, Kolkata (1986-88 & 1996-2000)
Dr. MM Jassawala, Mumbai (1988-90)
Dr. G I Dhall, Chandigarh (1990-92)
Dr. Geeta Ganguli Mukherjee, Kolkata (2000-2004)
Dr. Sudip Chakraborty, Kolkata (2005-2009)
Dr. Arup Kumar Majhi (2010-2016)
Dr. Hiralal Konar, Kolkata (2017-2021)
Dr. Ramprasad De, Kolkata (2022-)

Due to dearth of resources, both financial and availability of good article journal could not be published regularly. I must acknowledge our seniors like Dr Manju Gita Mishra, Dr S N Tripathy, Dr Usha Sharma, Dr Gangadhar Sahoo, Dr Gita Ganguly Mukherjee and Dr Sudip Chakravorty who had helped a lot to raise the funds during my tenure. With a strong drive and determination, I was able to get ISSN number, RNI number and PAN number in 2010-2011. Now, Editor in chief, Dr Ramprasad De who is a very dynamic and hardworking is trying his best for indexing in multiple indexing organisation, to collect good quality articles and regularisation of all issues. But he needs support from our esteem members for raising the fund. I appeal to all of you.

A Leap Forward: Chapter Concept Introduction

The introduction of the Chapter concept marked a turning point in ISOPARB's history. Transitioning from a zonal to a chapter concept has revolutionized ISOPARB's expansion across the nation. My gratitude extends to the visionary leaders who facilitated this transition. I must acknowledge the invaluable role

played by Dr. Sudip Chakraborty, the then President, in implementing this innovation in 2012.

Constitutional amendments

Under the leadership of Dr. Usha Sharma, ISOPARB underwent constitutional amendments (2021-2022) that significantly enhanced our organization's functioning.

Celebrating International Ties: FAOPS

FAOPS (The Federation of Asia and Oceania Perinatal Societies) is an international organization devoted to advancing perinatal science and care. Our heartfelt congratulations go to Dr. Milind Shah, now Secretary General of FAOPS, for this remarkable achievement.

My Leadership

Leadership is a sensitive endeavour, requiring a blend of affection and guidance. In my Presidentship journey, I've drawn inspiration from the words of JRD Tata: "To be a leader, you have got to lead human beings with affection."

Perinatal Health and demography - present scenario

Our nation's perinatal landscape presents challenges, with maternal mortality ratio, stillbirths, and neonatal deaths still prevalent. While India has made significant strides in reducing maternal mortality, we must acknowledge that we remain distant from developed nations (97/100,000 live births in 2018-20) and some neighboring South Asian countries. The unfortunate truth is that many mothers succumb to preventable obstetric complications, such as hypertensive disorders, hemorrhage, and sepsis. Anemia continues to play a significant role in these outcomes. Tragically, most of these deaths are avoidable.

India has become the world's most populous nation overtaking China recently (142.86 crore against China's 142.57 crore in April 2023) , and continues to grapple with challenges. NFHS 5 data (2019-2021) reveals a lack of substantial progress in contraceptive prevalence (modern methods at 56.6%) and fertility rate reduction (from 2.2 to 2.0). Stillbirths (3/1000 total births, 2019) and neonatal mortality rate (22/1000 live births, 2019) remain alarmingly high. Adolescent marriages and teen pregnancies persist (NFHS 5) without substantial mitigation. According to NFHS-5, 23.3% women surveyed got married before attaining the legal age of 18 years. Teenage pregnancies have come down from 7.9% to 6.8% in NFHS-5(2019-2021) data. In India, institutional births have increased 79% in NFHS 4 (2015-2016) to 89% in NFHS 5 (2019-2021). In rural areas institution birth is around 87% and in urban areas it is 94%. In Kerala, almost 100% of the births were institutional but in few states institutional birth is far low (Nagaland only 46%).

Theme of the Year

Perinatal Health - Commitment to Care

This year's theme, "Perinatal Health - Commitment to Care," resonates with the very essence of ISOPARB's mission. ISOPARB is the organisation which concentrate these issues. Our organization has the potential to make a significant impact on these challenges if we unite with a shared dedication. Target of sustainable development goal SDG3) to reduce the global maternal mortality ratio to less than 70 per 100,000 live births and to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births by 2030 is possible with commitment.

Setting Objectives

In my tenure, I have outlined several key objectives:

Enlarge our membership through targeted efforts, leveraging our journal's influence.

Expand the number of chapters.

Strengthen our academic endeavours, public awareness initiatives, social contributions, and collaborations with other organizations.

Engage and empower young members.

Facilitate an array of teaching programs and workshops for postgraduates.

Elevate ISOPARB's visibility at the governmental level and foster partnerships with the Government of India.

Focus Areas and Initiatives

Our focus areas include:

Labor and obstetric skill workshops.

Addressing ante-partum hemorrhage, hypertensive disorders of pregnancy, and postpartum hemorrhage.

Conducting caesarean section workshops.

Enhancing critical care obstetrics.

Emphasizing neonatal resuscitation.

Championing Implementation and Dreaming Big

As Walt Disney aptly noted, "If you can dream it, you can do it."

ISOPARB, having burgeoned into a formidable organization encompassing 39 chapters and nearly 3200 members, is driven by this very principle. I extend my heartfelt request to our four Vice Presidents to synergize with their respective city chapters, each contributing to the annual plan. It is heartening to witness their proactive approach. Four Committee Chairpersons have similarly charted their strategies, while several city chapters have already communicated their plans.

Anticipating Milestone Events

The horizon is adorned with significant events:

The mid-term ISOPARB conference is slated for Kolkata on September 9th and 10th, 2023 by Kolkata ISOPARB chapter.

The Gorakhpur ISOPARB chapter will host the inaugural Yuva National ISOPARB conference on November 25th and 26th, 2023.

The Raipur ISOPARB chapter has agreed to organise 39th Annual National Conference of ISOPARB, 2024.

I convey my best wishes for the grand success of the events.

Gratitude

Gratitude permeates my heart, extending to all ISOPARBIANs, especially my colleagues from the Kolkata chapter, whose support has been invaluable on my journey. None of this would have been possible without the unwavering backing of my wife, Swapna, and son, Debanjan. I also pay tribute to my teacher, Prof. B N Chakraborty, who left us last year.

As I stand before you, I seek your blessings and well-wishes. Unity, collaboration, and shared effort fuel our success, and as Henry Ford put it, "Coming together is a beginning, staying together is progress, and working together is success."

May ISOPARB flourish!

LONG LIVE ISOPARB

Thanking you all,

Dr Arup Kumar Majhi
President, ISOPARB

Perinatal Hypoxia and The Perinatologists

Hiralal Konar

Indian Society of Perinatology and Reproductive Biology (ISOPARB) is a unique organization dedicated to the care of a pregnant woman, her fetus and the new born up to 7 days of birth. The area of care with "Reproductive Biology", covers the rest of her health since childhood. The perinatal care, covers the maternal and fetal health over the ante partum, intra partum, post partum period and also the new born care for this first 7 days of birth. The word "***Obstetrics***" is the branch of medicine and surgery that deals with child birth. ***Perinatal care*** provides a wide area of care with responsibility for the woman, the fetus and the new born by the perinatologists.

Perinatal mortality has been defined as the death of a fetus weighing 500 gm of more at birth (or 22 completed weeks of gestation where birth weight is not available or crown heel measurement ≥25 cm), plus the death of an infant within the first 7 days of birth. It is expressed in terms of per 1000 total births. It appears that the use of the word "perinatology" is more concise and focused. The founder members of this organization "ISOPARB" thoughtfully selected the words keeping in mind the importance of combined care for the mother, fetus and the newborn. On sum, the perinatologist and the reproductive biologists are the Obstetricians and the Gynecologist. As Obstetrician, we maintain maternal health care upto 6 weeks postpartum. As perinatologists, we additionally maintain the healthcare of the new born.

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As an **Obstetrician or a Perinatologist**, we need to keep in mind that our performance outcome is being assessed following evaluation of maternal as well as perinatal health parameters. It is true, we involve the neonatologist colleagues additionally for the care of the newborn. By the definition of ***perinatal mortality*** as discussed above, we the Perinatalogists / Obstetricians are accountable for the care to the mother, fetus and the new born (within 7 days of birth). Otherwise improvement of perinatal mortality as well as maternal mortality is our commitment while working as a Perinatalogist / Obstetrician.

I am sure, the discussion as made above, may incite arguments and counter arguments to make the issue clear.

Perinatal outcome may be affected adversely even in a normal pregnancy due to emergence of an obstetric problem (placental abruption). On the other hand an antepartun problem may be continued to the intrapartum period (placental in insufficiency) and also to the neonate and affect the neonatal outcome too.

Obstetric complications may affect both the fetal and maternal outcome adversely.

Intervillous thrombus formation, And massive perivillous fibrin deposition (APL Syndrome, Lupus anticoagulant, Autoimmunity), are the cause for fetal hypoxia, fetal growth restriction and pregnancy loss.

Multifetal pregnancy is an independent risk factor for Cerebral Palsy (CP) and Hypoxic Ischaemic Encephalopathy (HIE). The important variable factors are: Gestational age, Zygocity, Chorionicity

and weight discordance. Monochorionicity has significantly higher risks. So also IUD of one twin. This increases the risks based on the gestational age. Twin to twin transfusion syndrome (TTTS) increases the risks depending upon Quintero staging. We may loose both the fetuses in such a situation. So also with twin reverse arterial perfusion (TRAP) or the acardiac twins. Conjoint twins are rare. In multifetal pregnancy, pre term birth (50%) is a significant risk factor for perinatal loss.

Sudden maternal collapse in the peripartum period, is not uncommon. Following sudden maternal cardiopulmonary arrest, if there is no effects on CPR for 4 minutes and pregnancy is more than 20 weeks, perimortem Cesarean Delivery (CD) is done. There is no need of anesthesia and perimortem CD is done in the resuscitation place. It is done for the best interest of the mother. Delivery within 5 minutes improves neonatal survival. Delivery beyond 10 minutes increases the risks of neonatal neurological sequelae significantly and also the mortality.

Perinatal complications may be acute, (placental abruption) or chronic (IUGR). Depending upon the severity and duration of complications, perinatal hypoxia and the neonatal outcome varies.[1] Hypoxemia-ischemia is associated with metabolic acidosis (raised blood lactate) and low blood pH. When the asphyxia is prolonged, it causes neurologic illness in the neonate. Pathophysiologic changes related to hypoxic-ischemic encephalopathy are poorly understood. Neurological disorders including cerebral palsy are multifactorials. Involvements of general, physiological, environmental and obstetric factors have been mentioned. Over all incidence of encephalopathy has been observed to be 1-2 cases per 1000 term live born neonates. Occurrence is much more in preterm neonates.[2]

Animal data correlates well for fetal hypoxia (with duration and severity), to that of the severity of brain damage. In humans, the response it is not the same. Importantly in humans, experimental manipulation is not possible. The information is extrapolated from actual cases of umbilical cord prolapse, abruptio-placenta, shoulder dystocia, sudden maternal collapse or rupture of the uterus.

Cardiotocography is good to detect the fetal wellness rather than the illness. Benefits of CTG monitoring in labor was reduction in neonatal seizures (50%). Suspicious and pathological tracings have a limited capacity to predict metabolic acidosis and hypoxic neurological injury. Continuous CTG monitoring was associated with 63% increase in cesarean delivery. **Low Apgar Scores** at 5 and 10 minutes, are associated with higher risks neurological impairment. Neuro-imaging with Magnetic Resonance Imaging (MRI) or MR Spectroscopy (MRS), is superior to visualize the neurological (brain) findings. Hypoxic Ischemic Encephalopathy (HIE) may be associated with multisystem (renal, GI, hepatic, or cardiac) injury. Presence of umbilical artery reduced blood PH (<7.0) and higher base deficit (>16m mEq/L), indicate significant acidosis.[3] With this, the risk of severe neurological morbidity is high (37%).

India has made a significant improvement in both the areas of Maternal Mortality and Perinatal Mortality. Works need to be continued to maintain the progress rate to achieve the target of Sustainable Development Goals (SDG) to the level of MMR <70/100,000 LB and NMR <12/1000 LB by 2030.

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Original Article: Obstetrics

Outcome after Implementation of Postpartum Hemorrhage Bundle Project in a Tertiary Center in North India

Uma Pandey[1], Sakshi Agarwal[2], Shilpa Chowdary Peddappolla[3], Jigyasa Singh[4], Sangeeta Rai[5], Anjali Rani[6], Amita Diwakar[7], Shuchi Jain[8], Surabhi Sapna[9]

ABSTRACT

Aim: To study the outcome of implementing Postpartum Haemorrhage Emergency care using a bundle approach (PPH EmC) in the management of patients with PPH in a tertiary referral center in North India.

Materials and methods: The study was conducted in a tertiary referral hospital in the department of Obstetrics and Gynaecology of Sir Sunderlal hospital, Banaras Hindu University, Uttar Pradesh state, India for a period of 12months from June 2021 to June 2022. It is a prospective observational study. Prior to the study, training of health care providers including medical and paramedical staff was done using World Health Organization guidelines on Postpartum Hemorrhage Emergency Care (PPH EmC) using bundle approach. The data was collected by chart review and the outcome was observed in percentages.

Results: The prevalence of PPH was 4.25%. PPH was the cause of maternal mortality in 8.7% cases. Atonic PPH was most common (76%). A significant correlation was found between amount of blood loss and requirement of refractory intervention (p=000.4) and 3.7% of the patients died due to intractable PPH. Of the patients died with PPH, 75% patients died due to delay in referral from other facilities. There is significant increase in mortality in referred patients (p=0.03).

Conclusions: Mortality due to PPH reduced after the implementation of PPH care bundles.

Key words: Postpartum Haemorrhage, Emergency care training, Bundle approach, outcome

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Introduction

The global estimates indicate that there were 295 000 maternal deaths in the year 2017. India has 35,000 maternal deaths in 2017 accounting for 12% of the maternal deaths in the world.[1] Haemorrhage is the main cause of maternal mortality, resulting in 27% (one quarter) of deaths. More than two thirds of reported haemorrhage deaths were classified as postpartum haemorrhage.[2]

In India, maternal mortality ratio has declined from 130 in 2014-2016 to 103 in 2017-19. Despite the efforts, PPH remains as the main cause of maternal mortality in India. Incidence of PPH is reported as 2% - 4% after vaginal delivery and 6% after caesarean section as published by national health portal of India in 2017 with uterine atony being the reason in 50% of the cases among the four main causes.[3]

In developing countries, the main cause for maternal mortality is due to delay in seeking care, nonavailability or under-availability of the resources and lack of proper guidelines. To address this problem, The International Federation of Obstetrics and Gynaecology (FIGO) of London along with Massachusetts General Hospital Global Health Innovation Lab (MGH GHI) of USA has initiated a Bundle approach to deliver Postpartum Emergency care (PPH EmC) using World Health Organisation (WHO) PPH management guidelines.

The bundle approach refers to the usage of a set of evidence-based interventions in the management of a defined patient population. Based on many studies, with good adherence, bundle approach has favourable outcomes in the management of PPH.[4]

FIGO and Massachusetts General Hospital (MGH) has collaborated with the senior obstetric providers worldwide for the implementation of PPH EmC using bundle approach to reduce the PPH related mortality and morbidity by training the obstetrician and nursing providers involved in maternal health care. The training is provided for health care providers of all health care levels from primary care centre to tertiary referral centres for the prevention of PPH, prompt identification, management and timely referral of the patient with PPH.

PPH Emergency care includes both clinical and non-clinical approaches. The clinical interventions include evidence backed, cost effective, resource saving methods that are easy to learn and perform. The non-clinical part includes system strengthening strategies which increase the adherence to evidence-based approaches and addresses the delays.

Who recommendations for management of PPH recommends the two care bundles for facility implementation. It integrates clinical and non-clinical approaches. Clinical approach includes two care bundles, 'first response bundle' comprises uterine massage, giving intravenous fluids, uterotonics and tranexamic acid to the patient, with emptying urinary bladder, emptying uterus and treating tears were supportive measures to first response bundle. The second bundle, 'refractory PPH interventions' include uterine compression or external aortic compression, the use of and intrauterine balloon tamponade (IBT) and non-pneumatic antishock garment (NASG) and surgical interventions. Teamwork and Communication, Facility readiness, Network Integration, Data, Monitoring and Quality Improvement, Leadership and use of best clinical practices were defined as PPH bundle supporting elements.[5]

Methods and Methodology

FIGO and Massachusets General Hospital along with Uttar Pradesh state technical support unit (UPTSU) and Federation of Obstetric and Gynaecological Societies of India (FOGSI) started PPH Emergency care using bundle approach in Department of Obstetrics and Gynaecology, Banaras Hindu University with the support of Bill and Melinda Gates foundation. The PPH EmC bundle approach training started in Banaras Hindu University in 2021. The initial phase involved the training of the trainers observed online by members of FIGO, FOGSI and MGH in March 2021. During the next phase resident doctors, nurses and other paramedical staff were trained July-September 2021.

Study design: The study was a single tertiary referral centre based observational study conducted at Institute of Medical Sciences, Banaras Hindu University in Northern India to study the outcome of implementation of PPH Safety bundle for 12 months from June 2021 to June 2022.

Study population include those patients who delivered at our facility and experienced PPH and also those patients who were referred from other medical centres. The data was collected from the patient case records and PPH debrief forms. The data is presented as proportions and correlation between proportions was analysed using z-test and chi-square test with the *p* value set at 0.05. The data was analysed using IBM SPSS software version 24.0.

Ethical approval for the study was obtained from the Institute Ethics Committee need details Dean/2021/EC/2996.

Measurement of blood loss: PPH was identified in the patients with loss of more than 500ml following vaginal delivery and more than 1000ml following caesarean delivery or any amount of blood loss which caused the hemodynamic instability of the patient. PPH is classified into mild (blood loss is 500-1000ml) or major (>1000ml). Major is divided into moderate (1000-2000ml) and severe (>2000ml).[6] Blood loss is mainly measured subjectively by visual estimation of blood loss (EBL) or pictorial blood assessment chart (PBAC).

Results

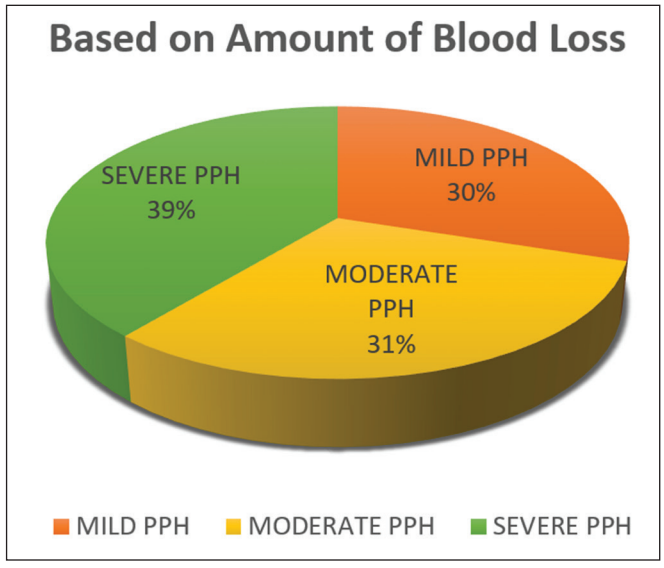
During the study period from June 2021 to June 2022, a total of 2765 patients were delivered at our institution of which 1167 were vaginal deliveries and 1887 were Caesarean deliveries. PPH was detected in 118 patients with a prevalence of 4.25%.

78% (N=92) of the women with PPH were delivered at this facility and 22% (N=26) patients were referred from other health care facilities where these women were delivered and were referred with PPH.

69.5% (N= 82) of the patients who had PPH were delivered by caesarean and 30.5% (N=36) were delivered vaginally. AMTSL was given for 100% of patients delivered at this facility.

Prevalence based on amount of blood loss

Severity of PPH	% (N=118)
Mild PPH	30% (N=36)
Moderate PPH	31% (N=37)
Severe PPH	39% (N=45)



Out of the 118 patients who had PPH, 29% had mild PPH, 32% had moderate PPH and 39% had severe PPH.

Prevalence of causes of PPH

Type of PPH	Number	Percentage
Atonic PPH	90	76%
Traumatic PPH	4	3.5
Mixed (atonic+ traumatic)	9	7.6%
Coagulopathy	4	3.5%
Retained placenta	1	0.9%
Morbidly adherent placenta	10	8.5%

Cause of PPH in our centre was mainly atonicity of the uterus (76%), followed by morbidly adherent placenta (8.5%), both atonic and traumatic PPH (7.6%) and coagulopathy in 3.5% patients. Traumatic PPH and retained placenta were the cause of PPH in very few patients.

Management of PPH	Number	Percentage
a. AMTSL	118	100%
b. Controlled by 1st response bundle-	71	60.1%
c. Required refractory measures		
1. Uterine compression	2	1.7%
2. Intrauterine balloon tamponade (IBT)	5	4.2%
3. NASG	1	0.8%
4. Surgical interventions	39	33%

100% of the patients who delivered received active management of third stage of labour (AMTSL) irrespective of the mode of delivery. 4.5% (N= 118) patients developed PPH. 100% of the patients who had PPH received first response bundle which comprised

uterine massage, intravenous fluids, uterotonics and tranexamic acid. Around 60.1%(N=71) cases were controlled by first response bundle alone and the remaining 39.9%(47) patients required refractory PPH interventions. NASG was used in 1 patient, Intra uterine Balloon Tamponade (ESM UBT) in 5 patients and bimanual uterine compression was done in 2 patients, aortic compression was not needed in any patient. Surgical interventions were done in 39 patients. 57.6% (N=68) patients required blood transfusions more than 2 units.

A significant correlation was found between amount of blood loss and use of refractory interventions for management of PPH (p= 0.004). As the amount of blood loss increased, there is increased use of refractory measures.

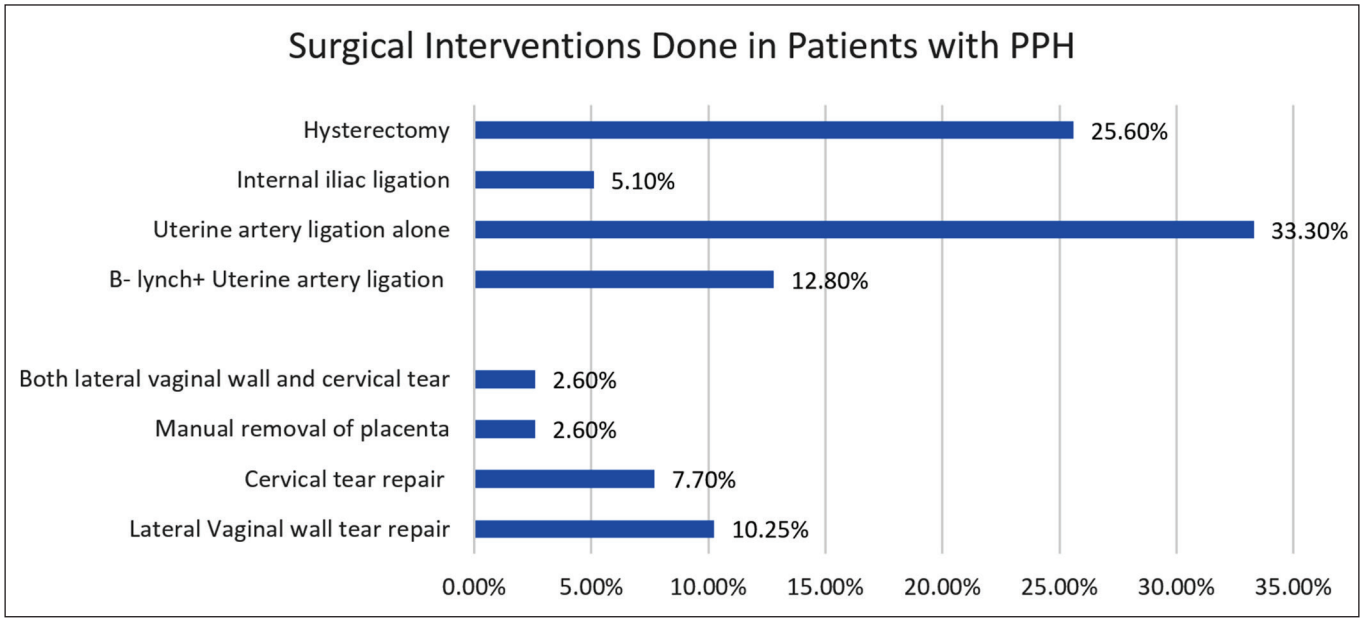
Surgical interventions done in patients with PPH

Surgical interventions	Patients who required them (N=39)	Percentage (%)
Lateral Vaginal wall tear repair	4	10.25%
Cervical tear repair	3	7.7%
Manual removal of placenta	1	2.6%
Both lateral vaginal wall and cervical tear	1	2.6%
B-lynch+ Uterine artery ligation	5	12.8%
Uterine artery ligation alone	13	33.3%
Internal iliac ligation	2	5.1%
Hysterectomy	10	25.6%

Uterine artery ligation was the most common surgical intervention done at our centre to manage the patients with refractory intervention followed by hysterectomy and B-Lynch uterine compression sutures. Vaginal wall tear repair was done in 10.25% patients, cervical tear repair in 7.7% patients, Manual removal of retained placenta was done in 1 (2.6%) patient.

Despite all the efforts, 4 patients died due to intractable during study period. Total number of 46 patients died in the maternity ward during this study time, out of which 4 were due to PPH accounting for 8.7% of cause of maternal deaths in the facility. Of the patients expired, 1 patient delivered at this facility (n=92) and 3 patients were referred (n=26) from other hospitals. There is significant increase in mortality in referred patients (p=0.03). There is no significant decrease in mortality rate after the implementation of PPH bundle (p=0.125)

A debrief was done after managing every case of PPH. The debrief rate was 100%. Debrief included the evaluation of management done by medical and paramedical staff, leadership, teamwork, communication, clinical skill, the things which went well and things which could be improved. In our centre things that were well included prior identification of a high-risk patient for PPH, availability of all the drugs required for the management of PPH. Skilled medical and Paramedical staff. Things that could be improved included increased team members, timely referral of the patients referred from nearby health centre before the "golden hour" is completed and prior information



of the patients being referred. Information to blood bank through an alarm activating system to reduce the delay in arrangement and release of blood products required.

Discussion

The objective of FIGO PPH EmC using bundle approach is to improve quality of care in management of PPH patients at the hospitals where deliveries are performed and it aims to reduce the maternal mortality and morbidity. The training sessions incorporates simulations, group activities, didactic sessions. The practical tool kit was provided during the training sessions.

It integrates clinical and non-clinical approaches. Clinical approach has 'first response bundle' which includes uterine massage, giving intravenous fluids, uterotonics and tranexamic acid to the patient, with emptying urinary bladder, emptying uterus and treating tears were supportive measures to first response bundle. The 'refractory PPH interventions' include uterine compression or external aortic compression, use of IBT, NASG and surgical interventions. Non clinical approach includes teamwork and Communication, Facility readiness, Network Integration, Data, Monitoring and Quality Improvement, Leadership and use of best clinical practices were defined as PPH bundle supporting elements.

The prevalence of PPH in our centre was 4.25%, which is slightly higher than reported by other studies done in India which reported a prevalence of 3.3%.[7] The prevalence of PPH in our centre before PPH EmC training was implemented was 9.5%, there is a reduction in the rate of PPH post PPH EmC training by 50%. Majority of the mothers (39%) experienced severe PPH and moderate PPH was seen in 31% cases, mild PPH in 30% cases.

The major cause of PPH was atonic (76% cases) followed by morbidly adherent placenta in 8.5% cases, disorders of coagulation were cause for 3.5% cases which is higher than the other study done in India where bleeding diathesis was cause in only 0.07% cases.[7]

Other observations made during the implementation of the bundle care program was preventive strategies at our institute were well established with risk stratification of pregnant women based on their obstetric, medical and surgical history and women with high risk for PPH are identified early and staff, medicine, blood products are arranged beforehand if PPH were to occur in such patients. AMTSL was done in 100% of the mothers who delivered.

The mothers who developed PPH, all received first response bundle. Only in 60.1% mothers, PPH was controlled by first response bundle and the remaining 39.9% required refractory interventions. Uterine compression was done in 1.7% patients, Intrauterine balloon tamponade (IBT) was used in only 4.2% cases and NASG was used in only 0.8% cases. Surgical intervention was done in 33% cases. This low implementation of refractory PPH interventions IBT, NASG and compression manouvers is due to the refusal by patient and their anxious family members for these methods and requesting for an early surgical method of management, many of the patients were having PPH during caesarean section and are already in the operating room where surgeon is tempted to manage the patient surgically.

The surgical procedures which helped in majority of the cases with refractory PPH was uterine artery ligation in 33.3% followed by hysterectomy in 25.6% cases and B-Lynch uterine compression sutures along with uterine artery ligation in 12.8% cases. Vaginal wall tear repair, cervical tear repair, internal iliac artery ligation was done in 10.25% and 7.7% and 5.1% respectively. The rise in hysterectomy in our centre is due to more number of patients with morbidly adherent placenta being referred to our centre from other facilities.

57.6% patients who experienced PPH required more than 2 units of blood transfusion. PPH was the cause of death in 8.7% (4 out of 46). cases of maternal mortality during study period. This was less compared to the pre PPH EmC training period during which mortality due to PPH was 17.7% (6 out of 34). Majority (75%) of patients who died due to PPH in the study period were referred from other facilities.

During the debrief it was found that prior identification of a high-risk patient for PPH (n=72), availability of all the drugs required for the management of PPH (n=27), Skilled medical and Paramedical staff (n=19) were the advantages and requirement of more team members, timely referral from other centres, prior

information regarding referral and reducing delay in making blood products available needs to be improved at his facility.

Conclusion

This study was conducted to assess the outcome of implementation of PPH EmC using bundle approach. To identify the cause, management approaches, teamwork, strengths and limitations in the implementation of this bundle study. Further long-term comparative studies are needed to evaluate the efficacy of this bundle approach in India.

The study shows that once PPH bundle is applied the mortality reduces.

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Original Article: Obstetrics

Study on the Rate and Indications of Primary Cesarean Section in a Tertiary Care Centre in Patna

Jayoti Malhotra[1], Swaroop Ranjan Nanda[2]

ABSTRACT

Background: Caesarean section can save the lives of both mother and foetus under certain conditions. However Overuse of CS has led to majority of women in subsequent pregnancy landing in previous CS . Guidelines for caesarean sections must be so devised such as to maintain a low rate of primary c sections that is consistent with WHO standards.

Objective: To determine the primary (CS) cesarean section rate in a Tertiary care hospital in Patna. To study the indications for the primary CS.

Methodology: This was a Cross sectional study. This was study was carried out from from 1st April 2022 to 31st July 2022. This study was carried in the department of Obstetrics and Gynecology Kurji Holy Family Hospital, Patna

Results: Of 828 C Sections 48.3 % were Primary C sections of which 37% cases were of elective C sections and 63% were of Emergency C sections.

Key Words: Primary CS, Placenta Previa, Placenta Acreta spectrum,NRCTG, Failed IOL

Introduction

Caesarean section can save lives of both mother and foetus and is very beneficial when labour is stalled or progresses poorly. Yet, has ramifications for upcoming pregnancies and is linked to immediate maternal and foetal risk.

Rate of CS has been rising world wide.[1] but sadly not associated with corresponding decrease in perinatal mortality rate. One of the main cause of the rising CS rate is Primary CS . Primary CS is defined as CS on women for very first time[2] Overuse of CS has led to majority of women in subsequent pregnancy landing in previous CS. Large population based study from canada shows increased risks of severe maternal morbidity 3 times more common for CS as compared to Vaginal Delivery (2.7% to 0.9%)[3] Long term complication of CS especially Placenta Previa (1% in previous one) (3% in previous two) and Placenta Acreta Spectrum cannot be ignored.[4]

3 important Factors leading to escalating CS rates[5] Patient preferences; Practice differences in Health Care Professionals; Protocol differences. Guidelines for caesarean sections must be devised and put into

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place in order to maintain the rate at a low level that is consistent with WHO standards.

In order to cut down the increased CS rate look we must look into indications of the primary CS and, How can we modify them. Present study was done to determine the common indications of Primary CS performed at KHFH.

Methodology

Type of study: This was a Cross sectional study
Duration of study: 1st April 2022 to 31st July 2022.

Place of study: This study was carried in the department of Obstetrics and Gynecology Kurji Holy Family Hospital, Patna.

Method of collection: Data was collected from the record register of Obstetrics and Gynecology department for the study Inclusion Criteria: All the viable (>26 weeks) cases undergone the delivery at obstetrics and Gynecology department.

Exclusion Criteria: Delivery with incomplete records.

Statistical analysis of the data was done through SPSS version 21.0 for obtaining descriptive statistics as percentage.

Obsevation and Results

This study showed that total numbers of delivered were 1630 out of which caesarean section were 828, with caesarean rate of 49.2% of our study as compared to 74.34%. Of 828 C sections 48.3%were Primary C sections of which 37% cases were of elective C sections and 63% were of Emergency C sections. (Figure 1). Total CS rate was 49.2% as compared to 74.34% in a study done in Bangladesh (Sheikh Mujib Medical College Dhaka)

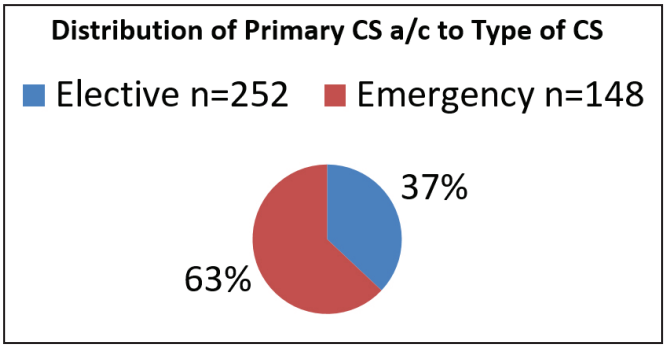

Figure 1: Distribution of Primary C section according to type of CS

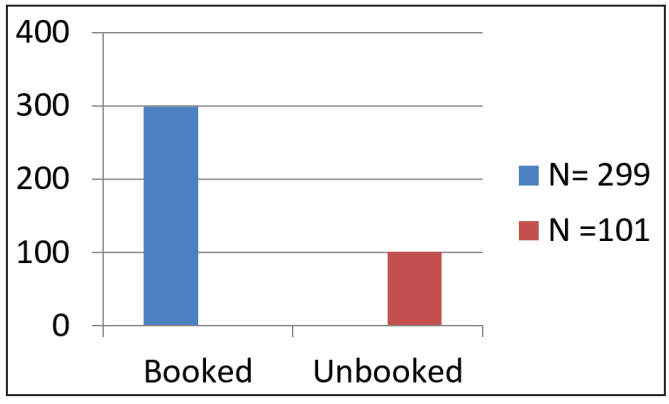

Figure 2: Booking status of study population who underwent primary C sections

Out of 400 primary C Sections 299 were booked patients and 101 were unbooked

Most of 1° CS (53%) were performed on primigravida (Figure 3). Anmile Boyle et al concluded that rate of primary CS in primigravida was 30.8% as compared to 11.5% in multigravida.

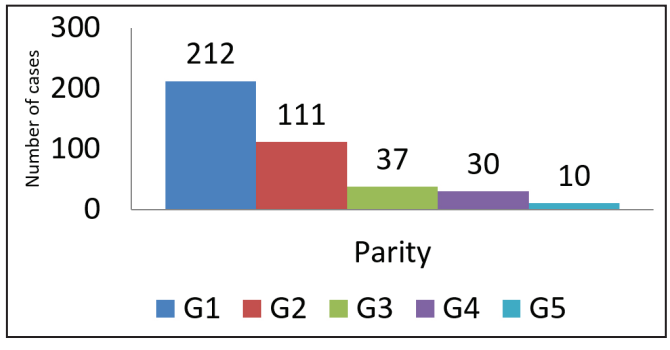

Figure 3: Distribution of Parity among cases

Most common indiaction was NRCTG followed by Patients Wish.

Failed IOL, NPOL, 2nd stage arrest were other common indications. (Table 1)

Table 1: Distribution of Primary C sections according to indications

Indication	Count	%AGE
NRCTG	76	19% (Max)
Patients wish	50	12.5%
Failed IOL	45	11.2%
NPOL	30	7.5%
2nd stage arrest	38	9.5%
APH	25	6.2%
Breech	20	5.1%
Fetal Distress (MSL)	25	6.2%
IFV	30	7.2%

Indication	Count	%AGE
Oligohydramnios	11	2.9%
PIH	20	
FGR	14	3.5%
Transverse Lie	8	2%
Good Size Baby	8	2%

Conclusion and Discussion

Our Study has shown majority of 1 CS are done in Primigravida and majority of indications are modifiable

Suggested way forward to cut down the rate are as follows:

- Revising CTG interpretation
- Minimising CS on demand and application of Painless Labour
- Skillfull and judicious use of instrumental Delivery in 2nd Stage arrest
- Performing ECV if possible
- Failed IOL can be minimised by proper patient selection
- NPOL can be tackled by redefining protracted Labour

Compliance with Ethical Standards Conflict of interest

The authors declare that they have no conflicts of interest.

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Original Article: Gynecology

Role of Laparoscopy in Infertile Women with Endometriosis

Aswathy N U[1], Chandana Ray Das[2], Pranoy Nath[3]

ABSTRACT

Background: Infertility is defined as failure to conceive during one year of frequent unprotected intercourse.[1] World wide more than 70 million couples suffer from infertility. WHO has recognized it as a major public health issue. 10-15% couples are infertile in India. About 25-50% of infertile women have endometriosis.

Aims and Objectives: To study the prevalence of endometriosis among infertile women undergoing laparoscopy and to study the role of laparoscopy in diagnosis, staging and treatment of endometriosis in infertility.

Method: A total of 72 patients with primary and secondary infertility who were taken for laparoscopy during one year study period were studied. Those with Endometriosis, staging was done using the Revised American Fertility Society (R-AFS) classification and EFI score also were calculated. Laparoscopic procedures done for each case noted. Patients were followed up and successful pregnancies recorded.

Results: The prevalence of endometriosis in infertile women included in this study was 25% (18) and it was more in the age group between 26-30 years. 83.3% patients had primary infertility. Most common affected site was found to be ovary (72%). Bilateral tubal patency was seen in 72% cases. Stage 3(38.9%) was seen more commonly followed by stage 4(27.8%) cystectomy and adhesiolysis were the most commonly employed laparoscopic procedures. out of 18 patients with endometriosis, 7 patients conceived either spontaneously or with ovulation induction and 6 patients completed their pregnancies successfully.

Conclusion: Laparoscopy remains the gold standard for diagnosing, staging and surgically managing endometriosis. conception rate is good after laparoscopic surgery, if the patients are in early stage of disease and EFI score is high.

Key words: Infertility, Endometriosis, Laparoscopy.

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Introduction

Endometriosis is characterised by the presence of endometrial glands and stroma outside the uterus, which results in a persistent inflammatory response. The most commonly affected areas are the ovaries followed by the pouch of Douglas, uterosacral ligament (especially its insertion into back side of uterus), vesicouterine pouch, serosal surface of uterus, fallopian tubes, round ligaments and rectovaginal septum. Depending on its location, patient may present with dysmenorrhea, infertility, irregular menstrual bleeding, generalised low back pain, dyspareunia, abdominal pain, and urinary complaints.[2]

Endometriosis-related subfertility has been linked to altered pelvic anatomy, molecular changes, hormonal imbalances, compromised folliculogenesis, compromised endometrial receptivity, and changed local environments.[3]

Laparoscopy, though invasive it is considered as gold standard for the definitive diagnosis and management of infertility associated with endometriosis because it will further help in management of endometriosis since macroscopic endometriosis can be removed by surgical intervention. More recently the trend is shifting towards laparoscopic evaluation of these patients and laparoscopic interventions are being preferred over laparotomy because of the obvious advantage of minimal damage to the healthy tissue, quick recovery, high magnification of lesions, early mobilization and comparatively less hospital stay.[4]

Various surgical techniques used in laparoscopy include laser vaporization, drainage and bipolar coagulation of cyst wall, endometrioma stripping, CO2 laser etc. Researchers still do not know which one is most effective at avoiding ovarian damage and gives better fertility outcome. Surgery can lead to reduction in ovarian reserve due to excessive stripping, coagulation and surgery induced inflammation.[5] So management of each case should be individualised and should be handled by skilled surgeons. Surgery should focus on two key areas: avoiding damage to the follicular tissue and avoiding postoperative adhesion formation.[6]

This study was done to find out the prevalence of endometriosis in infertile patients and to know the outcome after laparoscopic surgery.

Method

The study was conducted at department of obstetrics and gynaecology, silchar medical college between 01/06/2021 to 31/05/2022. The patients included in the age group 21- 40 years with primary and secondary infertility. History noted, pelvic examination done and clinical findings of fixed retroverted uterus with adnexal mass, deviation of uterus, restricted mobility, nodularity of POD etc were noted after taking informed consent. The cases were subjected for pelvic ultrasound to look for altered anatomy and associated lesions like endometrioma, uterine fibroid, adenomyosis etc.

After pre-operative investigations and pre-anaesthetic check up, patients were taken for laparoscopy under GA. Endometriosis staging was done using Revised-American Fertility Society (R-AFS) classification score. Scores 1 to 5 were classified as stage 1 (minimal), scores from 6 to 15 were stage 2 (mild), scores 16 to 40 with mild adhesions were classified as stage 3(moderate) and scores above 40 classified as stage 4 (severe). EFI score also calculated and chromopertubation done in all cases to know the tubal patency.

During laparoscopy, removal of endometriotic lesions were done by cystectomy, adhesiolysis, drainage and fulguration etc. All the specimens retrieved were sent for histopathological confirmation. Patients were followed up for confirmation. Ovulation induction given for stages 2,3 & 4. Those with severe disease were referred to higher centre for better options like IVF.

Results

Most affected age group was between 26-30 years (44%) followed by 21-25 years (27%). Frequency is comparatively less above 35 years.

Table 1: Showing distribution of patients according to age

Age (years)	Frequency (n)	Percentage (%)
21-25	5	27.8
26-30	8	44.4
31-35	4	22.2
36-40	1	5.6

Among 18 patients with infertility (25%) in our study, 33% had dysmenorrhea followed by chronic pelvic pain in 27.8%.

Table 2: Showing other symptoms in infertile patients with endometriosis

Symptoms	Frequency	Percentage (%)
Dysmenorrhea	6	33.3
Dyspareunia	1	5.6
Chronic Pelvic Pain	5	27.8

During laparoscopy, ovarian involvement was seen in 72% population. Left side was more involved than right side and bilateral involvement was seen in 4 patients. Peritoneal adhesions were seen in 88.8% of patients with endometriosis and POD involvement was seen in 61% cases. Uterine wall and uterine ligaments were involved in 38% and 33 % cases respectively.

Table 3: Showing sites of involvement of endometriosis

Site of Endometriosis	Frequency	Percentage (%)
Ovarian endometriosis	13	72
Right	7	53
Left	10	76
Bilateral	4	30
Uterine Wall	7	38
Uterine ligaments	6	33
Pouch of Douglas	11	61
Bowel involvement	2	11
Rectovaginal septum	2	11
Adhesions Peri-tubal Peri-ovarian	 8 12	 22 66

Haemorrhagic cyst was seen in 11.1% cases of endometriosis and PCOD was associated with 22% cases of endometriosis and fibroid was seen in 3 patients with endometriosis (16.7%).

Table 4: Showing associated lesions in patients with endometriosis

Endometriosis	Frequency	Percentage(%)
Haemorrhagic cyst of ovary	2	11.1
Fibroid	3	16.7
Polycystic ovarian disease	4	22.2
Hydrosalpinx	5	27

Bilateral tube was patent in 72% cases of endometriosis and unilateral patency was seen in 16.7% cases. Bilateral tubal blockage was seen in 2 cases out of 18 patients with endometriosis.

Table 5: Showing tubal patency in infertile patients with endometriosis

Tubal Patency	Frequency	Percentage (%)
Unilateral	3	16.7
Bilateral	13	72.2
Bilateral Blockage	2	11.1

Stage 3 endometriosis was seen in maximum number of cases comprising 38 %. second most common finding was stage 4 comprising 27 %. Third most common finding was Stage 2 endometriosis with 25% and least common was stage 1endometriosis comprising 2 cases only.

Table 6: Showing distribution of patients according to ASRM staging

Stage of endometriosis	Frequency	Percentage (%)
I	2	11.1
II	4	22.2
III	7	38.9
IV	5	27.8
Total	18	100

Out of 18 patients with endometriosis, endometrioma removal by cystectomy done in 61% cases and drainage and fulguration was done in 11% cases. Endometriotic deposits removed by excision using bipolar coagulation or deep cauterisation. Salpingectomy was done in 11% cases. Most of the cases had either peri-tubal or periovarian adhesions, adhesiolysis done in such cases (88%) and tried to preserve normal tubo-ovarian relationship.

Table7: Showing therapeutic procedures done during laparoscopy

Procedure	Number of cases	Percentage (%)
Cystectomy	11	61
Excision	6	33
Adhesiolysis	16	88
Drainage and Fulguration	2	11
Salpingectomy	2	11

Table 8: Showing EFI score of patients with endometriosis

EFI	No of patients	Percentage (%)	conception
0-2	0	0	0
3-4	8	44.4	0
5-6	5	27.8	2
7-8	4	22.2	4
9-10	1	5.6	1

44% of patients with endometriosis had an EFI score of 3-4, out of which none conceived within one year follow up. 27 % patients had an EFI score of 5-6 and 22% had an EFI score of 7-8. High conception seen among infertile patients with high EFI score.

Table 9: Showing conception rate in relation to ASRM stage of endometriosis

Stages of Endometriosis	1	2	3	4
Number of patients	2	4	7	5
Number of patients Conceived	2	3	2	nil
Ovulation Induction Given	nil	4	6	4
Percentage (%)	100	75	28	nil

All patients with stage 1 endometriosis conceived spontaneously following laparoscopic surgery and none conceived following surgery in case of stage 4 endometriosis. 28% of patients with stage 3 conceived following surgery and 75% of patients with stage 2 endometriosis conceived after surgery.

Ovulation Induction was given for patients with stage 2 endometriosis and above. All patients with stage 1 endometriosis conceived spontaneously within one year following surgery. Out of 4 patients with stage 2 endometriosis, 75% conceived within one year following surgery. 6 out of 7 patients with stage 3 endometriosis received ovulation induction with clomiphene citrate, of which 40% got conceived within one year follow up period. 80% patients with stage 4 disease received ovulation induction, but none got conceived neither with ovulation induction nor with laparoscopic surgery. This indicates that, rate of conception is low when the severity of endometriosis advances.

Discussion

In a study by New York Academy of sciences on endometriosis and infertility, the prevalence of endometriosis in infertility was about 25-40% (1989).[7] In a study by Meuleman C et al in 1991, prevalence of infertility in women with endometriosis is high as 30%.[8] According to a Hospital based retrospective study by VV Mishra et al in 2015, prevalence of endometriosis was found to be 48.38%.[9] The prevalence of endometriosis in the present study was 25%.

Table 10: Showing prevalence of endometriosis in different studies

Study	Prevalence (%)
Wheeler JM et al (1989)	40
Meuleman C et al (1991)	30
Mishra et al (2015)	48.38
Present study	25

Moradi M et al in 2014, conducted a qualitative descriptive study using semi-structured focus group discussions with 35 Australian women with endometriosis, noted 26-35 years age group is most commonly affected with endometriosis.[10] Rajeswari et al in 2016 noted 26-35 years is the most common age group affected by endometriosis.[11] Latika S et al in 2016, noted 69.3% of women with endometriosis belongs to 25-35 years.[12] In this study majority of the patients (44%) belonged to the age group of 26-30 years of the age. Many of the studies have reported similar age at which women are affected by endometriosis.

Giudice LC et al in 2010, stated that most common symptom of endometriosis is pain just before and during periods.[13] In another study by Swain S et al noted that 67.7% patients reported with dysmenorrhea followed by infertility.[14] In this study, 33% patients had dysmenorrhea and 27% had chronic pain followed by dyspareunia. So, dysmenorrhea is the most common presenting symptom in endometriosis.

In a study by Haider G et al (2010), 55% patients had primary infertility and 30% had secondary infertility.[15] In our study 83% patients were primarily infertile and 16% secondarily infertile. So, primary infertility is more in endometriosis than secondary infertility.

Staging of the disease was done based on Revised American Fertility Society criteria.[14] In the present Study, 38% infertile patients had stage 3 (moderate) endometriosis, 27% had stage 4 (severe) disease, 22% had stage 2 (mild) disease and 11% had stage 1 (minimal) disease. Rajeswari M et al also noticed high prevalence of stage 3 in their study and least was stage 4.[11] In another study by Swain S et al, stage 2 endometriosis was seen in maximum number of cases in the study group (46%) and least was stage 4.[14]

Table 11: Showing most commonly affected stage in endometriosis

Study	Stage of Endometriosis
Rajeswari M et al (2016)	Stage 3
Swain S et al (2018)	Stage 2
Present Study	Stage 3

Ovary is the most common site involved in this study comprising 77% followed by POD (61%) cases. Chocolate cyst was seen in 78% cases and bilateral involvement seen in 28% cases and ovarian endometriotic deposits were seen in 14 % cases. Latika S et al in 2016 and Swain S et al in 2018, stated that ovary is most commonly involved in endometriosis.[12,14] Similiar studies conducted by Macer M et al (2012), Valson H et al (2016), Prescott J et al (2016), Sharfuddin S et al (2020) showed ovaries to be one of the common sites for endometriosis.[16,17,18,19]

The associated conditions seen in this study during laparoscopy include hydrosalpinx (27.8%), PCOD (22%), fibroids (16%) and haemorrhagic cyst (11%). Latika S et al noticed fibroids in 27% cases followed by hydrosalpinx.[12] Swain S et al noticed Hydrosalpinx in 11.6% cases followed by fibroid in 5.8% cases.[14] In another study by Swapna Y et al in 2019, PCOD, genital koch's and fibroids were seen associated with endometriosis.[20]

Table 12: Showing associated lesions in endometriosis in different studies

Study	Associated Lesions
Latika S et al (2016)	Fibroid
Swain S et al (2018)	Hydrosalpinx
Swapna Y et al (2019)	PCOD
Present study	Hydrosalpinx

In this Study, Patients with EFI score 5-10 has good conception rate (70%) compared to lower EFI score of 0-4. Vesali et al in 2020, found that non ART pregnancy rates in patients with EFI score 0-2 to be 16%, 2-4 to be 18%, 5-6 to be 44% and 7-8 to be 55%.[21] According to a study by Kavya VK et al in 20,[22] percentage of spontaneous conception was zero for EFI score 0-2,20% for score 3-4, 54% for score 5-6, 93.3% for score 7-8 and 100% for score 9-1022.

Table 13: Showing conception rate based on EFI score in different studies

EFI Score	0-2	3-4	5-6	7-8	9-10
Vesali et al (2020)	16%	18%	44%	55%	100%
Kavya V K et al (2022)	Nil	20%	54%	93.3%	100%
Present study	Nil	nil	28%	57%	70%

According to a study by Valson H et al (2016) in Kerala, On chromopertubation among 33 cases of infertile patients with endometriosis, Bilateral tubes were found to be patent in 20 cases (66.6%) cases and bilateral and unilateral tubal blockage was seen in 10 (30.30%) and 3 (9.09%) cases respectively.[17] In another study by Sharfuddin S et al in 2020, bilateral fallopian tubes were found to be patent in 16 (69.5%) cases and unilateral and bilateral tubal blockage was seen in 4 (17.39) and 3 (13.04%) cases respectively.[19] In our study, bilateral tubes was found to be patent in13(72.2%) cases and U/L and B/L tubal blockage was seen in 3 (16.7%) and 2 (11.1%) cases respectively.

Various studies have confirmed that the laparoscopic interventions are helpful in diagnosing as well as treating endometriosis related infertility. Various procedures which can be undertaken for treating endometriosis include cystectomy, Adhesiolysis, drainage and fulguration, excision of endometriotic deposits, salpingectomy etc.[14] In a study by Valson H et al (2016), Cystectomy was done in 24% cases, chocolate cyst drainage and fulguration done in 8% cases, Adhesiolysis and remodelling of anatomy was done in 18% cases and 50% treated with bipolar cauterisation and scissor excision of deep lesions.[17] In a study by Latika S et al, 69.2% patients undergone endometrioma removal by cystectomy, 30.8% cases treated with drainage and fulguration and adhesiolysis was done in 84.6% cases.[12] Sharfuddin S et al subjected patients for cystectomy (30.43%), endometrioma drainage and fulguration (13.04%), adhesiolysis (34.78%) and deep cauterization (21.74%).[19] In this study, following laparoscopic procedures were done, which includes Adhesiolysis (88%), cystectomy (61%), Excision of endometriotic deposits by deep cauteriastion or bipolar coagulation (33%), salpingectomy (11%) and endometrioma drainage in 2 (11%) cases.

Table 14: Showing most commonly done procedures in laparoscopy in different studies

Study	Most common procedure for endometriosis	Most common procedure for Endometrioma
Valson H et al (2016)	Bipolar cauterisation	Cystectomy
Latika S et al (2016)	Adhesiolysis	Cystectomy
Sharfuddin S et al (2020)	Adhesiolysis	Cystectomy
Present study	Adhesiolysis	Cystectomy

Retrospective analysis of 64 individuals with infertility and laparoscopic staging I to IV was done in 2007 by Fuchs F. et al. All were given laparoscopic treatment, however 20 were later cut from the trial (reason unspecified). Within 8.5 months, 22 patients (or 65%) became pregnant. Within a month of surgery, 89% of women with stage I-II disease and 56% of women with stage III-IV disease were pregnant. They recommend complete laparoscopic surgical treatment for such patients to increase their chance of pregnancy either spontaneously or with ART.[23]

In a study by Latika S et al, 76.9% patients ovulated following ovulation induction. 6 out of 10 patients conceived. IVF done for 3 patients and one of them conceived. 7 patients undergone IUI of which 5 got conceived. All of them conceived within 6 months of surgery.[10]

In a study by Valson H, 33 cases of endometriosis undergone laparoscopic surgery of which 12(36.36%) cases got conceived.7 patients got conceived naturally with ovulation induction. 2 patients got conceived by clomiphene and gonadotrophin induction with IUI. Another 3 conceived by ART in the nearby fertility centre.[17]

In a study by Sharfuddin S et al, 18 patients had successful ovulation after endometriosis surgery, out of which 12 patients completed their pregnancy successfully either spontaneously or with IVF.[19]

According to an article by Paulson J D et al in 2006, the rate of conception for minimal endometriosis was 75%, 62% for mild disease, 42.1% for moderate disease and 40-50% for severe stage of endometriosis.[24]

In a study by Swapna Y et al (2019), patients were followed for spontaneous conception 6 months following surgery, those who didn't conceive that period were given ovulation induction with clomiphene citrate and GnRH analogues and then followed up for 6 more months. The patients who did not conceive during that period were then considered for ART. The spontaneous pregnancy rates were 80%,75%,64% and 42% in minimal, mild, moderate and severe endometriosis respectively. Conception rate was 89%,80%,72% and 52% for minimal, mild, moderate and severe endometriosis respectively, following ovulation induction post laparoscopic fulguration. Following ART, conception rate was 11%,20%, 29% and 45% for stage1, stage 2, stage3 and stage 4 endometriosis respectively.[20]

In our study,100% patients with stage 1 disease conceived spontaneously following surgery, 75% of patients with stage 2 disease and 28% patients with stage 3 endometriosis conceived either spontaneously or with ovulation induction. As the severity of disease increases, conception rate reduces.

Table 14: Showing conception based on stage of endometriosis in different studies

Study	Stage 1	stage 2	stage 3	stage 4
John D Paulson (2006)	75%	62%	42.1%	40-50%
Swapna Y et al (2019)	80%	75%	64%	42%
Present Study	100%	75%	28%	nil

Conclusion

Endometriosis is the one of the common causes of infertility. Laparoscopy enables us to diagnose the disease, treating the disease, staging endometriosis, assessing the severity of disease and also helps in taking decision regarding further management. Every effort should be made to remove visible endometriotic lesions actively at first laparoscopy itself and should be done by a skilled surgeon by maximally preserving normal ovarian tissue. Adequate surgical treatment with laparoscopy improves the conception rates in endometriosis.

From this study, we can conclude that chance of infertility increases when the severity or stage of endometriosis increases. Conception rate is good after laparoscopic surgery, if the patient is in early stages of disease. Conception rate decreases when the severity of endometriosis increases. Laparoscopy helps in calculating EFI score of endometriosis and helps in planning further treatment. Conception rate was found to be high in those with high EFI score. It is better to consider artificial reproductive techniques in those with low EFI score, as the chance of spontaneous conception was found to very low in such patients. Management of infertility in endometriosis is individualized based on patients choice, financial status, availability of resources and not as per fixed protocols.

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Case Report : Obstetrics

Illegal Abortion Done at Home Twice by a Quack Practitioner in Rural Village of South 24 Parganas (WB)

Sanjana Haldar[1], Srijoni Chowdhury[2]

Introduction

MTP or induced abortion is killing the foetus either by surgical or by medical methods.

MTP act implemented in 1972, revised in 1975. MTP act amended in 2021, where few changes done.

MTP should always done by a trained medical practitioner. Place should be gov approved and gestational age limit 20 weeks, special case age limit 24 wks. where permission of two medical practitioners are required. It is surprising that even after fifty-two years of legalizations of MTP its availability in rural area is very limited. Irrespective of marital and social status safe abortion is right of every woman. Sometimes repeated illegal unsafe abortion services are accepted by relatives of women. So, all women should get the information about immediate and late complications of unsafe abortion.

Case Report

A 23-year young female patient came with abdominal huge distension, fever, shock like features.

She lives in rural area of South 24 Parganas, belongs to lower middle-class family. She has 2 girl children at home. She was two-month amenorrhoeic and had termination of pregnancy at home by a local quack practitioner. Home manoeuvre done two times by the quack. She became serious and went to local nursing home. The experienced Gynaecologist 0f NH advised USG, report showed huge collection in abdomen. She was referred to nearby medical college.

After admission all blood reports sent, blood requisition done. Her condition was very grave.

Consent for laparotomy taken after proper counselling of relatives.

On opening abdomen multiple uterine fundal perforation and small bowel injury found, repaired under general anaesthesia. Ileostomy performed and abdominal lavage given. She stayed at home after the procedure and came to hospital after 4-5 days.

At present she is in ICU, struggling to revive.

There are MTP rules and regulations, Who, Where MTP can be performed according to GOI.

So, who will take the responsibility?

Investigations

Blood CBC, Na, K, urea, creatinine and USG whole abdomen done. USG shows huge collection in abdomen, mild blood clots in uterine cavity.

Discussion

In this case it is an illegal abortion, done by an untrained practitioner and done in unauthorised place. This should be considered an offence. There is violation of MTP rule. MTP done twice at home by surgical methods, which is unthinkable.

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Any person terminating a pregnancy who is not a registered medical practitioner is an offence.

Terminating a pregnancy at a place which is not approved is violation of rule.

Mandatory document of consent, opinion, case recording and monthly reporting are not adhered to.

Unsafe abortion is a major killer.

About 4 million unsafe abortion occurs per year in India.

WHO (1994)-15-24 UNSAFE ABORTION /1000 women in Indian subcontinent, In India 70-90 women /100000 L.B. die from unsafe abortions.

Uterine perforation and gut injury can occur in surgical methods of MTP, specially when done by a quack practitioner. The risk increases with gestational age and in post caesarean pregnancy. Perforation increases if the cervix is tight, uterus is retroverted, fibroid uterus, infection, uterine anomalies and repeated evacuation procedure. In this case first procedure done followed by bleeding and lower abdominal pain, without doing any report second time evacuation done after 4 days.

Prevention involves risk assessment, adequate preparation, accurate gestational age determination. Cervical preparation with prostaglandins helps to reduce trauma to cervix.

Conclusion

Unwanted pregnancy and unsafe abortions lead to maternal mortality and morbidity. All couples and individuals should have access to effective, client oriented and confidential family planning services. The SDG3 covered all major health topics. SGD 3.7 ensures access to sexual and reproductive health care including family planning information and education, integration of reproductive health into national programs by 2030.

Abbreviations

SDG-SUSTAINABLE DEVELOPMENT GOALS

USG-ULTRASONOGRAPHY

Patient in ICU after ileostomy procedure completion

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Case Report : Gynecology

Unusual Presentation of Adult Granulosa Cell Tumor of Ovary in Young Female: A Case Report

Bibhushan Neupane[1], Ifat Irshad[2], Aachal Khosla[3], Rahul Deepak Modi[4], Sunila Jain[5], Mala Srivastava[6]

ABSTRACT

The Granulosa cell tumor of ovary is an uncommon condition belonging to the group of sex cord stromal tumors, the incidence being 5% of all ovarian tumors. They are broadly divided into Adult types and Juvenile types according to age of the patients being affected. It is also found that Juvenile granulosa cell tumor occurs in younger ages than the adult counterpart. Although the incidence of adult granulosa cell tumors is high, the occurrence of Adult type of Granulosa cell tumor in younger age groups are rare in occurrence. We report a rare case of 24 years old woman who presented with the symptom of AUB with heaviness in lower abdomen, incidentally diagnosed with an ovarian tumor, with review of the literature. After adequate preparation she underwent a right adnexectomy. The histopathology reported an adult granulosa cell tumor.

Keywords: Ovary, Younger Age, Sex Cord Stromal Tumor, Adult Granulosa Cell Tumor.

Introduction

With overall incidence of 1%-2% in occurrence, Granulosa cell tumors are rare ovarian neoplasm and represent 2%-5% of malignant ovarian tumors.[1] Classified in broad classification as sex cord-stromal tumors they are divided into 2 groups: adult and juvenile types. The adult form represents the most frequent type with 95% occurrence and have good prognosis amongst the other ovarian tumors.[2] The diagnosis is made on gross tumor appearances and histological examination.[1] Although the Adult Granulosa cell tumors are more common in pre and perimenopausal women and rare in younger ages,[3] we report a case of an adult granulosa cell tumor in a young woman, which is a rare presentation.

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Observation

Miss X 24 years old unmarried complaining of AUB evident for last 6 months visited the OPD. She was not aware of presence of a mass or swelling in the abdomen. She was fairly built with height of 1.52 meters and body weight of 61 kg, Thus BMI calculated being 26.4kg/m2. On examination vitals was stable, and on per abdominal examination she had an 18-20 week size of a palpable mass. On Magnetic Resonance and Imaging (MRI) showed a 13cm x 11 cm x 9.5 cm solid cystic mass with multiple tortuous draining venous channels on lateral surface. Hemoglobin, Haematocrit, fasting blood glucose, lipid profile, serum electrolytes, and renal and liver function tests were normal. Tumor marker correlations were done, with raised INHIBIN B of 2277.87 (range 21-53) also INHIBIN A values were 397.6. However other markers like CA-125, CEA, Alpha feto protein and beta HCG were within normal limits.

She was taken up for staging Laparotomy and with right Adnexectomy-fertility sparing protocol. Operative findings: uterus normal size, the right ovary was enlarged 25 cm X 20 cm in size, elongated in shape, multi loculated, with smooth surface and stretched right tube. Left tube and ovaries were normal. There was minimal ascitic fluid. No peritoneal deposits or evidence of omental caking were present. Frozen section of Right ovarian mass showed granulosa cell tumor of Ovary. On histopathological examination of the tissues confirmed the diagnosis to be Granulosa cell tumor, Adult type. Pathological staging of tumor was pT1a (pTNM, AJCC, 8Th edition). And on immunohistochemistry Inhibin and Calretinin were diffusely positive, Synaptophysin, CK 7, SALL 4 and EMA negative. Ki-67 showed 4% positivity. Postoperative period was uneventful and she got discharged in fair condition.

The post operative follow up is satisfactory. The INHIBIN B level after 3 months are 216.

Discussion

The Unusual case of Adult granulosa cell tumor in young age (24 years) is typical to the presented case.

The Granulosa cell tumor of ovary is a sex cord stromal tumor which accounts of about 5% of all malignancies in the ovary. Although classified into a) Adult type and b) Juvenile types, According to the names the frequency of occurrence of Adult granulosa cell tumor are high in Adults premenopausal and perimenopausal women.[4] Although not rare, it is uncommon for the occurrence of the adult type of granulosa cell tumor in the younger age groups. A study done in 2011 shows, only about 5%-7% of cases occurring at the age below 30 years, with incidence uncommon in lesser age on that range.[5] Our case presented at the age of 24 years is a rare event to occur.

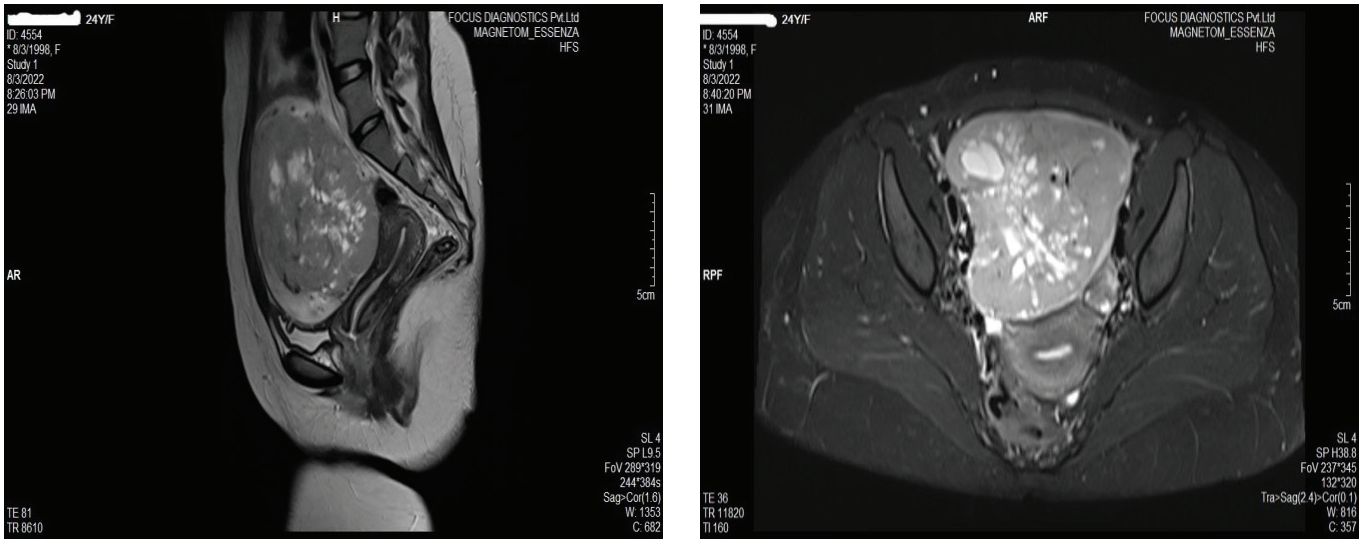

Fig 1: T2 weighted contrast enhanced MRI of the transverse and longitudinal section of the tumor at its maximum dimension. Reported as: Solid cystic lesion in right adenexa measuring 13 x 11 x 9.5 cm. With multiple tortuous draining venous channels noted along the lateral surface of the lesion.

Fig 1: Gross appearance of the tumor; size of about 9.5 cms in longest diameter, areas of solid and cystic areas.

The Granulosa cell tumor on gross appearance looks solid to cystic in appearances of varied sizes, generally when diagnosed. The tumor can be of smaller size under the range of 10 cm and below. There are five histological patterns like micro, macrofollicle, insular, trabecular and spindle/sarcomatoid. Among these microfollicular pattern with Call-Exner bodies and coffee bean nuclei are the commonest diagnostic points.[2,6]

Most of the cases experienced a unilateral enlargement of the ovary. And Surgery with oophorectomy of the involved site is the apt treatment in early stages of the tumor. The Stage I disease are more exclusively cured by unilateral salpingoophorectomy and fertility conservation with preservation of the uterus and contralateral ovary and fallopian tubes, as done in this case.

The late recurrences after 20-30 years of initial treatment are seen. Thus post treatment follow up are advised, every 2-3 months for initial 2 years. Subsequently in 4-5 months for another 3 years and beyond. Then after she should be called for follow up every year. At the time of follow up it is advisable to take history, perform physical and pelvic examination (if indicated) correlated with tumor marker study), and imaging preferably contrast enhanced Computed Tomography (CECT) specially those coming for yearly follow up.[7]

Conclusion

The unusual occurrence of Adult granulosa cell tumor in a tender age is quite unique. As other ovarian tumors, this can also be diagnosed incidentally. However prompt decision and immediate surgery may provide good prognosis.

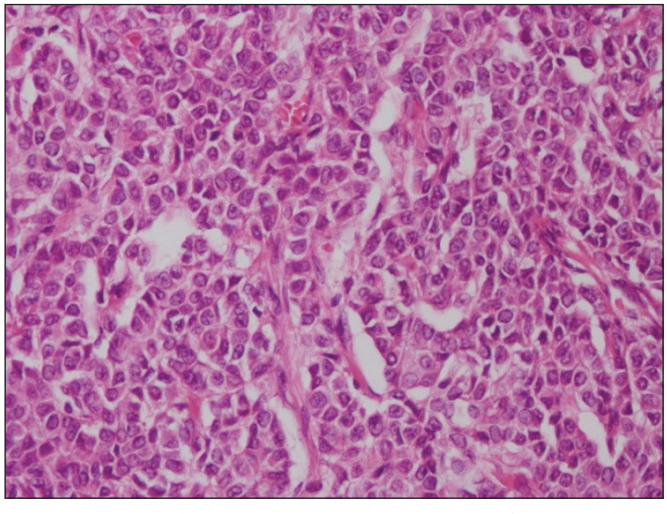

Fig 2: shows moderately cellular tumor with gyriform, solid nests, diffuse sheets, trabeculae, ribbons and insular pattern. Few micro-follicular patterns with cell-exenor bodies and focal micro follicular patterns.

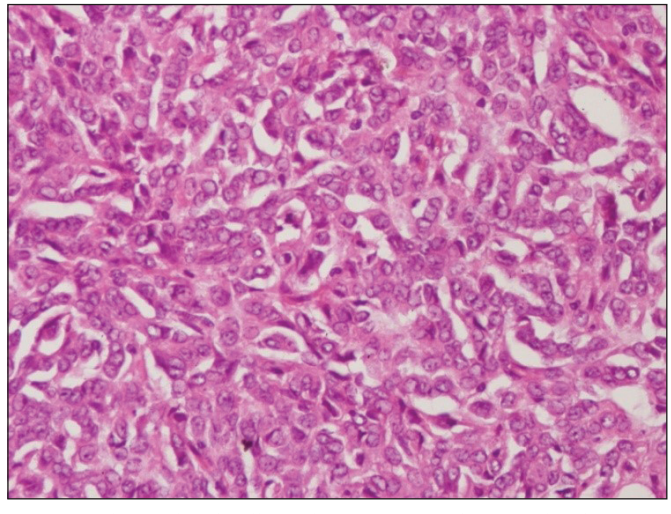

Fig 3: oval to cuboid cells with scanty cytoplasm and pale angular nuclei with focal grooving, with few mitosis and scanty intervening fibrous stroma are also seen

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

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

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Clinical trials

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

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

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

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

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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

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

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

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

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

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

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

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

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

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Journal article

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

Book

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

Chapter in a book

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

Web reference

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

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