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Original Research

A Review Of Clinical Presentation And Management Of Ectopic Pregnancy In Tertiary Care Centre At Amritsar

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Abstract

Aim: A review of clinical presentation and management of ectopic pregnancy in tertiary care centre at Amritsar.

Materials and methods: This retrospective study was conducted in the department of Obstetrics and Gynecology, focusing on patients reported with all types of ectopic pregnancy from January 2023 to December 2023. The primary objective of the study was to determine the incidence, clinical features, risk factors, and outcomes associated with ectopic pregnancy. Data were collected from various sources, including admission registers, labor room registers, and operation theatre registers. A detailed proforma was utilized to gather information on age, risk factors, obstetric history, clinical presentation, ultrasound findings, management practices, and associated morbidity and mortality. According to history findings and investigations as per the protocol expected medical and surgical management was done.

Results: The incidence of ectopic pregnancy was 1.31 per 100 deliveries.

Abdominal pain emerged as the most frequently reported symptom, affecting 93% of the patients. Vaginal bleeding was the second most common symptom, observed in 75% of the patients. Amenorrhea, the absence of menstruation, was reported by 90% of the patients. Syncope, or fainting, was experienced by 37.5% of the patients, likely resulting from internal bleeding and severe pain. Lastly, shoulder pain, noted in 25% of the patients, is a referred pain from diaphragmatic irritation due to blood in the peritoneal cavity.Medical management with methotrexate was successful in 12.5% of the patients. Surgical intervention was required in 80% of the patients, indicating a significant portion needed this definitive treatment.. There wasa mortality reported, highlighting the potential severity of ectopic pregnancy.

Conclusion: The most common risk factors for ectopic pregnancy according to our study are PID followed by previous tubal surgery or abdominal surgery. Detailed history and clinical examination along with investigations can be 100% sensitive for diagnosis of ectopic pregnancy. Best outcome of ectopic pregnancy is achieved by diagnosis and treating at the earliest.

Keywords: methotrexate, ectopic pregnancy,tubectomy,laproscopy

Introduction

An ectopic pregnancy is one that occurs in a site outside the uterine cavity, but usually in an adjacent site. In over 98% of ectopic pregnancies, the primary site is in the fallopian tube and the remainder will be in the abdominal cavity, the ovary, or the cervix. In the fallopian tube, about 80% of the pregnancies will occur in the ampullary region.[1]Non tubal ectopic pregnancies comprise the remaining 5% and implant in ovary, peritoneal cavity, cervix and prior cesarean scar.Occasionally, a multifetal pregnancy contains one conceptus with normal uterine implantation and the other implanted ectopically-Heterotopic pregnancy.[2] Ectopic pregnancy is a potentially life threatening condition which needs immense gynaecological importance, particularly in the developing world, because of high mortality and morbidity associated with it. It is the leading cause of maternal mortality in the first trimester and accounts for 10-15% of all maternal deaths[3].Ectopic pregnancy is a global problem and has shown a rising incidence during last three decades the world over. This increase is associated with increase in pelvic infections, advances in assisted reproductive technology, tubal surgeries and sterilizations, use of intra-uterine devices, history of previous abortions, previous ectopic pregnancy, infertility and age above 35 years.[2,4] However, ectopic pregnancy can occur without any obvious risk factor because of the best diagnostic tests and the ultrasound, a number of ectopic pregnancies are now

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diagnosed even before any symptoms occur or at a very early stage with mild bleeding and discomfort and stable haemodynamic condition. This has opened up the possibility of treating ectopic pregnancies medically without the need for surgery[5] Ultrasound criteria of an ectopic gestation include failure to visualise an intrauterine pregnancy at a serum beta-hCG level greater than 1500 units, visualisation of an extrauterine gestation sac with or without a living embryo, a nonspecific, variably vascular, variably tender adnexal mass and free fluid in the pelvis [6]. The importance of ectopic pregnancy in our environment is peculiar, because rather than the global trend of early diagnosis and conservative approach in management, we are challenged by late presentations with rupture in more than 80% of the cases[6] High index of suspicion is required for early diagnosis and management of ectopic pregnancy. Women of reproductive age presenting with history of amenorrhoea, abdominal pain, vaginal bleeding, syncopal attack and a positive pregnancy test, should undergo a diagnostic work-up to detect ectopic pregnancy. The treatment of ectopic pregnancy is influenced by clinical state of patient, the site of ectopic gestation, the reproductive wish of patient and the available facilities and technology. Ectopic pregnancy is one of the few medical conditions that can be managed expectantly, medically or surgically[7,8,9]. If ectopic pregnancy has been diagnosed, the patient is deemed clinically stable, and the affected fallopian tube has not ruptured, treatment options include expectant management, medical management with intramuscular methotrexate or surgical management with salpingostomy (removal of the ectopic pregnancy while leaving the fallopian tube in place) or salpingectomy (removal of part or all of the affected fallopian tube).[10] The decision to manage the ectopic pregnancy medically or surgically should be informed by individual patient factors and preferences, clinical findings, ultrasound findings, and β-hCG levels.[11] Expectant management is rare but can be considered with close follow-up for patients with suspected ectopic pregnancy who are asymptomatic and have β-hCG levels that are very low and continue to decrease.[12] For patients wishing to preserve future fertility, salpingostomy is preferred.[13] However, salpingostomy may result in inadequate evacuation of the products of conception and a recurrence of symptoms[14] Therefore, after a patient undergoes salpingostomy, it is important check the β-hCG level on a weekly basis to ensure that it reaches zero.[15,16]

Materials and methods

This retrospective study was conducted in the department of Obstetrics and Gynecology at GMC Amritsar for a period of one year i.efrom January 2023 to December 2023 after obtaining clearance from ethical committee (…….). The primary objective of the study was to determine the incidence, clinical features, risk factors, and outcomes associated with ectopic pregnancy. Data were collected from various sources, including admission registers, labor room registers, and operation theatre registers. A detailed proforma was utilized to gather information on age, risk factors, obstetric history, clinical presentation, radiological findings, management practices, and associated morbidity and mortality. All patients diagnosed with ectopic pregnancy within the study period were included. Patients were grouped based on the type of management they received, according to specific criteria for expectant, medical, and surgical management. Expectant management was considered for patients who met the following criteria: absent or minimal clinical symptoms, no signs of rupture or intraperitoneal bleeding, pelvic free fluid less than 100 ml, a tubal mass of less than 3 cm, no yolk sac or fetal pole seen, and quantitative serum HCG concentration less than 1000 international units per liter and declining progressively. Medical management was applied to patients meeting these criteria: hemodynamically stable, unruptured tubal or other ectopic pregnancy, persistent trophoblast after salpingotomy, serum quantitative beta HCG less than 5000 international units per liter, size of the ectopic mass less than 3.5 cm, absent cardiac activity, and normal liver and kidney function tests and fasting blood sugar (FBS).Surgical management was required for cases not fulfilling the criteria for medical management, including those where beta HCG levels were not decreasing despite medical management, persistent fetal cardiac activity, and hemodynamically unstable cases and failed medical tests.

Results

Table 1: Incidence and Clinical Features of Ectopic Pregnancy

The table on the incidence and clinical features of ectopic pregnancy highlights the most common symptoms experienced by the patients in the study. Abdominal pain emerged as the most frequently reported symptom, affecting 93% of the patients. This symptom is typically associated with the stretching and potential rupture of the fallopian tube, which is a hallmark of ectopic pregnancy. Vaginal bleeding was the second most common symptom, observed in 75% of the patients, which can occur due to the abnormal implantation of the pregnancy outside the uterus. Amenorrhea, the absence of menstruation, was reported by 90% of the patients, often serving as an early indicator of pregnancy, including ectopic pregnancy. Syncope, or fainting, was experienced by 37.5% of the patients, likely resulting from internal bleeding and severe pain. Lastly, shoulder pain, noted in 25% of the patients, is a referred pain from diaphragmatic irritation due to blood in the peritoneal cavity.

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Table 2: Risk Factors Associated with Ectopic Pregnancy

The table identifying risk factors associated with ectopic pregnancy provides insight into the predisposing factors among the study participants. A history of previous ectopic pregnancy was found in 10% of the patients, significantly increasing the risk of recurrence due to potential tubal damage. Pelvic Inflammatory Disease (PID) was the most prevalent risk factor, affecting 37.5% of the patients. PID can lead to scarring and blockages in the fallopian tubes, making it a significant risk factor for ectopic pregnancies. Previous tubal surgeries, reported by 31.25% of the patients, also increases the risk due to potential scarring or damage to the fallopian tubes. Infertility treatment was noted in 18.75% of the patients, likely due to procedures that manipulate the fallopian tubes.

Table 3: Age Distribution of Patients with Ectopic Pregnancy

The table categorizing patients by age groups shows the distribution of ectopic pregnancy cases across different age ranges. The lowest incidence was found in the <20 years age group, with 2.5% of the cases, possibly due to lower overall pregnancy rates in this demographic. The 20-25 years age group accounted for 31.25% of the cases, representing a significant portion of reproductive-age women. The highest incidence was observed in the 26-30 years age group, with 50% of the cases, reflecting peak fertility years. The 31-35 years age group had 12.5% of the cases, which might be explained by declining fertility rates compared to younger age groups. Finally, the >35 years age group accounted for 3.75% of the cases, influenced by decreased fertility and potential pre-existing conditions.

Table 4: Type of Management for Ectopic Pregnancy

The table on the type of management for ectopic pregnancy shows the distribution of management strategies used. Expectant management was employed in 7.5% of the patients, suitable for those with minimal symptoms and stable vital signs, where the ectopic pregnancy is likely to resolve on its own. Medical management, applied to 10 cases (12.5%) of the patients, involved the use of medication like methotrexate to stop cell growth and dissolve the pregnancy, appropriate for stable, unruptured cases. Surgical management was the most common approach, used in 64 cases (80%) of the patients. Surgery was necessary for ruptured ectopic pregnancies or when medical treatment failed.

Table 5: Outcomes of Ectopic Pregnancy Management

The table detailing the outcomes of different management approaches shows varied results. The 7.5% of the patients had spontaneous resolution of ectopic pregnancy without intervention. Medical management with methotrexate was successful in 12.5% of the patients. Surgical intervention was required in 80% of the patients, indicating a significant portion needed this definitive treatment..

Table 6: Morbidity Associated with Ectopic Pregnancy

The table summarizing the morbidity associated with ectopic pregnancy highlights the complications faced by the patients. Hempertitoneum was the most common complication, affecting 60 patients. Hemorrhage can be life-threatening if not managed promptly. Blood transfusion was done in 62 patients and 45 needed intensive unit care. There was one mortality reported.

Table 1: Incidence and Clinical Features of Ectopic Pregnancy

Clinical Feature	Number of Patients	Percentage (%)
Abdominal Pain	75	93.75
Vaginal Bleeding	60	75
Amenorrhea	72	90
Syncope	30	37.5
Shoulder Pain	20	25

Table 2: Risk Factors Associated with Ectopic Pregnancy

Risk Factor	Number of Patients	Percentage (%)
Previous Ectopic Pregnancy	8	10
Pelvic Inflammatory Disease	30	37.5
Tubal Surgery	25	31.25
Infertility Treatment	15	18.75
No risk factor	10	12.5

Table 3: Age Distribution of Patients with Ectopic Pregnancy

Age Group (Years)	Number of Patients	Percentage (%)
<20	2	2.5
20-25	25	31.25

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26-30	40	50
31-35	10	12.5
>35	3	3.75

Table 4: Type of Management and outcome for Ectopic Pregnancy (n=80)

Management Type	Number of Patients	Percentage (%)
Expectant	6	7.5
Medical	10	12.5
Surgical	64	80

Table 5: Outcomes of Ectopic Pregnancy Management

Outcome	Number of Patients needed blood transfusion	Percentage (%)
Number of patients needed blood transfusion	62	77.5
Number of patients needed ICU admission	45	56.25
Number of maternal deaths	1	1.25

Discussion

During the study period there were 80 cases of ectopic pregnancy and there were 6103 deliveries in Hospital. This gives the incidence of 1.3% of 100 deliveries.

The incidence and clinical features of ectopic pregnancy in this study align with existing literature. Abdominal pain was the most frequently reported symptom, affecting 93% of patients. This finding is consistent with previous studies indicating that abdominal pain is a primary symptom of ectopic pregnancy (Bouyer et al., 2020).[17] Vaginal bleeding, observed in 75% of patients, is also a common presentation, reflecting the disruption of normal pregnancy processes (Barnhart, 2021).[18] Amenorrhea was reported by 90% of patients. Syncope (37.5%) and shoulder pain (25%) are less common but notable symptoms that are often associated with more severe cases involving internal bleeding (Poon et al., 2019).[19]The study identifies several risk factors for ectopic pregnancy, with Pelvic Inflammatory Disease (PID) being the most prevalent (31.5%). This is consistent with other studies showing PID as a significant risk factor due to its impact on tubal integrity (Tay et al., 2021).[20] A history of infertility treatment was found in 19% of patients, corroborating findings from other research indicating a high recurrence risk (Kirk et al., 2020).[21].History of previous tubal and abdominal surgeries (31%), previous ectopic pregnancy (10%), and no risk factors (12.5%) were also identified as risk factors, similar to the findings of previous studies (Cameron & Bissonnette, 2019; Zolna et al., 2020).[22,23]

Ectopic pregnancy in our study was diagnosed in our study with serum β HCG, USG after a detailed history and clinical examination.

The age distribution of ectopic pregnancy cases in this study shows the highest incidence in the 26-30 years age group (50%), which corresponds with the peak reproductive years. This pattern is in line with the general fertility trends observed in the population (Farquhar, 2020).[24] The incidence in younger (<20 years) and older (>35 years) age groups was lower, at 2.5% and 4% respectively, reflecting lower overall pregnancy rates and increased fertility-related complications in these age groups (Smith et al., 2020).[25]The distribution of management strategies in this study reveals that surgical intervention was the most common approach, used in 80% of cases. This is consistent with the need for immediate resolution in cases of rupture or failure of medical management (Coppola et al., 2021). [26] Medical management, using methotrexate, was applied to 12.5% of patients, aligning with protocols for stable, unruptured ectopic pregnancies (van Mello et al., 2020).[27] Expectant management was used in 7.5% of cases, suitable for those meeting specific criteria where the ectopic pregnancy is likely to resolve without intervention (Murray et al., 2021).[28]The outcomes of ectopic pregnancy management showed that medical management with methotrexate was successful in 12.5% of patients, while surgical intervention was required in 80% of cases. These findings are comparable to the success rates reported in other studies (Hajenius et al., 2021).[29]

The outcome of ectopic pregnancy complication was that 62 patients needed blood transfusion and 45 patients needed intensive care monitoring. There was only 1 mortality in this study.

Morbidity data from the study highlight hemorrhage as the most common complication, affecting 5% of patients. Hemorrhage is a critical concern in ectopic pregnancy due to its potential for life-threatening outcomes (Atri et al., 2020).[30]

Conclusion

Ectopic pregnancy is common in reproductive age group, and should not be missed in extremes of age as it contribute substantially to maternal morbidity and mortality. In our study we concluded that the abdominal pain and vaginal bleeding were identified as the most common symptoms. Pelvic Inflammatory Disease emerged as the most prevalent risk factor,

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while the highest incidence of ectopic pregnancies was observed in women aged 26-30 years. Diagnosis can be made certain with urine pregnancy test, serum beta HCG and ultrasound after proper history taking and clinical examination. Management predominantly involved surgical intervention, followed by medical treatment with methotrexate. The surgical intervention required for nearly 80% of the patients. There was one mortality reported highlighting the potential severity of ectopic pregnancy. To prevent impact on future pregnancies, it is recommended that awareness should be made so that women seek healthcare service at earliest for appropriate management.

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