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Original Research Article

Clinical Study on Ectopic Pregnancy from Diagnosis to Management

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Abstract

Background: Ectopic pregnancy is an acute emergency condition, and associated with maternal mortality and morbidity especially in the developing countries.

Objective: The aim of this study was to determine and evaluate the best diagnostic method and management outcome.

Methods: All female patients getting admitted to the Department of OBGY, J.K. Lon hospital Govt. Medical College Kota (Rajasthan) from Jan 2016 to Jan 2017 were analyzed as a case of ectopic pregnancy on the basis of these different diagnostic modalities were included in this study.

Conclusion: The early identification and timely intervention is the catch to reduce the morbidity and mortality associated with ectopic pregnancy and improving future reproductive outcomes.

Keywords: Ectopic, Emergency, Pregnancy, Life-Threatening.

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Introduction

An ectopic pregnancy is one in which the fertilized egg implant and grow anywhere other than the endometrial layer of the uterus [1]. Their incidence is 1-2% of announced pregnancies globally. Maternal mortality and morbidity in the first trimester can be attributed this most critical reason. The ingenuity of the obstetrician and gynecologist has always been challenged by ectopic pregnancy because it mimics with many surgical crisis. An emergency medical situation occurs when an ectopic pregnancy ruptures because of delay in diagnosis and timely management.

The popular classical triad including pain, amenorrhea, and vaginal bleeding unfortunately presents only in half of the patients [2]. Early diagnosis in ectopic pregnancy is very crucial, failing of which accounts for about 64 % of demise in first trimester. A variety of diagnostic tools like transvaginal ultrasound, diagnostic laparoscopy, radioimmunoassay of serum beta hCG diagnosis at the earliest is possible. However every technique has its own limitation.

An accurate and careful history, physical examination with these latest technological aids will help to reach on to the conclusion. Recently management of most common type of ectopic that is tubal pregnancy has been changed from salpingectomy to the procedure that favors tubal conservation. In extremely rare conditions for abdominal pregnancies, management involves combined approach, laparotomy with placenta being left in-situ along with methotrexate therapy, both before and after the procedure. Early ovarian pregnancy can be treated by approach for conservation of ovary as much as possible with wedge resection otherwise oophrectomy is performed. Cervical pregnancies were earlier treated by doing hysterectomy, but now can be successful managed with chemotherapy employing methotrexate [3]. One has be "ectopic minded" while dealing with this entity.

Material and Methods

All female patients getting admitted to the Department of OBGY, J.K. Lon Hospital Govt. Medical College Kota (Rajasthan) from Jan 2016 to Jan 2017 were analyzed as a case of ectopic pregnancy on the basis of these different diagnostic modalities were included in this study.

Observations and Results

80 ectopic pregnancies were found and included in this study which came either in OPD or in emergency from which fifty two patients were came out to be ruptured ectopic in emergency and

twenty eight as unruptured on the basis of clinical presentation which was confirmed on transvaginal sonography later on. The most common symptom was pain abdomen (81.25%) and risk factor was history of pelvic inflammatory disease (31%). 72.5% were of early reproductive age group between 20-30 years of age in. Ampulla being the most common was site of rupture (58%) followed by isthmus (21%). Recently diagnosis of ectopic pregnancy done by transvaginal ultrasound with or without measurement of serum β-hCG concentrations .Mostly transvaginal sonography (TVS) differentiates between IUP and ectopic pregnancy [4]. However when TVS fails to locate the that is labeled as 'pregnancy of unknown location' (PUL) [5]. A maternal death attributed to ruptured ectopic pregnancy with a diagnosis of PUL was highlighted in the2006-2008 CMACE report. Although most patients with PUL will furthur diagnosed having viable or nonviable IUP, this report states 7-20% diagnosed as an ectopic pregnancy. So it is crucial that a diagnosis of PUL prompts further diagnostic processes and follow-up until the final outcome of the pregnancy is known.

In 1985, the concept of a 'discriminatory β -hCG level' was introduced to emphasize the serum concentration of β -hCG during pregnancy scan. High-resolution TVS has made the discriminatory β -hCG level of 6500 IU/l less useful. [5]

High-resolution ultrasound, especially through transvaginal path allows clear visualization of both normal and abnormal gestations. [6]

An ectopic pregnancy can be present along with 'pseudo sac', collection of fluid within the endometrial cavity that results from breakdown of the decidualised endometrium, located centrally with lack of early decidual reaction around it and absence of yolk sac and fetal pole on successive ultrasound scans as compared to normal gestational findings. [7]

Changes in the value of serum β-hCG over time will help to detect outcome of PULs. [8] In study conducted by Kadar and Romero [9] showed the minimal rate of increase in Serum β-hCG is 66% in 2 days in a normal intrauterine pregnancy while in another study by Seeber et al. produced data that suggest a more conservative minimum rise of 35% over 2 days. In recent practices most units take a minimum value of Serum β-hCG between 50% and 66% for the acceptable 48-hour increase for normal intrauterine pregnancy. [10] But some non-viable IUPs will also demonstrate an exponential increase in serum β-hCG concentration so this change do not always confirm viability.

The absence of this expected increase suggests possibility of an ectopic pregnancy or an early pregnancy failure. In current study this rise was found to be less than 45% in 30% of cases. A sudden decline in β -hCG levels, typically by 21-35% or more, over 2 days, is suggestive of spontaneous abortion or tubal abortion. 52Serum progesterone concentrations in a viable IUP are >50 ng/ml. Low progesterone (<5 ng/ml) levels can be used to differentiate between 'low-risk' and 'at-risk' patients of PUL.

Diagnostic laparoscopy is the 'gold standard' investigation for ectopic pregnancy. [11] But it has its own limitations. In one study, 2 of 44 (4.5%) women reported to have no evidence of an ectopic pregnancy at the time of laparoscopy were subsequently diagnosed with one [12] In our study 12.5% of the patients were successfully diagnosed as ectopic on diagnostic laproscopy.

Table 1: Diagnostic methods

Method	Number	Percentage
Clinical diagnosis	28	35%
Ultrasound	52	65%
Rise in Beta hCG	24	30%
Diagnostic laproscopy	10	12.5%

Management of ectopic pregnancy can be surgically, medically or expectantly. Methotrexate is the most commonly and successful used for medical management.

It can be administered in a single-dose regimen (deep intramuscular injection at a dose of 1mg/kg) after assessment of LFT and CBC. [4] β-hCG levels are assessed every 4-7 days till it become <5 IU/l. where it shows complete resolution. Another multi-dose regimen includes deep im injection on Days 1, 3, 5 and 7 to a maximum of 4 doses along with leucovorine 'rescue-therapy' at a dose of 0.1 mg/kg intramuscular on alternate Days 2, 4, 6 and 8.In our study 20% of patients benefitted by single dose as compared to 15% by multiple dose regimen. Methotrexate treatment is very successful for small stable ectopic pregnancies. Some studies showed higher success rates with multi-dose protocols (93%) as compared to single dose (88%). [13]

Surgical management is crucial in the scenario of a ruptured ectopic pregnancy. A laparoscopic approach is preferable to an open surgery if patient is haemodynamically stable.

Table 2: Operative findings

Findings	Number	Percentage
Ruptured	52	65%
Unruptured	28	35%

When an ectopic pregnancy ruptures, the patient becomes compromised and requires immediate surgery and resuscitation to save their life. Most common surgeries are salpingectomy, salpingooophrectomy, and preserving the ovaries whenever possible. Preserving fertility as much as possible is always kept in mind while doing surgical management. In our study 65% were ruptured at the time of diagnosis were managed by salpingectomy in 57.5% cases, salpingo-oophrectomy in 5% cases while only 2.5% cases were found in the process of tubal abortion on laprotomy were managed successfully with more conservative approach that is milking. There was no maternal mortality in our study, consistent with A. Abbas and H. Akram study. Due to limited facilities in developing countries such as India, surgical intervention remains the mainstay for treating ectopic pregnancy. Preserving the mother's life is the overall objective. [3]

Table 3: Type of Management

Surgery	Number	Percentage
Single dose MTx	16	20%
Multi dose MTx	12	15%
Salpingectomy	46	57.5%
Salpingo-oophorectomy	4	5%
Milking	2	2.5%

Conclusion

The identification of underlying risk factors, diagnosis, and timely intervention can all contribute to reducing the morbidity and mortality associated with ectopic pregnancy and improving future reproductive outcomes. Ruptured ectopic has to be managed quickly with adequate amount of blood and blood products keeping fertility preservation in mind to save life of the mother.

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