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A CLINICAL STUDY OF ECTOPIC PREGNANCIES IN ATERTIARY CARE HOSPITALOF MANGALORE, INDIA

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ABSTRACT

Background: Ectopic pregnancy is a common life-threatening condition. Diagnosis is frequently missed and should be considered in any woman in the reproductive age group presenting with abdominal pain or vaginal bleeding.***Aims:*** To determine the incidence, clinical presentation, risk factors, treatment and morbidity and mortality associated with ectopic pregnancy.***Material and Methods:*** Retrospective analysis of case histories of patients admitted with ectopic pregnancy at Government Lady Goshen Hospital, Mangalore was done. The following parameters: age, parity, gestational age, risk factors, clinical presentation, need for blood transfusion and findings on ultra-sonogram and at surgery and morbidity associated with ectopic pregnancy were noted.***Results:*** A total of 31 cases of ectopic pregnancy were operated giving the incidence of ectopic pregnancy of 5.6/1000 deliveries. The commonest risk factors present were history of abortion (29 %), history of tubal surgery (9.6%), infertility (3.2%) and pelvic inflammatory diseases (3.2%).The commonest symptoms were abdominal pain (80.6%), amenorrhea (77.4%) and abnormal vaginal bleeding (61.3%); and commonest signs were abdominal tenderness (64.5%), cervical excitation (51.6%) and adnexal tenderness (48.4%). Surgery by open method in the form of salpingectomy (90.3%), salpingo-oophorectomy (6.5%) and salpingostomy (3.2%) were the mainstay of management. Morbidity included anemia (41.9%), blood transfusion (54.8%) and wound infection (32.2%). No maternal mortality noted.***Conclusion:*** Early diagnosis, identifying of underlying risk factors and timely intervention in the form of conservative or surgical treatment will help in reducing the morbidity and mortality associated with ectopic pregnancy.

INTRODUCTION

An ectopic pregnancy occurs when a fertilized ovum implants outside the normal uterine cavity[1].It is the most important cause of maternal mortality and morbidity in the first trimester[2].

In developing countries, a majority of hospital-based studies have reported ectopic pregnancy case-fatality rates of around 1%–3%, 10 times higher than those reported in developed countries[3].

Although women with ectopic pregnancy frequently have no identifiable risk factors, a prospective case-controlled study has shown that increased awareness of ectopic pregnancy and a knowledge of the associated risk factors helps identify women at higher risk in order to facilitate early and more accurate diagnosis[4]. Most risk factors are associated with risks of prior damage to the Fallopian tube. These factors include any previous pelvic or abdominal surgery, and pelvic infection[4]. *Chlamydia trachomatis* has been linked to 30-50% of all ectopic pregnancies[5].

Patients with an ectopic pregnancy commonly present with pain and vaginal bleeding between 6 and 10 weeks' gestation[1].

The diagnosis of ectopic pregnancy has become more frequent during the last decades but the incidence of ectopic pregnancy rupture has declined. This decline is due to quantitative hCG

measurements, minimally invasive surgery and transvaginal ultrasonography[6].
Early diagnosis reduces the risk of tubal rupture and allows more conservative medical treatments to be employed[7].

This retrospective analysis was done to determine the incidence, clinical features, risk factors, treatment and morbidity and mortality associated with ectopic pregnancy in a tertiary care hospital.

MATERIAL AND METHODS

This was a retrospective study of ectopic pregnancies at Lady Goshen hospital, Mangalore from January 2012 to December 2012. The case sheets of the patients with ectopic pregnancy were traced through the labour ward registers and operation theatre registers. Information regarding the total number of deliveries in the study period, details of demographic characteristics, clinical symptoms and signs, diagnostic tools used, treatment, risk factors for the ectopic pregnancy as well as associated morbidity and mortality were obtained. All the surgeries were partial/total salpingectomy done by open laparotomy and spinal/general anesthesia was used in all the cases.

RESULTS

During the study period of one year, there were a total of 5497 deliveries in our hospital and 31 cases of ectopic pregnancies were operated giving the incidence of ectopic pregnancies of 5.6/1000 deliveries. A majority of the patients (74.2%) belonged to the age group of 25-30 years.16.1% were primiparas and 83.9% were multiparas.

Risk factors were previous history of tubectomy (3.2%), spontaneous and induced abortion (29%), 3.2% had a history of infertility. Copper-T was inserted in 6.4% cases. 12.9% had a history of D and C; 9.7% gave a history of taking MTP pills. A history of previous ectopic in (3.2%) where partial salpingectomy was done .12.9% had a history of previous LSCS and history of PID was found in 3.2% of the case (**Table 1**).

Table 1: Risk factors for ectopic pregnancy

Risk factors	Number	Percentage (%)
Previous ectopic	1	3.2
Pelvic inflammatory disease	1	3.2
Previous abortion	9	29
Infertility treatment	1	3.2
Tubal surgery	1	3.2
Intrauterine contraceptive device	2	6.4

**Some patients had multiple risk factors*

The commonest presenting complaints were abdominal pain (80.6%), amenorrhea (77.4%) and abnormal vaginal bleeding (61.3%).Abdominal tenderness was present in 64.5%, cervical excitation in 51.6% cases and adnexal tenderness in 48.4% .
The urinary pregnancy test was positive in 87.1% of the cases and Ultrasound revealed ectopic pregnancy in 77% cases.
Seasonal variation was noted in the ectopic pregnancies. A majority of the ectopic pregnancies (61.3%) were found between July and December.
The commonest site of location of the ectopic pregnancy was in the ampulla of the fallopian tube.Other sites were fimbria, cornu, isthmus, heterotopic pregnancy and ovarian pregnancy as mentioned in (**Table 2**).

Table 2: Site of ectopic pregnancies on laparotomy

Site of ectopic pregnancy	Number	Percentage (%)
Ampulla of fallopian tube	14	45.2
Cornu	6	19.4
Isthmus	2	6.5
Fimbria	7	22.6
Others		
Heterotopic	2	6.5
Ovarian	2	6.5
Adhesions to bowel serosa	4	12.9

Right sided tubal pregnancy was present in 18(62.1%) cases and left tubal involvement in 11(37.9%) cases.

Ruptured ectopic pregnancy was present in 61.3% cases on laparotomy, 22.5% had unruptured ectopic and tubal abortion in 12.9% cases. 56% of the cases showed a hemoperitoneum on laparotomy.

The most common surgery done was unilateral salpingectomy in 28 (90.3%), salpingo-oophorectomy in 2 (6.5%) and salpingostomy in 1 (3.2%). Morbidity included anemia (41.9%), blood transfusion (54.8%) and wound infection (32.2%). No maternal mortality noted.

DISCUSSION

The prevalence of ectopic pregnancy among women who go to an emergency department with first trimester bleeding, pain, or both ranges from six to 16 percent[8].

In the present study, incidence of ectopic pregnancy was 5.6/1000 deliveries. In a study conducted byRashmiGaddagi and AP Chandrashekhar, the incidence was 1: 399 pregnancies[9]. In Porwal Sanjay et al study, the incidence was 2.46 per thousand of deliveries[10].A majority of the patients (74.2%) belonged to the age group of 25-30 years in our study. Similar results were found in Khaleeque et al study[11]. Hoover KW and colleagues reported that the ectopic pregnancy rate increases with age; it was 0.3% among girls and women aged 15-19 years and 1.0% among women aged 35-44 years[12].83.9% were multiparas and 16.1% were primiparas. Multiparous women were found to be more prone to have ectopic pregnancy (61%) in LaxmiKarki et al study[13].

The commonest predisposing factors were tubectomy, pelvic inflammatory disease, spontaneous and induced abortion,and history of infertility, prior history of Copper-T insertion, D and C, previous ectopic pregnancies and previous LSCS. Similar risk factors were noted in various other studies[10]. Roussos D et al in their study observed that rupture of the tube is more often observed in women with a history of ectopic pregnancy and in women with full-term pregnancy[14].

The commonest presenting complaints were abdominal pain, amenorrhea and abnormal vaginal bleeding. Clinical signs included abdominal tenderness, cervical excitation and adnexal tenderness. In Porwal Sanjay et al study, 87.5% reported with pain abdomen, bleeding per vaginaencountered in 67.5% and 90% of cases had history of amenorrhea ranging from 6 weeks to 4months. These features help in early diagnosis of ectopic pregnancies[10].

The urinary pregnancy test, Serum β-hCG and ultrasound were the diagnostic tools used for diagnosis of ectopic pregnancy. Studies have shown that Ultrasonography should be the initial investigation for symptomatic women in their first trimester; when the results are indeterminate, the serum β human chorionic gonadotropin concentration should be measured. Serial measurement of β-hCG and progesterone concentrations may be useful when the diagnosis remains unclear[15].

In the present study, seasonal variation was noted in the ectopic pregnancies. A majority of the ectopic pregnancies were found between July and December. MamdohEskandar and colleagues in a study conducted in Abha Maternity Hospital, Saudi Arabia reported that there was a seasonal variation in the incidence of ectopic pregnancy with highest mean incidence in the winter season[16]. Studies have shown that as a result of the influence of season on ovarian activity, it may be plausible to anticipate a seasonal variation in the incidence of ectopic pregnancy[17].

The commonest site of location of the ectopic pregnancy was in the ampulla of the fallopian tube. Ampullary part of the tube was commonly involved in most of the ectopic pregnancies in other studies[18]. Heterotopic pregnancy was present in 6.5% of the ectopic pregnancies. Studies have shown that in a natural conception cycles, heterotopic pregnancy is a rare event, occurring in <1/30,000 pregnancies[19]. The high index of suspicion is to ensure for early and timely diagnosis and management, a timely intervention can result in a successful outcome of intrauterine pregnancy and prevent tubal rupture and hemorrhagic shock which can be fatal[20].

Right sided tubal pregnancy was present in 18(62.1%) cases and left tubal involvement in 11(37.9%) cases, consistent with other studies[21].

Ruptured ectopic pregnancy was present in 61.3% cases, 22.5% had unruptured ectopic and tubal abortion in 12.9% cases In Latchaw G et al study, tubal rupture was present in 59% cases and 41% had unruptured ectopic pregnancies. They concluded that the patients with a history of

a previous ectopic pregnancy are significantly more likely to experience a tubal rupture[22].

Studies have shown that low hemoglobin and hematocrit values, together with higher gravidity at the time of admission, may indicate an increased risk of tubal rupture[23].In the present study, 83.9% were multiparas and 41.9% women were anemic at the time of admission.

The most common surgeries performed were partial/total salpingectomy, salpingo-oophorectomy and salpingostomy. Conservative surgery is superior to radical surgery at preserving fertility. Conservative surgery is not followed by an increased risk of repeat ectopic pregnancy, but by the risk of persistent ectopic pregnancy, which should be taken into account when deciding on the operative procedure[24]. Canis M et al in their study concluded that the surgical treatment should be performed if the patient is hemodynamically unstable, ß-hCG is >10 000 mIU/mL, the ectopic pregnancy is 4cm in diameter, if there is a medical contraindication to methotrexate, and if the patient may not be followed adequately after treatment[25].

Mahboob reported a success rate of 80% by treating 12 out of 15 women with single dose MTX with initial β-hCG levels equal to 5000mIU/ml[2].As medical management needs extremely close follow up & hospitalization, surgical management is still the method of choice in our country[26]. Laparoscopy and medical therapy have now emerged as the widely used therapeutic modalities with great succession terms of reduced morbidity, shorter hospital stay and conservation of fertility[27]. However choice depends upon early identification of ectopic pregnancy and stable condition of patients[28].

Morbidity included anemia, blood transfusion and wound infection. By reducing and identifying the risk factors and 'catching' the patients at the earliest it is possible to improve the prognosis so far as morbidity, mortality and fertility are concerned[29].

No maternal mortality found in our study, consistent with A. Abbas and H. Akram study[30].

Studies suggest that around 60% of women affected by an ectopic pregnancy go on to have a viable IUP. There is thought to be a 5-20% risk of a recurrence of ectopic pregnancy with one previous ectopic pregnancy and a risk of 32% or more following more than one previous ectopic[31].

CONCLUSION: Early identifying of underlying risk factors, diagnosis with the essential aids like transvaginal ultrasound and β-hCGand timely intervention in the form of medical or surgical treatment will definitely help in reducing the morbidity and mortality associated with ectopic pregnancy and to improve the future reproductive outcome.

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