

Original Article

Pattern of Ruptured Ectopic Pregnancy in a Secondary Level Healthcare Facility

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Abstract

Tubal rupture following an ectopic pregnancy is usually associated with profound hemorrhage which can lead to an unstable hemodynamic state that can risk the life of the patient. To explore the pattern of ruptured ectopic pregnancy in a secondary level healthcare facility, this Cross-sectional study was conducted among 100 ruptured ectopic pregnancy cases at 250 Bedded General Hospital, Tangail from January to November 2017. Cases were diagnosed by taking history (short period of amenorrhoea, acute lower abdominal pain and per-vaginal bleeding), clinical examination and relevant investigations (per-abdominal ultrasonography, TVS, CBC, serum β -hCG level). Postoperatively, all the patients were followed up meticulously till discharge. The mean age of patients was 33.5(\pm 7.8) years and the highest incidence (43%) was recorded in the age group of 26-30 years. All the patients were managed surgically with no record of case fatality. The most common site for the extra-uterine pregnancy was the tubal area (80%), 13% were ovarian pregnancy, 2% were abdominal and 5% were in other sites (rudimentary

horn of uterus, cesarian scar). Chronic pelvic inflammatory disease was the most common risk factor (70%). Other risk factors such as, H/O receiving subfertility treatment (assisted reproduction/ ovulation inducing drugs), previous ectopic pregnancy, developmental errors of uterus, caesarean scar pregnancy and unknown cause were 10.0%, 6.0%, 3.0%, 3.0% and 8.0% respectively. The rise of serum β -hCG level was found \leq 1500 IU/L in 72% and $>$ 1500 IU/L in 28% of patients. Tubal area found to be the most common site of ruptured ectopic pregnancy in this study and chronic pelvic inflammatory disease was the most common risk factor followed by undergoing subfertility treatment. Surgical intervention was the choice of treatment in all cases with zero fatality recorded.

Keywords: Ectopic pregnancy, Ruptured ectopic pregnancy, Secondary Level Healthcare Facility.

INTRODUCTION

Ectopic pregnancy is a common cause of morbidity and occasionally of mortality in women of reproductive age especially in low-income and middle-income countries, where the majority of the patients come to clinical attention with a tubal rupture and hemodynamic compromise.¹ An ectopic pregnancy is one in which the fertilized ovum becomes implanted in a site other than the normal uterine cavity and this is a recurrent medical condition.² Ectopic pregnancy occurs in 1.3–2.4% of all pregnancies which is considered to be a severe gynaecological emergency, and can be life-threatening.³⁻⁶ It accounts for up to 6% of all pregnancy-associated deaths.^{4,6} The incidence of ectopic pregnancies that rupture is around 18%. This rupture most often caused by an invasive growth of trophoblast into the wall of the salpinx and most frequently when it's size exceeds 3.5 cm⁷. It is the most common cause of first trimester maternal death, which estimated to correspond 5% of all reproductive deaths and 73% of early pregnancy mortalities.^{8,9} This condition also can lead infertility.^{10,11}

The aetiology of ectopic pregnancy remains uncertain although a number of risk factors have been identified.¹²

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The common risk factors are previous ectopic pregnancy, pelvic inflammatory disease, in vitro fertilization, use of an intrauterine device for longer than two years, history of inflammation (Chlamydia), pyosalpinx, tubo-ovarian abscess, adnexal cyst, ovarian torsion,, and tubal surgery.^{10,13-15}

97% of occurrences are located in either the ampullary (most common) or the isthmic portion of the fallopian tube. Less common sites are, ovaries, cervix or peritoneal cavity can be involved.¹⁶

Ruptured ectopic pregnancy often causes abdominal pain, vaginal bleeding and internal haemorrhage. The diagnosis is based on proper history taking, clinical examination and laboratory investigations and imaging. Patient may give history as of in the beginning of a normal pregnancy, such as nausea, vomiting and breast tenderness with short period of amenorrhoea followed by acute abdominal pain, bleeding (aberrant menses), and presence of adnexal mass^{11,16}. On physical examination, the patient may found haemodynamically unstable, the abdomen may found with localised tenderness and peritoneal irritation may be present due to the presence of free fluid in the abdomen especially lower abdomen. Laboratory investigation might reveal lower level of haemoglobin, serum β -hCG level may show lower levels or atypical trend of rising and falling compared to normal pregnancy. Gynaecological investigation may show ante flexion of the uterus and bleeding from the uterine cavity. Ultrasonography may show blood and/or haematoma in the uterine cavity.²

Surgery is considered as the gold standard for treatment of ruptured ectopic pregnancy. Close monitoring of vital signs and haemodynamic stability should be ensured². Monitoring the blood pressure, pulse, respiratory rate, body temperature, haemoglobin levels and symptoms of ongoing bleeding (dizziness, loss of consciousness) should be given the priority. Intravenous liquid therapy may be required to compensate for the hypovolemia that had occurred due to the bleeding, and to administer fluid while she received nil per mouth.

Ectopic pregnancy is a life- and fertility-threatening condition that is commonly seen in the first trimester of the pregnancy period. Mortality is high in the cases of ruptured ectopic pregnancy. This study was conducted to explore the pattern of ruptured ectopic pregnancy in a secondary level healthcare facility.

MATERIALS AND METHODS

This Cross-sectional study was carried out among 100 diagnosed cases of ruptured ectopic pregnancy, at 250 bedded general Hospital, Tangail from January to November 2017. The cases were diagnosed by history of ongoing pregnancy or having the symptoms like the beginning of a normal pregnancy, such as nausea, vomiting and breast tenderness with short period of amenorrhoea which was then followed by acute abdominal pain, per vaginal bleeding, and presence of adnexal mass; clinical examination revealing haemodynamic shock like syndromes, localised tenderness in abdomen may and laboratory investigations like CBC (Hb% level), serum β -hCG level were done which showed lower level of haemoglobin and hematocrit value and β -hCG level ≤ 1500 IU/L. The diagnosis was confirmed and managed by transvaginal sonography and laporoscopic surgery respectively after proper counseling and taking written consent from patients or relatives. All the patients were followed up meticulously after surgery till discharge. Collected data were expressed as, mean, frequency, percentage and range to describe continuous and categorical variables.

RESULTS

With the mean age of 33.5 (± 7.8) years, ranging from 18 to 40 years the highest incidence (43%) of ruptured ectopic pregnancy was recorded in the age group of 26-30 years. The mean age was 33.5(± 7.8) years and the age range was 18 to 40 years. The age group of 30-40 years also showed to have a considerable proportion of cases that is 37%.

Table-I : Frequency distribution of age of respondents (n=100)

| Age | Frequency | Percentage |
|-----------------|----------------|------------|
| ≤ 20 years | 5 | 5.0 |
| 21-25 years | 15 | 15.0 |
| 26-30 years | 43 | 43.0 |
| 30-40 years | 37 | 37.0 |
| Mean \pm SD | 33.4 \pm 7.8 | |

Among the patients of ruptured EP, 70% patients had a history of chronic pelvic inflammatory disease. Other risk factors such as, history of receiving subfertility treatment (assisted reproduction/ ovulation inducing drugs), history of previous ectopic pregnancy, developmental errors of

uterus and caesarean scar pregnancy were 10.0%, 6.0%, 3.0% and 3.0% respectively.

Table-II: Frequency distribution of risk factors of respondents (n=100)

| | | |
|--------------------------------|----|------|
| Chronic PID | 70 | 70.0 |
| Sub-fertility treatment | 10 | 10.0 |
| Prior EP | 6 | 6.0 |
| Developmental errors of uterus | 3 | 3.0 |
| Previous caesarean section | 3 | 3.0 |

Table-III: Frequency distribution of the site of ectopic pregnancies (n=100)

| | | |
|----------------------------|----|------|
| Tubal | 80 | 80.0 |
| Ampullar | 60 | 60.0 |
| Isthmic | 15 | 15.0 |
| Infundibular | 5 | 5.0 |
| Ovarian | 13 | 13.0 |
| Rudimentary horn of uterus | 3 | 3.0 |
| Cesarean scar | 2 | 2.0 |
| Abdominal | 2 | 2.0 |

The most common site of the rupture was the tubal area (80%) comprising of, 60% in the ampullary region, 15% in the isthmas and 5% in the infundibulum. Ovarian pregnancy was recorded in 13.0% cases, rudimentary horn of uterus was involved in 3% cases, the site of the caesarean scar was in 2% cases and abdominal pregnancy was found in 2% cases.

DISCUSSION

This study has observed the mean age of patients with ruptured ectopic pregnancy was 33.5 (± 7.8) years and the highest number of patients (40%) was in the age group of 26-30 years. A study done in 2003 has found the age group with the highest incidence of extra-uterine pregnancies was the age group of 35-45 years.¹⁷ Another research done by Stucki and Buss, observed that the incidence of ectopic pregnancy increases with age where if a 20 year old woman has 0.4% risk of having an ectopic pregnancy, than the risk can raise upto 1.3%- 2% at the age of 30-40 years.¹⁸

The risk factors contributing to the ruptured ectopic pregnancy was highest with the history of having chronic pelvic inflammatory disease (70%). Presence of other risk

factors among the patients were, history of subfertility treatment (assisted reproduction/ ovulation inducing drugs (10%), prior ectopic pregnancy (6%), history of abdominal surgery (fallopian tube and uterus) (3%), congenital anomalies of uterus (3.0%) and others 5(5.0%). Parallel to these findings another study found that, a higher incidence of ruptured ectopic pregnancy was associated with pelvic inflammatory disease, sexually transmitted diseases and the utilization of assisted reproductive technology.¹⁹

Among the patients 80% of the ectopic pregnancy found to be sited at the fallopian tube among which the 60% was at the ampulla, 15% was at the isthmas and 5% was at the fimbria of the fallopian tube. Ovarian pregnancy was 13%, rudimentary horn of uterus was involved in 3%, cesarian scar rupture was 2% and abdominal pregnancy was in 2% cases. Nearly similar observation was found in the study of Stucki and Buss, where they found involvement of ectopic pregnancy was the ampula in 80% of cases, isthmas in 12%, infundibulum in 5%, cornual in 2%, abdominal in 1.4%, ovarian in 0.2% and cervical in 0.2% cases¹⁷.

CONCLUSION:

This study found that the tubal area is the most common site of rupture ectopic pregnancy and chronic pelvic inflammatory disease was the most common risk factor followed by undergoing subfertility treatment, surgical intervention is the choice of treatment.

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