*Original Article*

# Clinical Presentation and Operative Findings of Tubal Pregnancy Cases in Bangladeshi Population - A Cross Sectional Study

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## Abstract

***Background:*** *Implantation of a fertilized egg outside the uterine cavity can lead to a life threatening medical emergency. The incidence of ectopic pregnancy is increasing. Improved diagnostic facilities aided in decreased rate of case fatality however, the prompt diagnosis still remains as a major challenge.* ***Objective:*** *This study intends to observe the incidence, predisposing factors, clinical presentation, and management of ectopic pregnancy.* ***Materials & Methods:*** *A cross sectional study has been undertaken among 50 purposively selected diagnosed cases of ectopic pregnancies admitted in the Department of Obstetrics and Gynaecology, Combined Military Hospital (CMH), Dhaka during the period of 1 year from August 2021 to July 2022. Face to face interview and evaluation of medical records were used to collect data.* ***Results:*** *The ectopic pregnancy rate was 10.88/1000 pregnancies. Age group of 21-30 years found to be prevalent with 70% of the cases. History of abortion and MR (46%), and pelvic infection (18%) found to be most common risk factors. Majority of the respondents presented with abdominal pain (88.0%), pervaginal bleeding (78.0%), and history of amenorrhea (74.0%). More than half of the respondents (56.0%) presented with hypovolemic shock. Abdominal tenderness and anemia was evident in 86.0% and 66.0% of the cases respectively. Ruptured ectopic pregnancy was 76.0% of the cases. Unilateral salpingectomy (48.0%) and unilateral salpingectomy with contralateral tubal ligation (32.0%) were the common surgical intervention applied in this sample* ***Conclusion:*** *In this study case fatality due to ectopic pregnancy was nil despite of very high incidence of ruptured tube cases.*

**Keywords:** Ectopic pregnancy, Tubal pregnancy, Risk factors.

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## Introduction

Ectopic pregnancy defined as implantation of embryonic tissue external to the uterus or to an atypical implantation site of the uterus. If remained unidentified and untreated, this condition can lead to significant risks of morbidity and fatality.[1] Ectopic pregnancies are often challenging to diagnose promptly which has significant contribution on the patient outcome. An acute rupture of the tube following an implantation is very common which is an important cause of first trimester maternal death.[2] In order to correctly diagnose an ectopic pregnancy, thorough history taking and physical examination are crucial along with linking them with the lab findings.[3] Ectopic pregnancy is estimated to occur at a rate of 1 to 2%, however, patients who undergoes assisted reproductive technologies they face it at a rate of 2 to 5%. Tubal ectopic pregnancies are the most common ones, while the ampullary region of the fallopian tube being the most frequent site of implantation; in less than 10% of the ectopic pregnancy cases, the implantation occurs in non-tubal sites such as, in the abdominal cavity, ovary, cervix, myometrium or interstitial portion.[4] In Bangladesh, the prevalence of this phenomenon ranged from 1.3% to 21% in various single centered studies.[5–7] Abdominal or pelvic pain, amenorrhea, and vaginal bleeding are the main symptoms of an ectopic implantation; other symptoms include, gastrointestinal symptoms, dizziness, syncopal attack, shoulder-tip pain, and pain during micturition or defecation.[8] History of abortion and MR, pelvic inflammatory disease, previ-

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ous ectopic pregnancy, infertility treatment, intrauterine contraceptive device, lower abdominal surgeries are common risk factors of a tubal pregnancy in our country.[5,6,9]

Over the past three decades, ectopic pregnancy has become more common, especially in developing nations where early detection is less common.[5] In the context of our country, maternal conditions like ectopic pregnancy can put women in great health risks due to limited access to skilled healthcare providers and diagnostic facilities.[10] Also, the awareness on reproductive health and the health seeking attitude of women is poor due to socio-economical context of our country.[11] Additionally, ectopic pregnancy can have long-term implications for a woman's fertility. Therefore, in absence of nationally representative data of the current knowledge on prevalence of ectopic pregnancy, this study aims to evaluate clinical presentations, exposure history of risk factors and operative findings of tubal pregnancy.

## Materials & Methods

This study was a descriptive cross-sectional study commenced in the Department of Obstetrics and; Gynaecology Combined Military Hospital (CMH), Dhaka during the period of August 2021 to July 2022. Women with diagnosed cases of ectopic pregnancy, who were admitted in the respective hospital was purposively selected as target population. Cases of tubal pregnancy- ruptured or unruptured, presenting with or without shock, and chronic ectopic pregnancy or subacute or old ectopic pregnancy have been included in this study. Cases of abdominal pregnancy, cervical pregnancy ovarian pregnancy and pregnancy in uterine cornua remained excluded. Completed data from 50 samples have been evaluated in this study for different patterns of clinical presentations of ectopic pregnancy in respect to their operative findings.

A pretested semi-structured questionnaire has been applied to collect data. Data was collected through face to face interview and checking medical records. Data was analyzed using IBM-SPSS software version 25.

## Results

During the study period the Department of Obstetrics and; Gynaecology, Combined Military Hospital (CMH), Dhaka admitted 13,505 obstetric cases, among whom, 147 cases of ectopic pregnancy was recorded, making the incidence rate of 10.88/1000 pregnancies (Table 1). Completed data of 50 tubal pregnancies have been presented in this study.

**Table:I Prevalence of Tubal pregnancy (August 2021-July 2022) in Combined Military Hospital (CMH)**

| Total no. of admitted Obstetric patients | Total no. of Tubal pregnancy | Rate/1000 pregnancy |
|---|---|---|
| 13,505 | 147 | 10.88 |

**Table:II Background characteristics of the patients (N=50)**

| Age group (years) | No. of cases | Percentages |
|---|---|---|
| <20 | 2 | 4% |
| 21-30 | 35 | 70% |
| >30 | 13 | 26% |
| **Parity** | | |
| P-0 | 14 | 28% |
| P-1 | 12 | 24% |
| P-2 | 09 | 18% |
| P-3 | 08 | 16% |
| P-4 | 05 | 10% |
| P≥5 | 02 | 04% |

The age group of 20 to 30 found to be prevalent with 70.0% of the tubal pregnancy cases in this study. With increase of parity the prevalence of this phenomenon showed to occur less, first pregnancy issues showed to account for the highest frequency **(Table 2)**.

Upon evaluating the past medical history, abortion or menstruation regulation was recorded in 46.0% of the respondents. Pelvic infection was the second most important risk factor reported in 18.0% of the cases. History of infertility, pelvic surgery and previous ectopic pregnancy were reported in 14.0%, 4.0%, and 2.0% of the cases. Among the mentioned contraceptive methods, IUCD insertion was recorded in 4.0% of the cases **(Table 3)**.

**Table III: Risk factors of ectopic pregnancy among the patients (N=50)**

| Risk factors | | No. of cases | Percentages |
|---|---|---|---|
| **H/O Previous abortion/MP** | | 23 | 46% |
| **Pelvic infection** | | 09 | 18% |
| **H/O infertility** | | 07 | 14% |
| **Any pelvic surgery** | | 02 | 04% |
| **H/O ectopic pregnancy** | | 01 | 02% |
| Contraceptive methods | Without contraception | 15 | 30% |
| | Oral pill | 10 | 20% |
| | H/O IUCD insertion | 02 | 04% |
| | Barrier method | 11 | 22% |
| | Injectable contraception | 12 | 24% |

Majority of the respondents presented with abdominal pain (88.0%), pervaginal bleeding (78.0%), and history of amenorrhea (74.0%). More than half of the respondents (56.0%) were in hypovolemic shock during admission. Abdominal tenderness and anemia was evident in 86.0% and 66.0% of the cases respectively. Cervical exhibition test was positive for 48% of the cases. Adnexal mass and fullness of Pouch of Douglas was palpable in 10.0% and 54.0% of the cases respectively **(Table 4).**

**Table IV: Presenting features and clinical findings of the patients (N=50)**

| Symptoms | | No. of cases | Percentages |
|---|---|---|---|
| **Abdominal pain** | | 44 | 88% |
| **Pervaginal bleeding** | | 29 | 78% |
| **Shock** | | 28 | 56% |
| **Syncopal attack** | | 07 | 14% |
| **Vomiting** | | 08 | 16% |
| **H/O amenorrhea** | | 37 | 74% |
| **Duration of amenorrhea** | 05-08 weeks | 27 | 54% |
| | 09-12 weeks | 08 | 16% |
| | >12 weeks | 02 | 04% |
| **Signs** | | | |
| **Abdominal tenderness** | | 43 | 86% |
| **Anemia** | | 33 | 66% |
| **Cervical exhibition test** | | 24 | 48% |
| **Adnexal mass** | | 05 | 10% |
| **The fullness of Pouch of Douglas** | | 27 | 54% |

During surgical management it was seen that, in 66.0% of the cases right sided fallopian tube was affected. The ampulla was the most common site of implantation (68.0%) in the tubal pregnancy cases of this study. Additionally, in 20.0% of the cases, isthmus and in 4.0% of the cases the interstitial part of the tube found to be implanted with the embryo. In 8,0% of the cases the opposite sided tube appeared unhealthy. Blood in peritoneal cavity was present in 86.0% of the cases. Peritubular adhesion was found in 16.0% of the cases **(Table 5).**

**Table V: Operative findings of the patients (N=50)**

| Symptoms | | No. of cases | Percentages |
|---|---|---|---|
| Tube affected | Right | 33 | 66% |
| | Left | 17 | 34% |
| Site | Ampulla | 34 | 68% |
| | Isthmus | 10 | 20% |
| | Interstitial part | 02 | 04% |
| Condition of the opposite tube | Normal looking | 38 | 76% |
| | Unhealthy | 04 | 08% |
| Blood in peritoneal cavity | | 43 | 86% |
| Peritubular adhesion | | 08 | 16% |

**Figure 1: Tubal status of the affected tube**

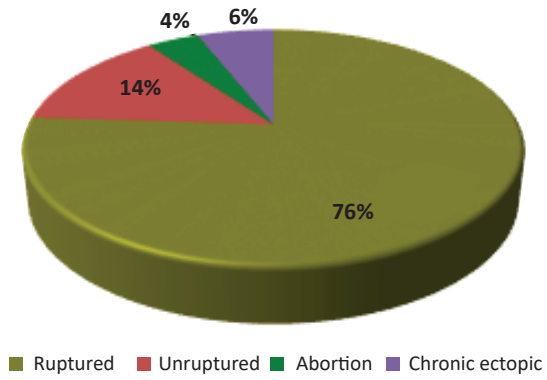
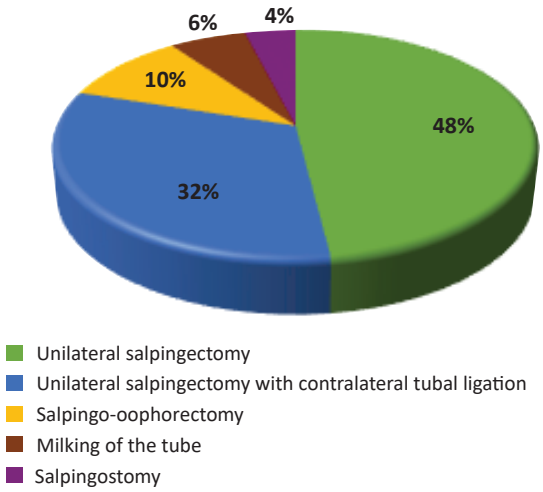



**Figure 2: Surgical Mnangemets of the patients**




In this study, 76.0% of the cases were ruptured ectopic pregnancy (Figure 1). In 48.0% of the cases unilateral salpingectomy was done and in 32.0% cases unilateral salpingectomy with contralateral tubal ligation was done as surgical managements of the cases. In few cases salpingo-oophorectomy (10.0%), milking of the tube (6.0%) and salpingostomy (4.0%) was done **(Figure 2).**

## Discussion

Ectopic pregnancy is a significant contributor of first trimester mortality and morbidity requiring for immediate surgical intervention in most cases. In situations where the acting physician fails to diagnose an ectopic pregnancy, or if the patient delays to come to under clinical attention, there is a high odds that the area where the fertilized egg implanted will rupture or put up with other types of damage.

During the study period the rate of ectopic pregnancy was recorded at 10.88/1000 pregnancies which is considerably higher than what has been previously reported in other national and international studies.[4,5,7,12] However, Fatema et al. found a higher prevalence in a tertiary care center in Bangladesh (21.6/1000 pregnancies) compared to the present study.[6] Increased access to improved diagnostic facilities may contributing in representation of higher prevalence[13] However, increased prevalence of the risk factors of ectopic pregnancy are also in an increased trend, that can attribute to the increased prevalence. Such as, most cases of ectopic pregnancies are associated with history of prior damage to the fallopian tube, these factors include previous pelvic or abdominal surgery and pelvic infection.[14–16] This study showed that, 46.0% of the respondents had past medical history of abortion or menstruation regulation and 18.0% of the cases had history of pelvic infection. In various other studies these factors found to be common risk aggravating causes of ectopic pregnancies.[5–7] Previous studies denoted induced abortion as a well identified risk factor of subse-

quent extrauterine implantation of fetus.[17,18] Additionally, pelvic inflammatory disease is a common risk factor for ectopic pregnancy.[19] In this study, 20 to 30 years of respondents accounted for 70% of the cases. In a previous study, age group of 20-24 years found to account for 42.0% of the ectopic pregnancy cases which we found parallel to our findings, which is also true for most studies conducted in developing countries.[12] As the younger group of population are more sexually active thus they are at higher risk of such conditions.[4] In this study, it has been seen that, with increase of parity the prevalence of ectopic pregnancies tend to be less prevalent. However, other findings suggest that, multiparous women are more susceptible to have ectopic pregnancy than low parity women.[20]

In this study, majority of the respondents presented with abdominal pain (88.0%), pervaginal bleeding (78.0%), and history of amenorrhea (74.0%). More than half of the respondents (56.0%) were in hypovolemic shock during admission. Abdominal tenderness and anemia was evident in 86.0% and 66.0% of the cases respectively. Cervical exhibition test was positive for 48% of the cases. Adnexal mass and fullness of Pouch of Douglas was palpable in 10.0% and 54.0% of the cases respectively. Similar case presentation was evident among other studies who exhibited patient sign and symptoms.[7]

During surgical management it was seen that, in 66.0% of the cases right sided fallopian tube was affected which also found in other studies.[21] The ampulla was the most common site of implantation (68.0%) in the tubal pregnancy cases of this study. Additionally, in 20.0% of the cases, isthmus and in 4.0% of the cases the interstitial part of the tube found to be implanted with the embryo. These sites are the commonly stated sites of ectopic implantation in literatures for ectopic pregnancies.[5,7] In this study, 76.0% of the cases were ruptured ectopic pregnancy which corresponds the findings of Sefogah et al. where they found that 71.3% of the ectopic pregnancies presented with a ruptured tube.[22] In 48.0% of the cases unilateral salpingectomy was done and in 32.0% cases unilateral salpingectomy with contralateral tubal ligation was done as surgical managements of the cases. Unilateral salpingectomy is the most commonly performed surgical intervention for the management of the cases with ectopic pregnancies.[7,9]

## Ethical Issues

After getting the approval of the research proposal from Bangladesh College of Physicians & Surgeons (BCPS), ethical clearance was taken from the ethical committee of Combined Military Hospital (CMH), Dhaka. Written informed consent was taken from the patients before data collection. Confidentiality of the data was strictly maintained

## Limitation

This study only used a small sample from one hospital, making it difficult to extrapolate the results to the national level.

## Conclusion & Recommendation

In this study no case fatality due to ectopic pregnancy has been recorded however the prevalence rate found to be high. Multicenter study with larger sample size will be able to depict the national prevalence which is crucial to take plan and actions regarding establishing prompt diagnostic facilities nationwide and to create vast awareness.

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