

ORIGINAL RESEARCH ARTICLE

PROFILE OF WOMEN WITH RUPTURED ECTOPIC PREGNANCY IN A TERTIARY CARE CENTRE IN CHITWAN, NEPAL

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ABSTRACT

Background: Ectopic pregnancy is one of the leading causes of maternal morbidity and mortality during early pregnancy. Ruptured ectopic pregnancy can be a life-threatening emergency. The aim of the present study was to know the admission rate, clinico-demographic profile and outcomes of ruptured ectopic pregnancy in Chitwan Medical College Teaching Hospital, a tertiary level hospital in Nepal.

Methods: A retrospective study was conducted in Chitwan Medical College Teaching Hospital, Chitwan, Nepal. All the patients diagnosed with ruptured ectopic pregnancy were included in the study. The relevant information of patients was obtained in pre-designed pro forma. The retrospective data were entered and simple statistical analysis was done using Statistical Package for the Social Sciences version 20.

Results: The rate of ruptured ectopic pregnancy was 1.69%. Mean age was 28.33 ± 5.78 years. Most of the patients presented with abdominal pain (99.0%), amenorrhea (98.0%) and bleeding per vagina (51.9%). The most common site of rupture was ampulla (50%) followed by infundibula (16.3%). The commonest associated risk factor was pelvic inflammatory disease (24%) followed by medical termination of pregnancy (19.23%), All the patients were managed surgically and there was no mortality.

Conclusions: Pelvic inflammatory disease was the leading associated risk factor. Surgical management was the modality of treatment in all the cases.

INTRODUCTION

Ectopic pregnancy is a condition in which a fertilized egg develops outside the uterine cavity.¹ More than 98% of ectopic pregnancy occurs in a fallopian tube. The other types of ectopic pregnancy occur as abdominal (1.3%), ovarian (0.15-3%), cervical (0.15%) and caesarian scar ectopic pregnancy (1:1800 pregnancies).² As the pregnancy advances, the tube will rupture which can be a life-threatening emergency that needs immediate surgical management.³ Ectopic pregnancy accounts for 1-2% of all pregnancies⁴ and 9% of all pregnancy-related deaths.¹ It is one of the leading causes of maternal morbidity and mortality in first trimester.^{5,6}

Globally, the incidence of ectopic pregnancy is 0.25%-2.0%. There is an increasing trend in its incidence with the increase in pelvic inflammatory disease (PID) and advancement of diagnostic techniques.⁷ A recent study of ectopic pregnancy in Nepal has reported an incidence of 0.8%.⁸

The major risk factors of ectopic pregnancy include pelvic inflammatory diseases, smoking, tubal surgeries, induced

contraception cycle and prior history of ectopic pregnancy.^{2,9} Previous study has also shown an increased risk of ectopic pregnancy for women with history of prior medical termination of pregnancy (MTP).¹⁰ The typical triad of symptoms consists of abdominal pain and per vaginal bleeding after a period of amenorrhea.⁵

The objective of the present study was to know the prevalence, clinico-demographic profile and outcomes of ruptured ectopic pregnancy in Chitwan Medical College Teaching Hospital, a tertiary level hospital in Chitwan, Nepal.

METHODS

This was a retrospective study conducted in the Department of Obstetrics and Gynecology of Chitwan Medical College Teaching Hospital from April 2017 to March 2019. Ethical approval was taken from Institutional Review Committee, Chitwan Medical College (Ref: CMC-IRC/077/078-201). All the patients from outpatient department (OPD) and emergency department with the diagnosis of ruptured ectopic pregnancy during the study period were included in the study.

Patients visiting emergency department or gynecology OPD with clinical suspicion of ectopic pregnancy were investigated. Urine pregnancy test was done in all cases. Immediate ultrasound abdomen and pelvis was done. Serum β HCG level was sent for investigation whenever necessary. Ruptured ectopic pregnancy was diagnosed on the basis of history, clinical examinations, urine pregnancy test, serum β HCG level, ultrasonographical findings and intra-operative findings.

All relevant information was collected from patients' files from medical record section and registers from Gynecology OPD, labor room and operation theatre. All the patients' details including age, parity, associated risk factors, clinical presentation at the time of admission, ultrasonographical findings, management and operative findings were obtained in a preformed pro forma. Statistical Package for the Social Sciences (SPSS) version 20 was used for data entry and analysis. Simple descriptive analysis was done. Normally distributed variables were expressed as mean \pm SD and non-normally distributed variables were expressed in medians and ranges. The results were presented in tabular form and figure.

RESULTS

In the present study, there were 104 cases of ruptured ectopic pregnancies out of 6143 deliveries during the period of three years. Thus, the rate of hospital admission of ruptured ectopic pregnancy was found to be 1.69%. Majority of the cases (44, 42.3%) were from Chitwan district, followed by Nawalparasi (24, 23.1%) and Hetauda (13, 12.5%). The mean age of patients was 28.33 ± 5.78 years (Range 17-43 years). More than fifty percent (56.7%) belonged to the age group between 25 to 34 years. Nearly one third of them (34.6%) were multigravida (Table 1).

Table 1: Demographic information of the study population (n=104)

Variables	Frequency (%)
Age	
15-24 years	28 (26.9%)
25-34 years	59 (56.7%)
35-44 years	17 (16.4%)
Parity	
Primi	16 (15.40%)
Multi	88 (84.60%)
Geographical Location	
Chitwan	44 (42.3%)
Nawalparasi	24 (23.1%)
Hetauda	13 (12.5%)
Gorkha	6 (5.8%)
Others	17 (16.3%)

Pelvic Inflammatory Disease (PID) was the leading risk factor (24%) associated with the ruptured ectopic pregnancy followed by Abortion / Medical Termination of Pregnancy (19.23%). (Table 2) The most common site of ruptured ectopic pregnancy was the ampulla in 52 cases (50%) followed by infundibula /fimbria (17, 16.3%) and ovarian pregnancy (11, 10.6%) (Figure 1).

Table 2: Frequency of associated risk factors in ectopic pregnancy

Risk factors	Number (%)
PID	25 (24%)
Abortion/ MTP	20 (19.23%)
LSCS	10 (9.61%)
IUCD use	10 (9.61%)

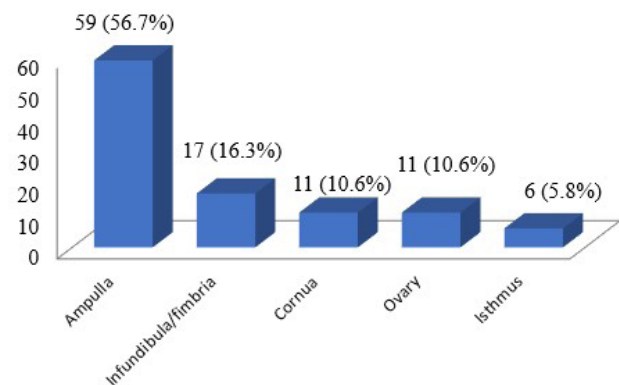


Figure 1: Sites of rupture of ectopic pregnancy (n=104)

The clinical information of patients with ruptured ectopic pregnancy is shown in table 3. Almost all the patients (103, 99.0%) presented with history of abdominal pain. One hundred two patients (98.1%) presented with amenorrhea followed by bleeding per vagina in 54 patients (51.9%). Ten (9.61%) cases presented with shock/collapse. Blood transfusion was needed in 90 (86.5%) cases. Other morbidity noted was wound infection in 2 patients (1.92%). There was no mortality in the present study. Laparotomy was done in all 104 cases. Following laparotomy, salpingectomy was done in 93 cases (89.4%) of tubal ectopic pregnancy and oophorectomy was done in 11 cases (10.6%) of ovarian ectopic pregnancy (Table 3).

Table 3: Clinical information of patients with ruptured ectopic pregnancy

Variables	Frequency (%)
Clinical presentation	
Pain abdomen	103 (99.0%)
Amenorrhea	102 (98.1%)
PV bleeding	54 (51.9%)
Shock	10 (9.6%)
Complications	
Blood transfusion	90 (86.5%)
Wound infection	2 (1.92%)
Mortality	0 (0.0%)
Treatment	
Laparotomy with salpingectomy	93 (89.4%)
Laparotomy with oophorectomy	11 (10.6%)

Various amount of blood loss was noted during surgical procedure. The highest amount was more than two liters in 17 cases (16.3%). (Table 4) Most of the patients (45, 43.34%) required two units of blood transfusion. The highest number

of blood transfusion was more than five units in 3 (2.88%) patients, four units of blood was transfused to 15 (14.42%) patients, three units to 13 (12.5%) patients. No transfusion was required in 14 cases (13.46%). The range of hospital stay was 5-17 days. Drain was kept in 87 cases (83.65%). In 64 patients (61.54%) drain was removed on the third day. Skin sutures were removed on the fifth post-operative day.

Table 4: Amount of blood loss in ruptured ectopic pregnancy (n=104)

Blood loss	Frequency (%)
≤ 500ml	29 (27.9%)
500-999ml	25 (24.0%)
1000-1499ml	19 (18.3%)
1500-1999ml	14 (13.5%)
≥2000ml	17 (16.3%)

DISCUSSION

The rate of admission of ruptured ectopic pregnancy in this present study was 1.69% which is comparable to the studies done by Jabbar et al, Abdulaziz et al, Wakankar et al Pradhan et al, and Kumari et al respectively (1.74%, 1.14%, 1.99%, 1.46%, and 2.14%).¹¹⁻¹⁵ Murugeran et al in 2016 reported an incidence of 1.77% and Nair et al in their study conducted in South Kerala reported the incidence of 0.7%.^{16,17} The higher rate in present study may be due to availability of better intensive care facilities and management with free of cost under safe motherhood program. This may have encouraged early referral to this tertiary care center from the peripheral primary health care centers.

Pain was the most common presentation in the present study and was seen in 99% of the patients followed by amenorrhea in 98.1% and PV bleeding in 51.9%. This is comparable to the findings of study reported from Pakistan¹⁸ (pain abdomen in 97.5%, amenorrhea in 73.6% and PV bleeding in 57.8%). In another study done by Pradhan et al., all patients had pain abdomen, 68.85% had history of amenorrhea and 78.69% had PV bleeding.¹⁴ In present study, 98.1% patients had history of amenorrhea. In studies reported from BPKIHS and Kathmandu Model Hospital of Nepal, 83.9% and 68.85% patients of ectopic pregnancy had history of amenorrhea respectively.^{14,19} In our study, 9.61% patients presented in shock which is lesser than that reported by studies conducted in KMH (27.87%) and BPKIHS (12.0%) respectively.^{14,19} A study from India reported shock during presentation in 9.4% patients.²⁰ The differences may be due to the variations in distance and time taken to arrive at the hospitals.

In this study, PID was found as associated risk factor in 24%

patients of ruptured ectopic pregnancy, whereas it was seen in 35.29% and 31.68% respectively in the studies conducted by Kumari et al and Yakasai et al.^{15,21} In these studies, pelvic inflammatory disease was found to be the leading associated risk factor. In present study, 19.23% of the patients had history of abortion or MTP which is comparable to the study done by Kumari et al (17.64%).¹⁵ Similarly, in our study, 9.61% patients used IUCD as a method of contraception. This is comparable to the findings of Kumari et al (11.76%)¹⁵ and Shetty et al²². IUCD prevents intrauterine pregnancy but it does not prevent ovulation so there will be high chances of ectopic pregnancy particularly tubal and ovarian pregnancy. The majority of the patients (72.1%) were not using any contraception in our study.

Morbidity included anemia, blood transfusion and wound infection. Blood transfusion was needed in 86.54%, and wound infection in 1.92% in our study. In the study by Kumari et al, blood transfusion was required in 82.35% and wound dehiscence was seen in 23.52%.¹⁵ Fortunately, there was no mortality in our study similar to studies of Pradhan et al, Kumari et al, Shetty et al and Udigwe et al.^{14, 15, 22, 23} Emergency surgical management with broad spectrum antibiotics and blood transfusion to the patients may have decreased the patient's morbidity and mortality rate. In the present study, all patient were managed surgically. The high rate of surgery is because the hospital is a tertiary care center with adequate availability of resources for immediate surgical management.

The limitation of the present study is its retrospective design. Due to the retrospective design, we were unable to gather various laboratory findings of the patients including beta-HCG level and their follow up records. In addition, this is a single-centered study, so the findings of this study may not be generalized to other settings.

CONCLUSION

The ruptured ectopic pregnancy is an obstetric emergency. All the cases of ruptured ectopic pregnancy were managed surgically in Chitwan Medical College Teaching Hospital without any mortality. Pelvic Inflammatory Disease was the leading associated risk factor. Early diagnosis, referral and management in tertiary care center prevents the morbidity and mortality associated with ectopic pregnancy.

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CONFLICT OF INTEREST: None

FINANCIAL DISCLOSURE: None

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