A Study of Ectopic pregnancy in a Tertiary Care Teaching Hospital

Shamshad Begum Shaikh[1,*], Sandhya Jampala[2], S. Shyamala Devi[3], M. Mallika[4]

[1,2]Associate Professor, [3]Professor & HOD, [4]Senior Resident, Dept. of Obstetrics & Gynaecology, Govt. Medical College, Andhra Pradesh

***Corresponding Author:**
Email: shams0105@gmail.com

Abstract

Aims and Objectives: To study the incidence, risk factors, clinical presentations and sites of Ectopic pregnancy among the patients attending to department of Obstetrics and Gynecology, Government General Hospital, Anantapuramu.

Material and Methods: The current prospective study was conducted over a period of 2 years from October 2013 to September 2015 in the department of Obstetrics & Gynecology at Government general hospital, Anantapuramu, Andhra Pradesh, India. Various parameters studied were age, parity, risk factors, symptomatology and sites of ectopic pregnancy, laterality of ectopic pregnancy, admission to surgery interval, and requirement of blood transfusions.

Results: A total of 25 patients were admitted with ectopic pregnancy during the study period amounting to an incidence of 1.6 per 1000 deliveries. Most of the patients were multiparous belonging to the age group 21 to 30 years. Risk factors were present in 64% of cases, the commonest being previous abortion (32%) followed by tubal surgery (24%). The classic triad symptoms observed were history of amenorrhea, pain abdomen and bleeding per vagina. Ampullary part of the fallopian tube was the most frequent site as observed in 48% of cases. Right fallopian tube was observed to be the most common site of occurrence of ectopic pregnancy. On an average of three units of blood transfusion was administered for each surgery. All patients were managed by surgical intervention within three hours of admission.

Conclusion: Ectopic pregnancy is a challenge for every obstetrician due to its bizarre clinical presentation. Early diagnosis and early intervention would reduce the morbidity and mortality in ectopic pregnancy. Hence ectopic pregnancy should be highly anticipated on an emergency basis in a woman in reproductive age group irrespective of tubal ligation as the condition is compared to black cat in dark room.

Key words: Clinical picture, Ectopic pregnancy, risk factors, surgical intervention

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Introduction

Ectopic pregnancy is a condition where in a fertilized ovum implants outside the normal uterine cavity[1]. It is an important cause of maternal morbidity and mortality especially in developing countries where majority of the patients present to the clinician in a late life threatening state with altered and deteriorated hemodynamics[2]. It is also a cause of fetal wastage and has been associated with recurrence and impairment of subsequent fertility[3].

Fig. 1: Right Tubal Ectopic (Arrow)

Etiology of ectopic pregnancy most of the times remains uncertain although multiple risk factors have been attributed for its occurrence. It is observed that the frequency of ectopic pregnancy has been on an upstroke during last few decades owing to the increased incidence of venereal diseases, increased usage of contraceptives, short birth spacing interval and increased usage of assisted reproductive techniques[4]. Prior surgical interventions (laparotomy for previous ectopic pregnancy/ tubectomy /cesarean section /appendectomy) may lead to tubal damage and increase the risk of further chances of ectopic pregnancy[5].

Diagnosis of ectopic pregnancy is almost always being a challenging task as the condition is complicated

by a bizarre spectrum of clinical presentations ranging from asymptomatic cases to acute abdomen to hemodynamic shock[6]. Hence it is imperative to take accurate history, conduct meticulous physical examination along with judicious use of available diagnostic techniques for diagnosis and management of this condition. Thanks to advances in modern medical technology such as radio-immunoassay of β-HCG, Ultrasonography and diagnostic laparoscopy which made diagnosis comparatively easier[7]. Improvement of blood transfusion facilities, provision of better transport facilities, immediate resuscitation, modern anesthesia facilities along with meticulous surgery are the key stones of success in reducing the maternal morbidity and mortality in cases of ectopic pregnancy.

Materials and Methods

The current prospective study was carried over a period of two years from October 2013 to September 2015, after acquiring institutional ethical committee clearance, in Department of Obstetrics and Gynecology at Government General Hospital, Anantapuramu, Andhra Pradesh, India.

During the afore mentioned time frame a total number of 14,900 deliveries were conducted in the department of which 25 cases were of ectopic pregnancies. Data of the cases collected included the details of age, parity, presenting symptoms, detailed past obstetric history, genital infections and previous surgical procedure if any.

The parameters pertaining to the cases of ectopic pregnancies studied include age and parity distribution, symptoms at presentation, associated risk factors and site of ectopic pregnancy, laterality, admission to surgery interval and blood transfusions. The collected data was tabulated and analyzed using appropriate statistical methods.

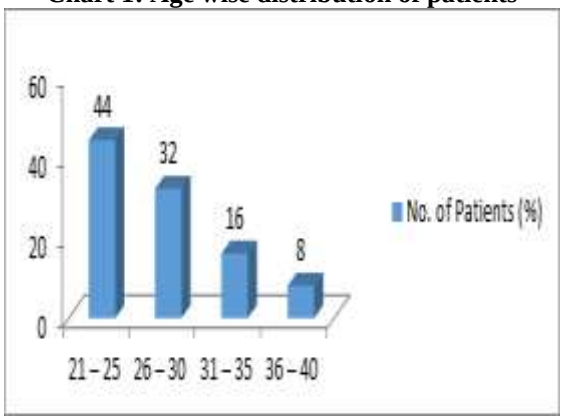
Results

1. **Age wise distribution of cases**: Among the 25 cases studied, 19 cases (Table 1) amounting to 76% belong to the age group of 21-30 years indicating that ectopic pregnancy is a disease of reproductive age group. The same findings are represented in the Chart No.1.

Table 1: Age wise distribution of patients

Age group(yrs)	No. of patients	Percentage
21 – 25	11	44
26 – 30	8	32
31 – 35	4	16
36 – 40	2	08

Chart 1: Age wise distribution of patients

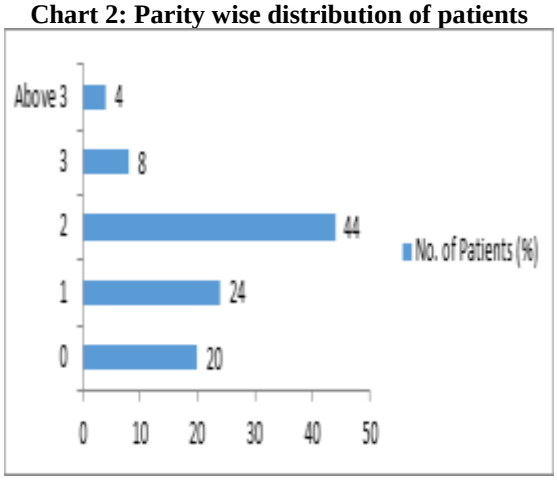


2. **Parity and incidence (Table 2):** Of the total cases studied, most of the women presented with ectopic pregnancies were multipara and peak incidence (44%) is observed among the women during their 2nd pregnancy. The same findings are projected in the chart no.2.

Table 2: Parity wise distribution of patients

Parity	No. of patients	Percentage (%)
0	5	20
1	6	24
2	11	44
3	2	08
Above 3	1	04

Chart 2: Parity wise distribution of patients

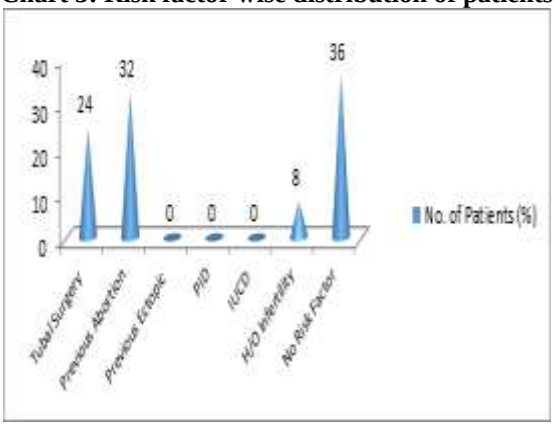


3. **Ectopic pregnancy and associated risk factors (Table 3):** when patients of ectopic pregnancies are analyzed for the associated risk factors most of the patients had a history of either previous abortion (32%) or of a previous tubal surgery (24%). The same findings are represented pictographically in the chart No. 3.

Table 3: Risk factor wise distribution of patients

Risk Factor	No. of patients	Percentage (%)
Tubal Surgery	6	24
Previous Abortion	8	32
H/O Infertility	2	8
No Risk Factor	9	36

Chart 3: Risk factor wise distribution of patients

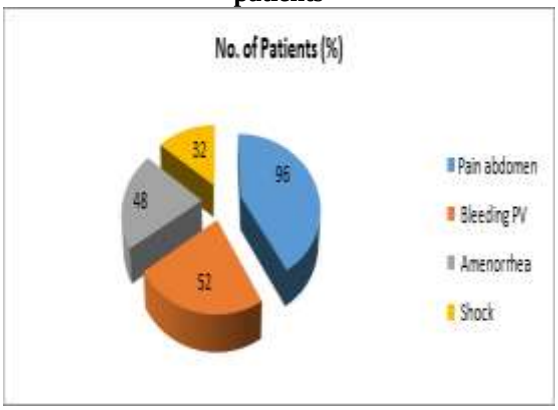


4. **Patients and their presenting symptoms (Table 4):** Maximum number of patients in the study do presented with pain abdomen as a chief complaint amounting to 96% of the total patients, followed by bleeding per vaginum (52%) and Amenorrhea (48%). Chart No.4 demonstrate same details. The classic triad of ectopic pregnancy comprising of pain abdomen, bleeding per vaginum and history of amenorrhea were noticed in 60% of the cases.

Table 4: Clinical presentation wise distribution of patients

Symptom at presentation	No. of patients	Percentage (%)
Pain abdomen	24	96
Bleeding PV	13	52
Amenorrhea	12	48
Shock	08	32

Chart 4: Clinical presentation wise distribution of patients

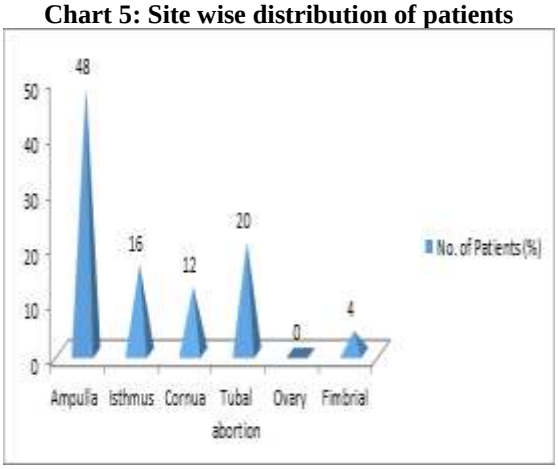


5. **Ectopic pregnancy and site of occurrence (Table 5):** The commonest site of the ectopic observed in the current study was at ampulla in 48% of the cases followed by isthmus in 16% of cases. The incidence at various ectopic sites are shown in chart no 5. The fallopian tube emerges as the only site of ectopic pregnancy in all the cases of our study and the commonest subpart being ampulla.

Table 5: Site wise distribution of patients

Site of Ectopic	No. of patients (%)	Percentage (%)
Ampulla	12	48
Isthmus	4	16
Cornua	3	12
Tubal abortion	5	20
Ovary	-	-
Fimbria	1	04

Chart 5: Site wise distribution of patients



6. **Laterality of the fallopian tube and the ectopic (Table 6):** Ectopic pregnancies in our study are associated with right fallopian tube in 80% of the cases.

Table 6: Laterality of Ectopic Pregnancy

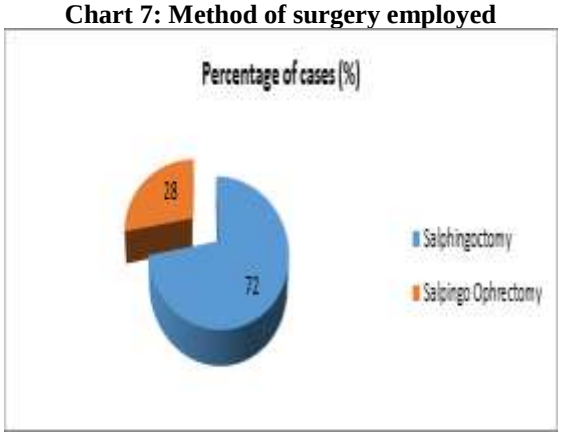
Laterality of Ectopic Pregnancy	No of Patients	Percentage (%)
Right fallopian tube	20	80
Left fallopian tube	05	20

7. **Surgical intervention employed in management**: Salpingectomy was the preferred procedure employed in 72% of the cases over Salpingo-oophorectomy. The same results are showed in table chart No.7.

Table 7: Surgical intervention employed

Procedure	No of Labs	Percentage (%)
Salpingectomy	18	72
Salpingo-oophorectomy	7	28

Chart 7: Method of surgery employed



8. **Units of blood transfusion required (Table 8):** during the surgical intervention for ectopic pregnancies, most of the cases (52%) of the cases 3 standard units of blood transfusion followed by 2 standard units and 4 standard units respectively.

Table 8: number of units of blood transfusions given during surgery

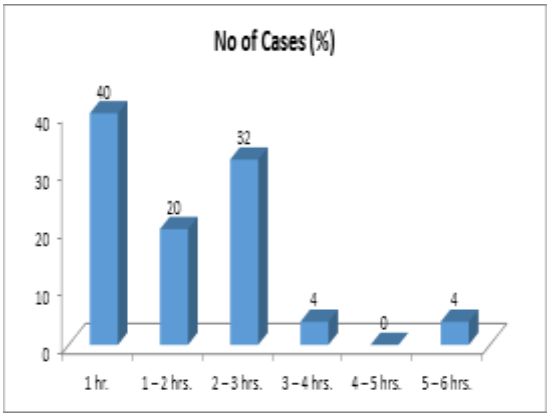
Blood Transfusions (No. of Units)	No of cases (%)	Percentage (%)
2	6 (24	24
3	13 (52)	52
4	5 (20)	20
5	1 (4)	5

9. **Time interval between diagnosis and surgical intervention (Table 9):** Most of the cases (40%) in the study underwent surgery within one hour of diagnosis and 92% of cases were managed surgically within three hours of diagnosis. The findings are represented graphically in chart No.8.

Table 9: Time duration taken for surgical intervention

Duration	No of Cases	Percentage
1 hr.	10	40
1 – 2 hrs.	5	20
2 – 3 hrs.	8 (32	32
3 – 4 hrs.	1 (4)	4
4 – 5 hrs.	0 (0)	0
5 – 6 hrs.	1 (4)	4

Chart 8: Time duration taken for surgical intervention



Discussion

In the present study most of the patients belonged to the age group of 21 – 30 years, because in India most women marry at an early age, and hence fewer pregnancies are expected beyond the age of 30 years. There is no teenage ectopic pregnancy. Most of the patients were multipara. Similar findings were noticed by Majhi AK and Roy N et.al[8] in their analysis of 180 cases of ectopic pregnancy.

In our study incidence of ectopic pregnancy was 1.68 per 1000 deliveries i.e. 25 cases of ectopic pregnancies out of 14900 deliveries. However, in a similar study conducted by Samiya Mufti MS et al[9], the incidence of ectopic was 3.99 per 1000 deliveries.

Association of ectopic pregnancy with risk factors is observed 64% of the cases of the current study and the most common risk factor observed being previous abortion which reflected in 32% of the patients. The next common risk factors observed were tubal surgery in 24%of the patients and another 2% of cases had history of infertility. No risk factors were identified in 36% of patients. Majhi AK and Roy N et. al[8] found almost similar incidence of risk factors in their study on ectopic pregnancy of which most common was history of abortion (26.1%). Khaleeque et al[10] also identified previous abortion (12.9%) as most common risk factor in a similar study conducted by them.

The most common symptoms at presentation were pain abdomen and bleeding per vaginum depicted in 96% and 52% of patients respectively. Synonymous findings were also observed in a study conducted by Chudary et al[11].

The most common site of ectopic pregnancy was the fallopian tube in the present study accounting for 100% of cases which is almost same as Boueyer et al[12] (95.5%) and Smitha Singh et al[13] (96%). Ampullary part of the fallopian tube was the most common site reflected in 48% of the cases. Right tubal pregnancy was commonly observed in 80% of cases than the left tubal pregnancy.

Another factor which is known to tamper the outcome the ectopic pregnancy is anemia, which

demand blood transfusions during intraoperative or perioperative periods. In our study it is seen that all the cases received blood transfusions of which most of the cases amounting to 52% has received three units of blood transfusion and only one case received 5 units of blood transfusion. From this finding, we opine that it can be made as protocol to preserve at least three units of compatible blood while dealing with cases of ectopic pregnancy.

As for as surgical intervention is considered, for most of patients (72%) of the current study Salpingectomy was the procedure of choice as it is relatively ideal procedure than Salpingo oophorectomy for the women of these age group. These point is in agreement with other authors who have conducted similar studies.

Fig. 2: A large tubal ectopic

By identifying and reducing the risk factors, diagnosing the patients at the earliest and by provision of appropriate judicious intervention, it is said to possible to improve the prognosis with respect to morbidity, mortality and future fertility in cases of ectopic gestation. We also opine that early surgical intervention will reap in the best results in cases of ectopic pregnancy as observed in our study. Most of the cases of our study (92%) underwent surgery within three hours of the diagnosis. No maternal mortality is reported from our study. A similar postulation was observed from a study conducted by Abbas A and Akram H et. al[14].

Conclusion

It is an undisputed fact that ectopic pregnancy is almost always poses a great challenge for every obstetrician due to its bizarre clinical presentation. Steps like Health education on safer sex and provision of family planning services will help prevent sexually transmitted infections and unwanted pregnancy, thence reducing the incidence of pelvic infection and post abortal complications. These interventions are expected to reduce the ectopic pregnancy and the consequent loss of reproductive potential. Early diagnosis and early intervention would reduce the morbidity and mortality in ectopic pregnancy. Hence ectopic pregnancy should be highly anticipated on an emergency basis in a woman of reproductive age group irrespective of tubal ligation.

Conflicts of interest: Nil

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