



Study of Risk Factors of Ectopic Pregnancy and it's Management

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ABSTRACT

Objective – To determine incidence, risk factors, presentation & management of ectopic pregnancy in rural tertiary care hospital. **Material & Methods**- retrospective study was done at Shrimati Kashibai Navale Medical College & General Hospital, Narhe for duration of 3 years where presentation, risk factors & management of patient were analyzed. **Result** - Ectopic pregnancy was found more commonly in age group of 18 to 25 years, primipara, presented at gestational age of 6-8 weeks. Fallopian tube was most common site of implantation. Majority of patients were treated surgically as maximum patients were presented with ruptured ectopic. **Conclusion**- globally incidence of ectopic pregnancy is increasing so physician should have high index of suspicion for early diagnosis.

KEYWORDS : Ectopic pregnancy, Tubal rupture, Methotrexate

Introduction-

Ectopic pregnancy incidence has increased considerably although morbidity and mortality has been declined due to early diagnosis. The reason behind increased incidence is greater prevalence of STDs (Chlamydia), better diagnostic tools, tubal factor infertility (including failed tubal ligation, restoration of tubal patency or documented tubal pathology), delayed child bearing and accompanied use of intra-uterine contraceptive devices. Ectopic pregnancy still remains to be leading cause of early pregnancy related deaths. Mortality is directly related to severe hemorrhage from tubal rupture. Risk factors for it includes prior ectopic pregnancy, prior tubal surgery, prior STD with confirmed PID by laparoscopy and/or positive test for Chlamydia trachomatis, age >40years, history of infertility, multiple sexual partners, previous use of IUDs (intrauterine devices). It can be managed either medically or surgically.

Material & Methods-

Retrospective analysis of case histories of patients admitted with ectopic pregnancy at SKNMCGH from 1st January 2012 to 31st December 2015 was done. Prior approval of Institutional ethics committee was taken. These patients were either admitted through emergency or outpatient department. After thorough history and physical examination, provisional diagnosis was made. Relevant investigations included complete blood picture, blood group, serum β hCG and ultrasound. Other investigations i.e. the liver function tests and platelets were done in patients who were given methotrexate. Based on these evaluations, type of management was decided. Whenever any surgical procedure was performed, specimen was sent for histo-pathological examination. Risk factors were identified pre operatively through history or intra operatively and treated accordingly. Risk factors were 1) history of previous ectopic 2) history of tubal surgery (including tubal ligation & tuboplasty) 3) history of infertility 4) pelvic inflammatory disease 5) history of abortion 6) history of pelvic surgery.

Criteria used for medical management were 1) unruptured ectopic pregnancy 2) β HCG value <5000IU/l 3) ectopic size less than 3.5cm 4) absence of cardiac activity 5) Hemodynamically stable patient 6) patient willing for conservative surgery. Drug regimen used in medical management was injection Methotrexate single dose 50mg /m² body surface area or multiple dose regimen 1mg/kg body weight along

with injection Leucovorin 0.1mg/kg body weight on alternate day.

Results-

During study period, total 9835 pregnancies were admitted at SKN-MCGH, of which 112 patients were admitted with ectopic pregnancy. We could retrieve complete data of only 109 patients.

Table 1: Age wise distribution of patients

Age in years	No. of patients(n=109)
18-25	56
25-30	32
>30	21

Ectopic pregnancy was more common in age group of 18 to 25 years i.e. 56 (51.37%), followed by 32 cases from 25- 30 years age group (29.35%).

Table 2 : Parity wise distribution of patients

Parity	No. of patients (n=109)
Nullipara	37
Primipara	41
≥Para 2	31

Majority of patients were primipara 41 (37.61%) whereas 37 (33.94%) patients were Nullipara.

Table 3: Risk factors identified in patients with ectopic pregnancy

Risk factor	No. of Patients (n=109)
Previous ectopic	2
Tuboplasty	4
Tubal ligation	8
Infertility	9
PID	9
H/o abortion	6
H/o pelvic surgery including LSCS	13

No risk factor found	58
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In 58 (53.21%) cases there was no risk factor found. Followed by tubal surgeries 13 (11.92%) followed by pelvic surgeries other than tubal surgeries 8 (7.33%)

Table 4: Gestational age in weeks at presentation in patients with ectopic pregnancy

Gestational age in weeks	Ruptured (n=72)	Unruptured(n=37)
4-6	18	13
6-8	39	19
8-12	15	5

53.21% (39 + 19 = 58) ectopic are detected between gestational age of 6-8 weeks.

Table 5: Site of Implantation

Site of Implantation	No. of patients (n=109)
Tubal	105
Ovarian	2
Cervical	2

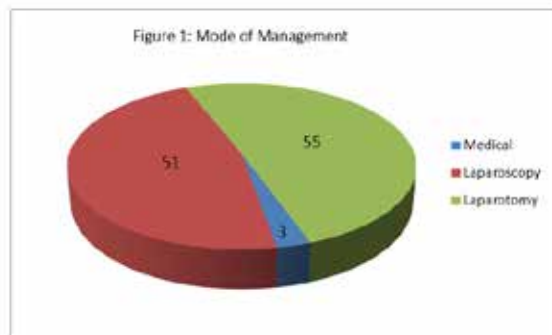
Majority 105 (96.33%) cases were tubal ectopic whereas 2 cases each (3.66%) were implanted at ovary & cervix. We did not find any heterotopic pregnancy.

Table 6: Type of management in ectopic pregnancy patients

Ruptured (n =72)		Unruptured (n=37)			
Surgery		Medical (n=9)		Surgery (n= 37- 3=34)	
Laparoscopy	Laparotomy	Cured	Need surgery	Laparoscopy	Laparotomy
24	48	3	6	27	7

72 (66.05%) cases presented as ruptured whereas 37 (33.94%) patients presented with unruptured ectopic pregnancy. Patients present late or with ruptured pregnancy so less number of patients were given medical management.

Figure 1: Mode of management in ectopic pregnancy patients



Only 3 patients were treated with medical management whereas maximum number of patients were treated surgically.

Table 7: observed complications in ectopic pregnancy patients

Complication	No. of Patients
Anaemia (Required Blood transfusion)	58
Fever	3
Blood transfusion reaction	2
ICU admission	7
Wound gape	2
Methotrexate side effect	1 (Glossitis)

Discussion -

An ectopic pregnancy is one in which blastocyst implants anywhere outside endometrial lining of uterine cavity. The true incidence of ectopic pregnancy is difficult to determine.¹ Its incidence is 1-2% of reported pregnancies. Its incidence is rising because of increasing number of sexually transmitted diseases, tubal surgeries (including tubal ligation & tubal recanalisation), delayed childbearing, use of assisted reproductive techniques, use of intrauterine contraceptive devices. It is one of the leading cause of early pregnancy related maternal deaths. Now a days due to better diagnostic tools & early diagnosis case fatality rate has decreased significantly.¹ In our hospital during study period total 9835 pregnancies were reported so incidence of ectopic pregnancy in our hospital was 1.1%. Bansal et al found very high incidence of 5%. Our findings correspond with that of Nair et al³ & Khaleeqe F⁴.

In our study most common age group was 18 -25 years. Same findings were noted in study by Bansal et al¹ & Premata et al⁵. This can be attributed to early marriage & high sexual activity in the age group.

We found that ectopic pregnancy was more common in primipara patients. Similar parity range was observed by various authors^{3,5}

Of all known risk factors only 46.79% women had identifiable risk factors.

9 women had infertility who either had endometriosis leading to pelvic adhesions or ovulation dysfunction. They took ovulation inducing drugs like Clomiphene citrate which may increase the risk of ectopic gestation, through the effects of hormone fluctuation on tubal function.^{2,3}

Most women had history of previous pelvic surgery or history of tubal surgery in past which led to pelvic adhesion & distorted anatomy. Previous ectopic pregnancy and previous tubal surgery are the strongest risk factors associated with the occurrence of ectopic pregnancy.² High rate of previous LSCS may be due to the fact that a majority of patients undergoing caesarean section had also undergone concurrent sterilization by tubectomy and the ectopic conception may be due to sterilization failure than due to caesarean section per say. Nair et al³ found very high incidence of previous CS in ectopic pregnancy (27.7%) as compared to present study.

8 (7.33%) patients underwent tubal ligation prior to ectopic pregnancy which is much less as compared to findings of Nair et al³ but they correspond to findings of Chi et al⁶, Cheng et al⁷ and DeStefano⁸ who found that the risk of tubal pregnancy after sterilization is between 5-16%.

6 (5.5%) women had history of abortion in past. Nair et al found same incidence.³ Ankum et al⁹ 1996 found that there is a slight increase of ectopic conception in women with previous abortions. This may be because newly married people with early unintended pregnancy often procure unsafe abortions by use of medical abortion pills, which subsequently predisposes them to having an ectopic gestation in future pregnancies. A previous history of induced abortion and pelvic inflammatory disease were major risk factors in our subjects. This could be related to sepsis because of unsafe abortions

We found that majority of patients presented between 6- weeks of gestation which is similar to findings of Bansal et al¹

In our study, tubal pregnancy (96.33%) was the commonest ectopic pregnancy and similar findings were noted in various studies^{1,3,5}

Ectopic pregnancy can be treated both medically as well as surgically depending on the clinical condition of the patient, site of ectopic and availability of resources. In developing countries like Nigeria, where the majority of patients present after rupture, emergency surgical interventions remain the mainstay of treatment¹⁰⁻¹¹. In our study 72 (66.05%) cases presented as ruptured whereas 37 (33.94%) patients presented with unruptured ectopic pregnancy. Signs of shock, including hypotension, tachycardia and rebound tenderness were usually present with ruptured ectopic pregnancy. Shock due to massive blood loss can be life threatening. Immediate surgery after resuscitation is both diagnostic and therapeutic in case of suspected

ectopic was done. Immediate intravenous fluid and blood or blood products, emergency Laparotomy with salpingectomy and conservation of ovaries, was done to most of patients to save life. In clinically stable patients after consent laparoscopic surgery was done. The high rate of surgery is because of the hospital being a tertiary care centre and the patients themselves present late to the hospital or are referred from other centres.

Different features of ectopic pregnancy (initial serum β -HCG level, the presence of fetal cardiac activity, the size of ectopic mass) have been taken into consideration when deciding methotrexate (MTX, folic acid antagonist) treatment success. In unruptured ectopic, 9 patients were given medical management after fulfilling criterias. Only 3 patients were treated completely with Methotrexate whereas majority needed surgical management.

There was a significant degree of morbidity associated with ectopic pregnancy in this study, as shown by the results. This may be attributed to the delay in diagnosis and seeking treatment. Anaemia was commonest complication and it was because of excessive blood loss from the rupture site. The blood was transfused in most of patients which placed additional burden on already compromised health resources. Similar complications were found in study of Bansal et al¹ & Premlata et al⁵.

We had no mortality in this study whereas Bansal et al found case fatality rate of 1.98%.¹

Conclusion -

Ectopic pregnancy causes significant morbidity to the mother and hence requires a high index of suspicion so that diagnosis can be made early. If any sexually active woman presents with acute abdomen with amenorrhea, one should always consider the possibility of ectopic pregnancy in mind as it is a disastrous condition. In the present study due to prompt diagnosis and management maternal mortality was avoided even in the referred cases.

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