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Original Research Article

Prospective study on ectopic pregnancy in a tertiary care hospital

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ABSTRACT

Background: Pregnancy of unknown location was frequently missed and increasing incidence of ectopic pregnancy needs awareness about common risk factors, mortality and morbidity. Aim of this study is identify the incidence, clinical presentation, risk factors, treatment, mortality and morbidity associated with ectopic pregnancies.

Methods: Prospective analysis of ectopic was done in Chengalpattu Government Medical College and Hospital from December 2018 to December 2019. Parameters included in this study was age, parity, gestational age, risk factors, clinical presentation, site of ectopic, need of blood transfusion, mode of management, mortality and morbidity were identified.

Results: Out of 10900 deliveries, 53 were ectopic pregnancies (0.48%). Women with age 20-25 years had highest incidence (54.71%) and with least below 20yrs and above 40 years (1.88%). Ectopic pregnancies were common in multiparous women (70.68%) than primigravida (28.30%). Common symptoms: amenorrhea (98.11%), pain abdomen (96.22%), bleeding per vaginum (47.16%) patients. Urine pregnancy test positive in 98.11%. Etiology was pelvic infection (18.88%), surgeries including LSCS and tubal surgeries (15.09%), previous dilatation and curettage was done in (15.09%) cases, previous ectopic (5.66%), intrauterine contraception usage seen in (1.88%). Right sided ectopic was more common. Site of ectopic: common in fallopian tube- ampullary region (54.71%), fimbria (22.64%), isthmus (11.32%), followed by ovarian ectopic (5.66%) cornual (3.77%), caesarean scar (1.88%) tubal abortion (1.88%). About 94.33% of ectopic was ruptured, 3/4th of these patients presented with shock at the time of presentation. Most of cases being ruptured ectopic pregnancies, unilateral salpingectomy in 75.47% and unilateral salpingoopherectomy in 3.77%. Salpingectomy with contralateral tubal ligation done in 15.09%, laparoscopic salpingectomy done in 3.77%, hysterectomy done for 1.88%. Blood transfusion was done in (96.22%), without single mortality.

Conclusions: Immediate prompt diagnosis, identifying the high-risk factors and early intervention by conservative or surgical management will help in reducing the mortality and morbidity associated with ectopic pregnancy.

Keywords: Pregnancy of unknown location, Laparoscopy, Salpingectomy, Amenorrhoea

INTRODUCTION

An ectopic pregnancy happens when a fertilized ovum implants outside the normal uterine cavity.¹ It is the most common life-threatening condition that occurs during first trimester of pregnancy, it is highly endangers women life and her future fertility.²

Recurrent tubal pathology, unproductiveness, PID, smoking, previous early terminations, oral contraception's, intrauterine contraceptive devices and prior surgeries have been involved with increasing incidence of ectopic gestation.³ Early identification reduces the incidence of tubal rupture and allows more conservative clinical prescriptions to be used.

The main aim of this study is to identify the incidence, risk factors, clinical presentation, need of blood transfusion, and to decide the mode of termination at tertiary care hospital in order to reduce the maternal mortality and morbidity.

METHODS

This is an prospective study done at Chengalpattu Medical college and Hospital from December 2018 to December 2019. All diagnosed cases of ectopic pregnancy during one year of study period in our institution were included in this study.

On admission detailed history and clinical assessment was done. Detailed history of the patient included: Presenting complaints like history of amenorrhoea, intense abdominal pain, vaginal bleeding, syncope, retching, fever, shoulder pain; detailed menstrual and obstetric history including history of past ectopic pregnancy and mode of treatment, history of dilatation and curettage, tubal procedures – tuboplasty, appendectomy or abdominal surgical procedures; history of pelvic inflammatory diseases or tuberculosis and therapy got for it; family history of tuberculosis; method of contraception - IUCD, oral contraceptive pill were enquired.

Clinical assessment included general assessment of patient-including pulse, temperature, blood pressure, assessment of anemia, urine output, and cardiovascular and respiratory frameworks; abdominal examination done for assessment of distention, guarding rigidity free fluid in peritoneal cavity, cullen's sign was done. vaginal assessment – for presence of its tendency, paleness vaginal mucosa, position of the cervix, cervical motion tenderness, size of the uterus, mobility and consistency, presence of mass, tenderness of the fornices; culdocentesis done to identify free fluid in pod.

Blood was drawn for blood grouping and Rh typing and cross matching, complete hemogram was done for all the cases, urine pregnancy test and ultrasonography were done, Serum beta hcg was done for unruptured cases.

Diagnosis confirmed by USG, followed by laparotomy, patient in severe shock preoperative resuscitation was done by using intravenous fluids, colloids blood and blood products, after getting informed consent from patients and relatives and intravenous antibiotics given to all the patients 30 minutes prior to surgery, majority of the cases are ruptured ectopic hence laparotomy followed by salpingectomy was done under spinal, general anesthesia most commonly, one patient had cesarean scar ectopic in view of uncontrolled bleeding hysterectomy done.

Post-operative follow-up given for all the patients, no wound infection reported in this study, all the patients discharged after 5th postoperative day without any complication and not even single mortality.

RESULTS

A total 53 cases of suspected ectopic gestation were observed and treated during the study period of one year at our institution. Total no. of deliveries during the same period were 10900. The incidence of ectopic pregnancy was 0.48%.

Table 1: Age of study population.

Age (in years)	Number of cases	Percentage
<20	1	1.88
20-25	29	54.71
26-0	16	30.18
31-5	6	11.32
36-40	1	1.88

Table 2: Gravidity.

	Number of cases	Percentage
Primi	15	28.30
2rd	7	13.20
3rd	26	49.05
> 3	5	9.43

Table 3: Risk factors.

Risk factors	Number of cases	Percentage
History previous ectopic	3	5.66
History previous tubectomy	8	15.09
History IUCD	1	1.88
History PID	10	18.86
History dilatation and curettage	8	15.09
None	23	4.9

The study group includes maternal age ranged from 18 years to 40 years, the youngest being 18 years and oldest was 37 years. The maximum number of ectopic gestation in the present study occurred between the age group 20 to 25 years.

Maximum number of cases in present study group belonged to the age group of 22-25 with parity 2, accounting for 26 cases where as 15 cases in the age group 21-25 were nullipara (Table 1).

When previous reproductive performance was reviewed, the maximum incidence of ectopic gestation (49.50 %) occurred among the second para. In 15 out of 53 patients (28.30%), ectopic pregnancy was the first conception (Table 2).

Table 4: Mode of presentation.

Symptoms	Number of cases	Percentage
Amenorrhoea	52	98.11
Pain abdomen	51	96.22
Bleeding	25	47.16

Table 5: Distribution of the cases by socio-economic status.

Socio-economic status	Number of cases	Percentage
Low	35	66.03
Medium	17	32.07
High	1	1.88
Total	53	100

Table 6: General physical examination.

Symptoms	Number of cases	Percentage
Pallor	47	88.67
Shock	9	16.98
None	3	5.66

Table 7: Urine pregnancy test.

Urine pregnancy test	Number of cases	Percentage
Positive	52	98.11
Negative	1	1.88

Table 8: Condition of the tube.

Condition	Number of cases	Percentage
Ruptured	50	94.3
Unruptured	2	3.77
Tubal abortion	1	1.88

Of the total 53 cases of ectopic pregnancies, there was no specific risk factor in 23 cases (43.39 %), tubectomy in 8 cases (15.09%), PID in 10 cases (18.86%), IUCD in 1 cases (1.88%), D and C in 8 cases (15.09%) and previous ectopic in 3 cases (5.66 %) (Table 3).

Table 9: Site of ectopic.

Site of ectopic	Number of cases	Percentage
Ampulla	29	54.71
Cornual	2	3.77
Isthmus	6	11.32
Fimbria	12	22.64
Ovarian	3	5.66
Cervical	0	0
C/S Scar	1	1.88
Rudimentary	0	0

Table 10: Blood transfusion.

Blood transfusion	Number of cases	Percentage
Done	51	96.22
Not Done	2	3.77
Total	53	100

Table 11: Uterine size.

Procedure done	Number of cases	Percentage
Salpingostomy	0	0
Unilateral salpingectomy	40	75.47
Unilateral salpingo ophorectomy	2	0.77
Salpingectomy with cotralateral tubal ligation	8	15.09
Lap salpingectomy	2	3.77
Hystrectomy	1	1.88

The typical triad of amenorrhoea, pain abdomen and bleeding was observed in 25 (47.16%) cases. Abdominal pain was the most significant symptom in 51 (96.22%) patients (Table 4).

According to Kuppaswamy's classification 35 patients (66.03%) belonged to low socio-economic status and 17 patients (32.07%) belonged to medium socio-economic status and one (1.88) belonged to high socio-economic status (Table 5).

Out of 53 patients, 9 (16.98%) cases were admitted in a state of shock. Among these, pallor alone was found to be present in 47 (88.67%) cases (Table 6).

Urine pregnancy test was a simple test which aided in rightly diagnosing cases of ectopic pregnancy. It was negative in 1 (1.88%) cases while positive in 52 (98.11%) case (Table 7).

In the present study, the incidence of rupture was 94.3% cases of tubal abortion was seen in 1.88 % followed by unruptured ectopic pregnancy in 3.77% (Table 8).

In 92.44% of cases ectopic pregnancy was tubal and it was more common in right side (64%). A majority of the cases were ampullary pregnancies (54.71%) cornual pregnancy was seen in 3.77% and 11.32% were isthmal pregnancies while 22.64 % were in fimbria (Table 9).

Blood transfusion was given in 51 (96.22%) cases. While 2 (3.77%) cases need no transfusion. Patients who were brought in shock were managed with both blood transfusion as well as plasma expanders (Table 10).

Salpingectomy was the commonest life saving surgical procedure performed in the studied subjects, since most of the cases were ruptured ectopic pregnancies with massive hemoperitoneum (Table 11).

In the present study unilateral salpingectomy was done in 75.47%, cases followed by unilateral salpingectomy with contralateral tubal ligation in 15.09%, unilateral salpingo ophorectomy done in 3.77%, laparoscopic salpingectomy done in 0.77%, cases, hysterectomy done for 1.88% cases in view of cesarean scar pregnancies.

DISCUSSION

Ectopic pregnancy may occur at any age from menarche to menopause, and the incidence has increased since the last 20 years, the incidence in the present study was 0.48%.

Age group

In the present study, we found that the most common age group in which ectopic was seen in the present study was 20-25 years 54.17%, similarly reported by Panchan et al reported the maximum incidence in the age group 20-30 years which was 71.6%, Gaddagi et al reported 70.2% cases belongs to 20-30 years of age, this age corresponds to the age of peak sexual activity and reproduction.^{4,5}

Parity

We observed maximum incidence of ectopic pregnancy was occurred in the multiparous women i.e 70.68% followed by primiparous 28.30%. This correlates with studies done by Panchal et al. 81.66% and Gaddagi et al. 62.2%, Poonam et al 83.6%.⁶ The highest incidence of ectopic in multigravida is probably due to previous miscarriages and infection resulting in tubal damage.

Risk factors

In the present study group history by PID was present in 18.86% of cases with ectopic pregnancy, this study is correlating with the study conducted by Bhavana 22.7% of the cases with ectopic pregnancy. Salpingitis damages the ciliary motility and mucosa and may entrap the migrating embryo leading to ectopic implantation.

Mode of presentation

In our study group abdominal pain and amenorrhoea was present in 96.22% and 98.11% cases suggestive of most common presentation with ectopic pregnancy which is corresponds with Shetty et al. 80.6% abdominal pain, 77.4% with amenorrhoea, similarly Gaddagi et al reported that the majority of the cases presented with pain abdomen 89.2% of the cases.⁵ In this study group 5.66% of women had history of previous ectopic pregnancy. Which is correlating with the studies done by Mulfti et al 26% and Shabab et al 9.5%. increased risk of ectopic in previous

ectopic pregnancy indicates that tubal pathology is always bilateral.⁸

In our study group 15% of the women with ectopic pregnancy had tubal sterilization which corresponds with the studies done by Uz mashabab et al 5% and Shreshtha, et al 5%.^{9,10} In post partum period edematous, congested, and friable tube increases the chance of incomplete tubal occlusion resulting in ectopic implantation. In this study group urine pregnancy test was positive in 98.11% of the cases which correlated with the study done by Rashmi, Gaddagi et al, 67.3%, Fgeeh et al 96%.¹¹

Site of ectopic

Commonest site for ectopic pregnancy is ampulla in present study accounting for 54.71% cases followed by Fimbria 22.64%, Ovarian and Cornual involvement seen in 5.66%, 3.77% respectively. Similar findings were noted by Gaddagi et al.⁵ Ampullary ectopic pregnancy rate 69.7% and Shetty et al study also correlates with similar finding of ampullary ectopic pregnancy rate was also 45.2%.⁷ In this study ruptured pregnancies were 94.33% and 3.77% were unruptured ectopic and 1.88% is tubal abortion.

Procedure done

In present study unilateral salpingectomy done in 75.44% cases, unilateral salpingo ophorectomy done in 3.77% cases, laparoscopic salpingectomy done in 3.77% of cases. Medical management needs extremely close follow-up and hospitalization. Surgical management is still the method of choice, in our country Laparoscopy and Medical therapy have now emerged as the widely used therapeutic modalities with great success in terms of reduced morbidity, shortens hospital stay.

As medical management needs prolonged hospital stay and close follow up surgical management is the best choice of treatment in our country.¹² Laparoscopy and medical management have now emerged as an widely used therapeutic modalities of treatment with great succession in terms of reduced morbidity, shorter hospital stay and fertility preservation.¹³ However choice of treatment depends on early identification of ectopic pregnancy and stable condition of the patients.¹⁴ Morbidity includes anemia, blood transfusion. By reducing and identifying the risk factors and identifying the patients at the earliest it is possible to improve the prognosis so far as morbidity, mortality and fertility are concerned.¹⁵

CONCLUSION

The incidence of ectopic pregnancy on the raise as was evident by the findings of the study. all the cases were diagnosed with a high index of clinical suspicion and USG findings added to the diagnosis. Though the recent trend in the management of ectopic pregnancy is the use of conservative surgical or medical line of management,

salpingectomy was the treatment modality which was used in the present study. This was because majority of the cases referred from peripheral institution in late period after diagnosis, there is no single mortality in this study.

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