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Original Research Article

A study on management, morbidity and mortality of ectopic pregnancy attending a tertiary care centre at Rajiv Gandhi Institute of Medical Sciences General Hospital, Kadapa, Andhra Pradesh, India

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ABSTRACT

Background: Ectopic pregnancy is one of the life threatening condition, and catastrophic. It is commonest acute abdominal emergency in practice. The aim of the study was to study the management modalities and their outcome, morbidity and mortality in women with ectopic pregnancy.

Methods: This prospective study conducted in the Department of Obstetrics and Gynaecology at RIMS General Hospital, Kadapa for a period of 2 years. 50 cases of ectopic pregnancy were diagnosed and recruited for the study. TVS / TAS was done to diagnose and also to ascertain the severity of the condition. Apart from routine surgical profile, β -hCG assay was also performed.

Results: Out of 50 patients, 45 (98%) patients were managed by laparotomy, 4 patients were by laparoscopically, one patient was successfully managed by medical therapy. The most common site for ectopic was found in ampulla in 32 (68%) patients, followed by isthmus 6 (12.24%), ovary 5 (10.2%), interstitial 1 (2.04%), cornua 2 (4.08%), fimbria 1 (2.04%) and infundibulum 2 (4.08%). In our study group about morbidity, 48 cases post operative period was uneventful, 2 (4%) cases were admitted in ICU.

Conclusions: Early diagnosis of ectopic pregnancy and prompt conservative surgical or medical management is needed to reduce maternal morbidity and mortality and also helps in preserving fertility.

Keywords: Ectopic pregnancy, Maternal morbidity and mortality, Salpingectomy

INTRODUCTION

Ectopic pregnancy is life threatening condition, and catastrophic and one of the commonest acute abdominal emergency in day to day practice. It has been recognized for over 400 years and continues to be an increasing affliction affecting approximately 2% of all pregnancies. It remains as an important contributor to maternal morbidity and mortality and one of the commonest causes of first trimester maternal death.¹

Women affected with ectopic pregnancy are not only exposed to complications from the ectopic pregnancy and

the related treatment procedures, but are also at a greater risk of another ectopic pregnancy, and future reproductive challenges can be distressing.

Over subsequent years, the advent of new diagnostic techniques, blood transfusions aseptic precautions, antibiotics, anaesthesia combined to save the lives of many women. Still late diagnosis and interventions are common. Now with recent advances the attention is shifted from saving lives to preserving fertility.

Many improvements were done to diagnose and treat ectopic pregnancies, to limit its impact on women's

health. The concept of “discriminatory cutoff” of β -hCG was developed in 1985 for the diagnosis and management of suspected ectopic pregnancies by medical and conservative surgical procedures to make the women eligible for future fertility.² It is defined as, the level of β -hCG at which a normal intrauterine pregnancy can be visualized by ultrasonography with sensitivity of 100%.² It is widely accepted that, above the discriminatory zone of 1,500 mIU/mL-2,500 mIU/mL, a normal intrauterine pregnancy should be visible by TVS. The absence of which implies abnormal gestation.³

Laparoscopy is the gold standard for diagnosing ectopic pregnancy and also it is possible to do conservative surgical procedures with less morbidity.^{4,5}

Methotrexate, the first successfully used drug in clinical practice for un-ruptured ectopic pregnancy which is a folic acid antagonist. In 1985 Chotiner was the first in English literature to describe a patient with tubal pregnancy treated successfully with systemic methotrexate.⁶

To study the management modalities and their outcome, morbidity and mortality in women with ectopic pregnancy.

METHODS

Source of study

This is a prospective study conducted in the Department of Obstetrics and Gynaecology, RIMS General Hospital, Kadapa for a period of 2 years (June 2014-June 2016).

50 cases of ectopic pregnancy were diagnosed and recruited for the study after taking their consent for participation.

Inclusion criteria

All the cases diagnosed as ectopic pregnancy admitted to RIMS General hospital, KADAPA, during the study period of 2 years.

Exclusion criteria

It includes all intrauterine pregnancies.

Patient analysis

- Detailed history was taken.
- General, systemic, abdominal and vaginal examinations were done.
- Informed consent was taken and data were recorded on the Proforma.
- TVS / TAS was done to diagnose and to know the severity of the condition.

- Apart from routine surgical profile, β -hCG assay, UPT, coagulation profile, renal function tests, liver function tests were done.
- Patients were treated by different treatment modalities based on their hemodynamic stability.
- The diagnosis of ectopic pregnancy was confirmed by histo-pathological examination of the specimen after surgery.
- The morbidity and mortality associated with ectopic pregnancy was assessed.

Serum β -hCG assay

Modern assays for the β -subunit of hCG are highly sensitive and specific, with detection levels below 5 mIU/mL.

Ultrasound

Transabdominal USG

In transabdominal USG, intrauterine gestational sac should appear when the serum hCG levels are 6000 - 6500 mIU/mL. The absence of an apparent intrauterine sac with hCG levels at or above 6000 mIU/mL suggests an abnormal pregnancy, either ectopic or spontaneous abortion.

Transvaginal USG

Transvaginal USG is superior to transabdominal USG in diagnosing ectopic pregnancy. A 3-5 MHz transvaginal transducer allows for a deeper penetration of the pelvis than transducers of higher frequency, whereas a 7.5 MHz transvaginal transducer provides better near-resolution at the cost of shallower penetration.

Statistical analysis

- Data was collected and tabulated as shown in results.
- Statistical analysis was done using Microsoft Excel.
- Frequency and percentage of each parameter was calculated and analysed.

RESULTS

In the present study 50 patients with ectopic pregnancy were recruited, management and outcome were analysed. In the present study group of 50 patients, 45 (98%) patients were managed by laparotomy, 4 patients were by laparoscopically and one patient was successfully managed by medical therapy. In the present study group, one patient with unruptured ectopic was planned for medical therapy. She was treated with single dose therapy.

Operative findings

In our study group, 25 patients had less than 1000 ml of hemoperitoneum, 20 patients had hemoperitoneum of

1000-2000 ml and 4 patients had >2000 ml of hemoperitoneum intra-operatively.

Regarding side of ectopic, 49 patients were underwent surgical treatment of this 51.02% (25) patients had ectopic pregnancy on right side and 46.8% (24) had ectopic pregnancy on left side.

Table 1: Ectopic pregnancy-management.

Management	Number (total of 50 cases)	%
Laparotomy	45	90%
Laparoscopy	4	8%
Medical	1	2%

In the present study group, 49 patients were successfully managed by surgical management. 1 patient with tubal pregnancy was successfully treated by medical therapy.

The most common site for ectopic was found in ampulla in 32 (68%) patients, followed by isthmus 6 (12.24%), ovary 5 (10.2%), interstitial 1 (2.04%), cornua 2 (4.08%), fimbria 1 (2.04%), infundibulum 2 (4.08%).

Out of 49 patients, 45 patients (91.83%) presented with ruptured ectopic pregnancy, 2 (4.08%) had unruptured ectopic and 2 patients (4.08%) had tubal abortion at the time of surgery.

In this study group, 38 patients were managed by salpingectomy (77.55%), followed by salpingo-oophorectomy in 8 (16.32%) patients. Oophorectomy was done in 2 (4.08%). Fimbriectomy was done in one (2.04%) patient (Table 2).

Table 2: Procedure done for ectopic pregnancy.

Procedure	n/t	%
Salpingectomy	38/49	77.55
Salpingo-oophorectomy	8/49	16.32
Oophorectomy	2/49	4.08
Fimbriectomy	1/49	2.04

Out of 49 patients, 4 patients were treated laparoscopically by salpingectomy in 3 patients, salpingo-oophorectomy in one patient.

In our study, out of 50 patients, 49 (98%) patients required blood transfusions and one (2%) women did not require any transfusion.

Morbidity

In our study group about morbidity, 48 cases post operative period was uneventful, 2 (4%) cases were admitted in ICU. She was managed successfully by single dose MTX. Her β -hCG level came to pre-pregnancy level (<5mIU/mL) and USG showed complete resolution of ectopic by 2nd-4th week during follow up.

DISCUSSION

In the present study group, medical therapy was given in one (2%) patient.⁷ Ectopic pregnancies with sac measuring less than 3.5 cms, absence of fetal cardiac activity, and those with hCG levels lesser than 3,000 mIU/mL were taken as inclusion criteria for medical therapy.



Figure 1: Ruptured cornual pregnancy.



Figure 2: Ovarian pregnancy.

In the present study group, hemoperitoneum was present in 97.95% of the cases which is close to the study done by Shrestha et al (87.5%).⁸ Massive hemoperitoneum of about 2000-2500 ml was present in 4 cases.

On laparotomy ectopic pregnancy was present on right side in 51.02% of the patients which correlates with the studies done by Kopani et al (56.2%) and Etuknwa Basseyy Tom et al (51.4%).^{9,10} The right sided preponderance was due to sub-clinical appendicitis.

In the present study group, 4 (8%) patients underwent laparoscopy which is minimally invasive and is the gold standard for diagnosing ectopic pregnancy.

Ectopic pregnancy in ampulla was present in 71.42% of the cases which correlates with the study done by Poonam et al (62.6%).¹¹ Most of the studies show

ampulla as the common site for ectopic pregnancy. This may be because fertilization occurs in the ampullary region. Ampulla has numerous plica and these plica agglutinate due to PID leading to entrapment of zygote. Isthmic pregnancy was seen in 12.24% of the cases, interstitial pregnancy in 2.02%. Ovarian pregnancy was diagnosed in 10.20% of the cases.

In the present study, 91.83% of the cases had ruptured ectopic and is correlating with the study done by Yakasai et al (86.14%).¹⁵ 4.08% of the patients had un-ruptured ectopic. Tubal abortion was noted in 4.08% cases.

In the present study group, depending on hemodynamic stability and patients wish to retain fertility, various procedures were done by laparotomy and laparoscopically. Salpingectomy was done in 77.55% of the patients which is close to the study done by Poonam et al (69.3%) as most of the cases were with ruptured ectopic.¹¹ Salpingo-oophorectomy, fimbriectomy was done in 10.24%, 4.08% respectively which correlates with the study done by Rashmi A Gaddagi et al.¹⁵

In the present study group, post-operative period was uneven full in 95.91% of cases, 4.08% were admitted to MICU due to complications of acute blood loss, acute renal failure and recovered well. 98% of the patients received blood transfusions for correcting blood loss. No case of mortality was registered during the study period.

CONCLUSION

Ectopic pregnancy is the commonest cause of pregnancy related deaths in the first trimester. Worldwide there is an increased incidence over the past three decades accounting for 1.8-2% of all pregnancies.

High index of suspicion is necessary for early diagnosis before its rupture as it gives an opportunity for conservative treatment. Early diagnosis and prompt conservative surgical or medical management not only reduces maternal morbidity and mortality but also helps in preserving fertility.

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