

Laparoscopic Management of Ectopic Pregnancy: Case Series

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ABSTRACT

The incidence of ectopic pregnancy is increasing due to the several risk factors and advancement in techniques for early diagnosis. Ectopic pregnancy present with wide range of symptoms or may remain asymptomatic with features of normal pregnancy. In this study we reported 34 cases of ectopic pregnancy in different sub-sites such as fallopian tube, ovary and rudimentary horn. Patients with tubal ectopic pregnancy had clinical indications like tubal ruptures along with different grades of hemoperitoneum. All the patients with ectopic pregnancy were managed with laparoscopy without any morbidity.

Keywords: Ectopic Pregnancy, Hemoperitoneum, Laparoscopy.

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INTRODUCTION

Ectopic pregnancy (EP) is defined as conceptus implanting outside the endometrial lining of uterine cavity. EP accounts for 2% of overall pregnancies and in the developing countries the incidence is much higher.¹

If early diagnosis is missed it will develop into a potentially fatal emergency condition and is the leading cause of maternal mortality during first trimester of the pregnancy. The major risk factors for ectopic pregnancy are damage in the fallopian tubes because of pelvic infections, pelvic surgery, or previous EP, smoking and *in vitro* fertilization (IVF).²

The most common implantation site of fertilized egg is within the fallopian tube (95.5%), which carries eggs from the ovaries to the uterus and the type of EP that occurs in fallopian tube, is called a tubal ectopic pregnancy. Rarely EP can also occur in ovarian (3.2%), and abdominal (1.3%) sites.³

These rare non-tubal ectopic pregnancies are associated with significantly higher mortality and morbidity than tubal ones because they are often difficult to diagnose and tend to present late with sudden rupture.⁴ The clinical presentation of EP varies from time and varies between patients. The most common symptoms of EP are pelvic or abdominal pain, vaginal bleeding with or without clots and missed or abnormal period.⁵

The initial diagnosis for suspected case is made using transvaginal ultrasound. However, in 8-31% of cases the initial ultrasound examination fails and for the women with inconclusive diagnosis secondary test such as serum human

chorionic gonadotrophin (HCG) and progesterone measurement will be used to aid diagnosis.^{4,6} The standard treatment options for EP includes methotrexate therapy, open or laparoscopic surgery or expectant management. The choice of management options depends on the symptoms, the HCG level, the ultrasound findings, the patient's general health and preferences, and the facilities for follow-up. Women who are haemodynamically unstable or experiencing life-threatening hemorrhage, immediate surgical treatment is suggested.⁷ Here, in this study we aim to report our experience with 34 cases of EP diagnosed with different sub-sites and conditions and treated by laparoscopic salpingectomy at our hospital.

MATERIALS AND METHODS

This study includes retrospective analysis of 34 cases aged 20-38 years who underwent laparoscopy for tubal ectopic pregnancy at Meenakshi Medical College Hospital and Research Institute, Kanchipuram, Chennai from January 2018 to April 2019. After the Institutional Review Board approval, the informed consent was obtained from all patients. The patients had different grades of hemoperitoneum. Partial salpingectomy has been performed laparoscopically. Two patients had hypotension prior to surgery and had to be stabilized and taken up for laparoscopy, but could be managed laparoscopically inspite of huge blood loss (>2litres). Four patients required blood transfusion. All patients did well postoperatively without any morbidity.



Figure 1: Ruptured tubal ectopic pregnancy with gross hemoperitoneum

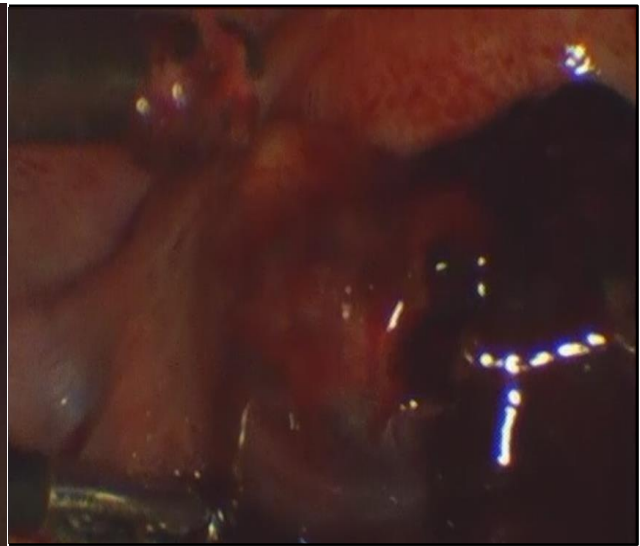


Figure 2: Ruptured tubal ectopic pregnancy with mild hemoperitoneum



Figure 3: Tubal ectopic pregnancy with 9 weeks foetus



Figure 4: Cornual ectopic pregnancy of two patients

RESULTS AND DISCUSSION

The present retrospective study includes 34 patients with ectopic pregnancy (EP). Despite of different sub-sites and clinical conditions all the patients were successfully managed by laparoscopic surgery without any morbidity. Management of EP has evolved over the years and laparoscopy is becoming the gold standard for EP. After the first successful laparotomy by Robert Lawson in April 1883, laparotomy remained the standard of care for EP.⁸ After which laparoscopy with salpingostomy or salpingectomy has become the standard of care for EP where medical management is not possible. In our study out of 34 cases, 27 cases had ruptured tubal ectopic pregnancy with gross hemoperitoneum (> 1 liter) (12 cases) (Figure1) and mild to moderate hemoperitoneum (< 1 liter) (15 cases) (Figure2). The presence of hemoperitoneum in tubal ectopic pregnancy was diagnosed by ultrasound.^{9,10} One patient failed laparoscopic treatment and had tubal pregnancy with 9-week foetus (Figure 3). Two patients were diagnosed with unruptured tubal ectopic pregnancy. Two patients were presented with cornual ectopic pregnancy which is a rare form of EP where implantation occurs in the most proximal part of the fallopian tube (Figure 4). Cornual pregnancy comprises of 2-4% of overall tubal pregnancy and has

higher mortality rate of 2-2.5% compared to the overall 0.14% mortality rate for EP.¹¹ One patient had tubal ectopic pregnancy in the tube of rudimentary non-communicating horn. Diagnosis of ectopic pregnancy in rudimentary horn is difficult and is associated with life threatening complications, such as uterine rupture with a 50%-80% risk during second trimester of pregnancy.¹² One patient had ovarian ectopic pregnancy which accounts for 0.5-3% of EP and are difficult to diagnose pre- and intra-operatively.¹³ Two patients had recurrent ectopic in the same conserved previous tubal ectopic side. All these patients with different clinical conditions underwent laparoscopic management which is developed as a highly efficient surgical method.^{14,15} Multiple studies across the world have demonstrated the efficacy and safety of laparoscopy for ectopic pregnancy. With advances in laparoscopy, the contraindications for laparoscopy are becoming less.^{16,17} As in the present study with good intensive care unit back up even patients presenting with haemodynamic instability can be stabilized and taken up for laparoscopy. This in future will minimize the need of laparotomy for ectopic pregnancy giving the patients advantages of faster post-operative recovery with lesser pain of laparoscopy.

REFERENCES

1. Tahmina S, Daniel M, Solomon P. Clinical Analysis of Ectopic Pregnancies in a Tertiary Care Centre in Southern India: A Six-Year Retrospective Study. *J Clin Diagn Res*. 2016; 10: QC13-QC6. doi: 10.7860/JCDR/2016/21925.8718.
2. Shaw JL, Dey SK, Critchley HO, Horne AW. Current knowledge of the aetiology of human tubal ectopic pregnancy. *Hum Reprod Update*. 2010; 16: 432-44. doi: 10.1093/humupd/dmp057.
3. Varma R, Gupta J. Tubal ectopic pregnancy. *BMJ Clin Evid*. 2012; 2012. doi:
4. Jurkovic D, Wilkinson H. Diagnosis and management of ectopic pregnancy. *BMJ*. 2011; 342: d3397. doi: 10.1136/bmj.d3397.
5. Majhi AK, Roy N, Karmakar KS, Banerjee PK. Ectopic pregnancy--an analysis of 180 cases. *J Indian Med Assoc*. 2007; 105: 308, 10-12.
6. Kathalia SK, Arora D, Sandhu N, Sinha P. Ectopic pregnancy: Review of 80 cases. *Med J Armed Forces India*. 2018; 74: 172-6. doi: 10.1016/j.mjafi.2016.11.004.
7. Barash JH, Buchanan EM, Hillson C. Diagnosis and management of ectopic pregnancy. *Am Fam Physician*. 2014; 90: 34-40.
8. Marion LLM, George Rodney. Ectopic Pregnancy: History, Incidence, Epidemiology, and Risk Factors. *Clinical Obstetrics and Gynecology*. doi: 10.1097/GRF.0b013e3182516d7b.
9. Bignardi T, Condous G. Does tubal ectopic pregnancy with hemoperitoneum always require surgery? *Ultrasound Obstet Gynecol*. 2009; 33: 711-5. doi: 10.1002/uog.6384.
10. Cohen A, Almog B, Satel A, Lessing JB, Tsafir Z, Levin I. Laparoscopy versus laparotomy in the management of ectopic pregnancy with massive hemoperitoneum. *Int J Gynaecol Obstet*. 2013; 123: 139- 41. doi: 10.1016/j.ijgo.2013.05.014.
11. Rathod S, Samal SK. A true cornual pregnancy with placenta percreta resulting in a viable fetus. *Int J Appl Basic Med Res*. 2015; 5: 203-5. doi: 10.4103/2229-516X.165364.
12. Thakur S, Sood A, Sharma C. Ruptured noncommunicating rudimentary horn pregnancy at 19 weeks with previous cesarean delivery: a case report. *Case Rep Obstet Gynecol*. 2012; 2012: 308476. doi: 10.1155/2012/308476.
13. Choi HJ, Im KS, Jung HJ, Lim KT, Mok JE, Kwon YS. Clinical analysis of ovarian pregnancy: a report of 49 cases. *Eur J Obstet Gynecol Reprod Biol*. 2011; 158: 87-9. doi: 10.1016/j.ejogrb.2011.04.015.
14. Ng S, Hamontri S, Chua I, Chern B, Siow A. Laparoscopic management of 53 cases of cornual ectopic pregnancy. *Fertil Steril*. 2009; 92: 448-52. doi: 10.1016/j.fertnstert.2008.08.072.
15. Sonmezer M, Taskin S, Atabekoglu C, Gungor M, Unlu C. Laparoscopic management of rudimentary uterine horn pregnancy: case report and literature review. *JSLs*. 2006; 10: 396-9. doi:
16. Duggal BS, Tarneja P, Sharma RK, Rath SK, Wadhwa RD. Laparoscopic Management of Ectopic Pregnancies. *Med J Armed Forces India*. 2004; 60: 220-3. doi: 10.1016/S0377-1237(04)80049-2.
17. Kwon H, Lee M, Park HS, Yoon SH, Lee CH, Roh JW. Laparoscopic management is feasible for nonobstetric surgical disease in all trimesters of pregnancy. *Surg Endosc*. 2018; 32: 2643-9. doi: 10.1007/s00464-018-6189-x.

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