



## An Observational Study of Laparoscopic Management of Ruptured Ectopic Pregnancy. A Single Centre Analysis

### KEYWORDS

Ectopic gestation, laparoscopy, haemoperitonium, harmonic scalpel,

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**ABSTRACT** **OBJECTIVE :** To evaluate the advantage of the outcome of laparoscopic management of Ectopic pregnancy with respect to ease of access and vision, intraoperative management, post operative recovery and complications. The study was conducted at a single laparoscopic surgical centre.

**DESIGN:** The study conducted was retrospective (Canadian Task Force Classification II-I)

**PATIENTS:** The present study included 66 women who presented with ruptured ectopic pregnancy and underwent Laparoscopic management of their ruptured ectopic pregnancy from July 2006 till July 2016 over an 11 year period.

**Measurements and main results:** All the surgeries were performed by the same surgical team using the same surgical technique that is laparoscopic Salpingo Oophorectomy. The medical records were reviewed, and data were collected with respect to age, site, previous surgery, intra-operative findings, operative time and post operative complications. Patient average age was 28.4 yrs. Nineteen patients had undergone previous surgery. The average operative time was 110 minutes. Twenty patients had other operative findings other than the ruptured ectopic gestation. There was one conversion to open surgery and nil major complications. The average hospital stay was 3 days.

**CONCLUSION :** In our experience of 66 patients with ruptured ectopic pregnancy, Laparoscopic Salpingo-oophorectomy was performed successfully in 65 patients. All had a speedy and smooth recovery and were discharged from the hospital in 3 days. Thus laparoscopic management of ruptured ectopic pregnancy can be performed safely and effectively in most cases of this emergency condition.

### INTRODUCTION

Ruptured ectopic gestation is a condition that arises due to implantation of the fertilized ovum outside the endometrial cavity with eventual rupture. It is a serious emergency that merits immediate diagnosis and expeditious surgical management in order to prevent a catastrophe. Surgery remains the first and only treatment option when rupture causes intraperitoneal haemorrhage. Now a days laparoscopic management of such an emergency has evolved as an effective alternative to open surgery. With experience and suitable instrumentation even difficult cases can be managed safely. Previous abdominal surgeries result in dense and extensive adhesions and dealing with a ruptured gestation with a massive haemoperitonium in such circumstances, challenges the limits of surgical skill.

The aim of this study is to evaluate the advantages of the outcome of laparoscopic management of Ectopic pregnancy with respect to ease of access and vision, intra operative management, post operative recovery and complications.

### Materials and Methods

This is a retrospective study of 66 women who presented with ruptured ectopic pregnancy and underwent Laparoscopic management of their ruptured ectopic pregnancy by laparoscopic Salpingo- oophorectomy between July 2006 and July 2016 over an 11 year period, performed by a single surgical team in a single laparoscopic surgical centre. The clinical records of all the cases were reviewed, and data were collected with respect to age, site, previous surgery, intraoperative findings, and operative time and post operative complications.

### Surgical Technique:

A total of 66 patients presented to our hospital with se-

vere pain abdomen of 24 – 48 hours duration and features of shock with a prior diagnosis of (velocit positive and Ul-trasonography) ruptured ectopic gestation. Clinically all had features of shock with extreme pallor, tachycardia, and a low blood pressure less than 90 systolic and 60 diastolic. They were immediately resuscitated with colloid infusion and 2 units of whole and planned for surgery after each was properly counselled and informed consent obtained. We decided for a laparoscopic approach with a prompt conversion if the need arose in all the cases. On entering we could not visualize the pelvis properly due to a massive amount of blood in the peritoneal cavity. In almost all cases, blood was sucked out using a 10 mm. suction cannula till we located the site of bleeding, mostly over the fallopian tubes with the extrusion of the product of conception. An expeditious salpingectomy was performed with the help of Harmonic scalpel which resulted in the cessation of the bleed. Thorough toileting by repeated suction and saline irrigation was done and the procedures completed. The average duration was 110 minutes. The patients were given one unit of whole blood post operatively and discharged after 3 days. Only in one case of a recurrent ectopic pregnancy where there was a left corneal stump pregnancy, the bleeding could not be arrested and the procedure completed after conversion to an open laparotomy.

### Results

A total of 66 patients under went laparoscopic salpingo-oophorectomy over a 10 year period in Usthi Hospital and Research Centre, Bhubaneswar Odisha from July 2006 to July 2016. Year wise distribution of all the cases is as given in [fig1]. Mean age of the patients was 28.4 years( minimum 18 yrs. and maximum 39 yrs.) with age wise frequen-

cy as shown in [Fig.2] It is observed that the maximum incidence of cases in our series was from 21 to 35 years. In all, 19 cases had a history of previous surgery which has a strong association with ectopic gestation. [Fig.3]. The implantation site frequency of the ectopic gestation sac are as given in [Fig.4]. This is in accordance with the frequency given in the literature. Twenty three of the patients in the series had other operative findings like omental adhesions(14), chronic appendicitis(6) and ovarian cysts (3) which were successfully dealt with laparoscopically by adhesiolysis, appendicectomy and cystectomy. The average operative time was 110 minutes which compares well with that of open surgery. All the patients had a smooth recovery and were discharged after 3 days of hospital stay

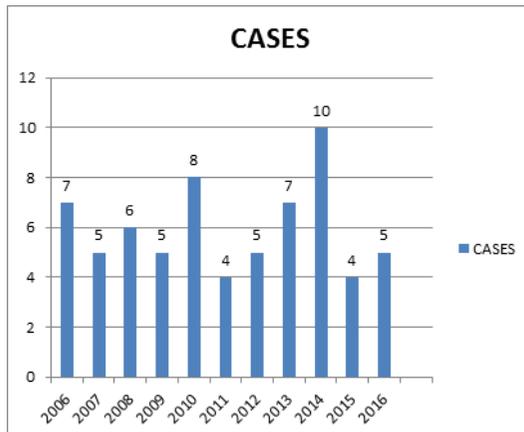


Fig. 1

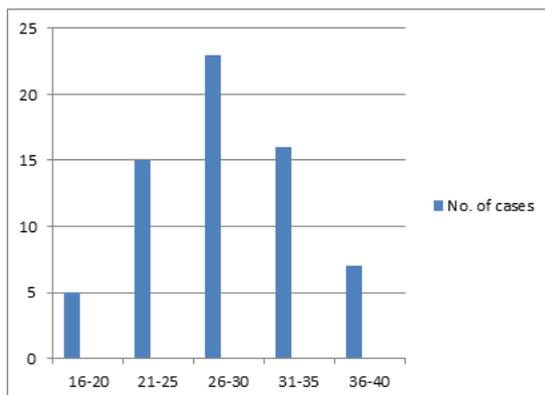


Fig.2

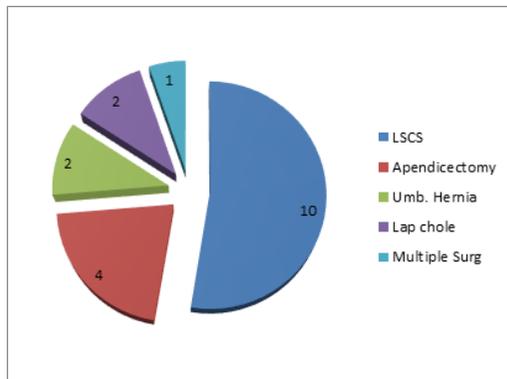


Fig.3

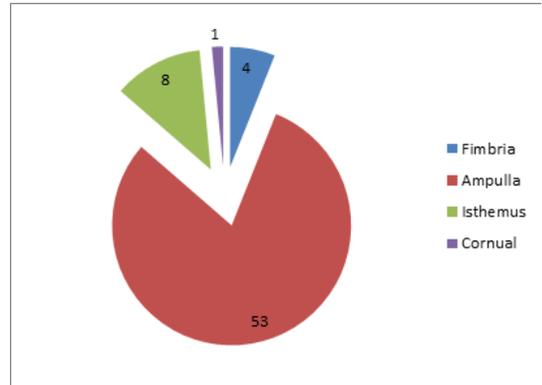


Fig 4.

**DISCUSSION**

Ruptured ectopic gestation necessitates prompt diagnosis and immediate surgery in order to save the life of the patient. It involves an emergency lapotomy and control of the bleeding site. Among the known risk factors [1]. 19 of our patients had a history of previous abdominal surgery which has a strong association with ectopic gestation. The technical advancement in the field of minimal access surgery has greatly enhanced the possibility of both diagnosing and treating Ectopic pregnancy effectively [4]. Since the first excision of a tubal pregnancy through a laparoscope by Shapiro & Adler [2], it has been used with Increasing frequency. Over the years,laparoscopy has evolved as an effective alternative to open surgery. Apart from the usual advantages of avoiding a long, disfiguring and painful incision, less morbidity, less hospital stay, laparoscopy offers some Unique advantages in this condition [3]. The ease of access and confirmation of diagnosis, an all quadrant, magnified and well lighted view of the abdominal cavity and the pinpoint location of the bleeding site facilitates greatly in effective and quick surgical intervention [5] The availability of a safe and effective energy source like the Harmonic scalpel makes even difficult and late cases dwelt easily [6].The other unique advantage of laparoscopic management of this condition is that other intra abdominal pathology can be diagnosed and dealt with at the same time thus sparing the patient of another surgery[7]. In our centre laparoscopy has totally replaced open surgery in the management of ruptured ectopic gestation. We have so far managed sixty six cases of ruptured ectopic gestation laparoscopically withone conversion in our centre.

**Conclusion**

Laparoscopic treatment (salpingostomy or salpingectomy) of ectopic pregnancy offers major benefits superior to laparotomy in terms of less blood loss, less need for blood transfusion, less need for postoperative analgesia and a shorter duration of hospital stay. With suitable experience, better equipment even late and complicated cases can be better dwelt with without resorting to laparotomy

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