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Case Report

Laparoscopic Management of Ruptured Interstitial Ectopic Pregnancy After Salpingectomy- A Rare Case Review

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Received: September 23, 2022; **Published:** October 18, 2022

Abstract

Ectopic pregnancy is defined as implantation of fertilised egg outside the uterine cavity. Tubal pregnancy is most common type of ectopic pregnancy and ampullary portion of fallopian tube accounts for 80% of all tubal ectopic pregnancy. Interstitial ectopic pregnancy accounts for 1 to 6% of all ectopic pregnancies and 2 to 4% of tubal ectopic gestation [1].

Keywords: *Laparoscopic Management; Ruptured Interstitial Ectopic Pregnancy; Salpingectomy*

Introduction

Interstitial pregnancy refers to an ectopic pregnancy that is implanted in interstitial portion of fallopian tube which is defined as a tubal segment traversing the muscular wall of uterus [2].

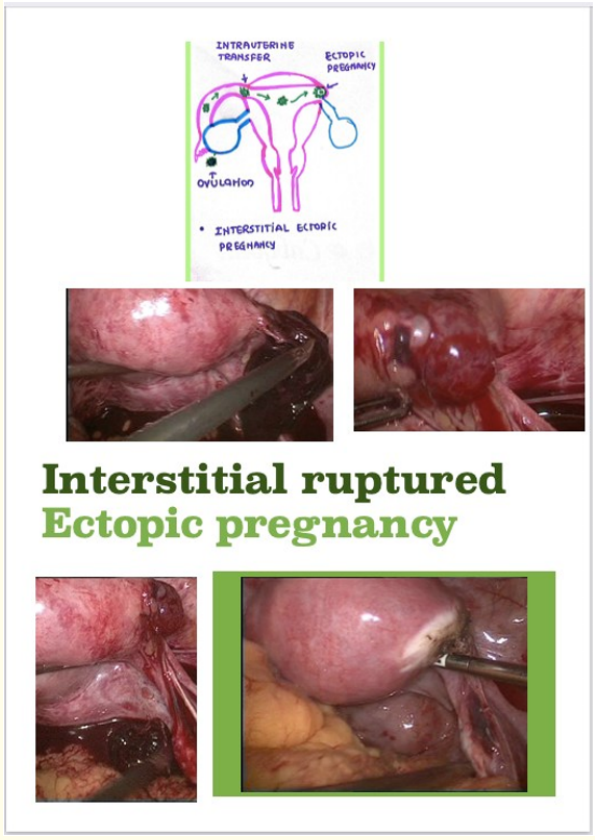
The risk factors for interstitial ectopic pregnancy are:

- Past pelvic inflammatory disease
- Previous pelvic surgery
- Uterine anomalies like bicornuate uterus
- Salpingitis isthmica nodosa
- Ipsilateral salpingectomy
- Assisted reproductive technologies.

Interstitial ectopic pregnancy after salpingectomy is a rare event with potential serious consequences. Following ovulation from one of the ovaries the oocyte have been normally fertilised in ipsilateral tube before moving to contralateral remnant tube via intra-uterine migration.

Interstitial ectopic pregnancy is to be differentiated from corneal pregnancy. In corneal pregnancy, oocyte develop in upper and side part of uterus and common in double uterus, bicornuate uterus and unicornuate uterus.

The pregnancy occurring in the remnant tube after salpingectomy is a Avery rare event and it is been postulated that after ovulation from one every the oocyte have been normally fertilised in normal tube before moving to contralateral intramural portion of fallopian tube via intrauterine migration and stuck there because of tortuous course of intramural portion of fallopian tube [3].



So, with this diagram it can be said that there always remains a chance of ectopic pregnancy even on the side where salpingectomy was done previously and we had come across such a rare case at our laparoscopy centre.

Case Report

25 year female with previous history of right salpingectomy done 2 years back for ruptured right tubal ectopic pregnancy presented to hospital with complaints of abdominal pain since 1 month, pain of mild to moderate intensity and intermittent for which she was taking over the counter pain killers and she had 1 months of amenorrhea with Erin pregnancy test kit showing positive result.

Past history she underwent cesarian section 4 years back.

On admission her vitals were stable and she was conscious well oriented in in time place and person.

On per abdominal examination there was to obvious surging and rigidity but minimal suprapubic tenderness on palpation.

On per speculum examination there was no bleeding.

Bimanual examination reveals minimal cervix motion tenderness.

Ultrasound examination showed a well defined G sac with yolk sac measuring 9.9 mm correspond to 5.6 weeks of pregnancy in visualised portion of right fallopian tube or adnexa with possibility of intramural or isthmus tubal ectopic pregnancy. Mild free fluid noted in pouch of Douglas. Left ovarian complex cyst ~22 x 16 mm.

Considering the clinical history, examination and pregnancy positive status and sonography findings decision of diagnostic and SOS operative laparoscopy was taken and patient posted for laparoscopy in emergency and laparoscopic findings established the diagnosis of ruptured right interstitial ectopic pregnancy with hemoperitoneum of approximately 300cc blood noted. After suctioning hemoperitoneum. After suctioning the blood from POD and cleaning the products of conception seen attached at the tubal end were removed and decision was taken to do Bipolar coagulation of the bleeding tubal end and hemostasis achieved cheated with normal blood pressure and at decreased intraabdominal pressure.

Discussion

Interstitial ectopic pregnancy is rarest form of ectopic pregnancy and only few cases are reported in literature where there is spontaneous interstitial ectopic pregnancy after ipsilateral salpingectomy.

The risk factors for interstitial ectopic pregnancy are same as any ectopic pregnancy as pelvic inflammatory disease, assisted reproductive technology, previous pelvic surgery and uterine anomalies.

As we noted in this case it is a case of spontaneous ectopic pregnancy in remnant of previous salpingectomy side tube or interstitial portion of fallopian tube. The reflux of fertilised embryo from uterine cavity to intramural portion of fallopian tube is considered as a causative factor for such kind of pregnancy and also the tortuous course of intramural portion can lead to such kind of ectopic pregnancy.

For avoiding such kind of ectopic pregnancies and its complications some surgeons advised wedge resection of intramural portion of fallopian tube at the time of salpingectomy but that we do not practice at our centre as it may increase the chances of uterine rupture during subsequent pregnancies.

As the blood supply to intramural portion of fallopian tube comes from both uterine and ovarian arteries the rupture of this portion can cause significant hemoperitoneum and has higher chance of maternal morbidity and mortality than other kind of ectopic pregnancy.

In early stages where there is no hemoperitoneum local or systemic administration of methotrexate of is found to be effective in approximately 83% of patients [4] some studies suggested direct corneal methotrexate administration has higher success rate [5].

Primary treatment of ruptured intramural portion is surgical. Traditionally it can be by laparotomy or by laparoscopic approach and cornual excision, cornual wedge resection, cornuostomy, mini- cornual excision salpingectomy, placing vicryl loop on uterine cornu and salpingostomy are some of the techniques described in literature for management of intramural or cornual ectopic pregnancies.

At our center we operated on 2 such cases of intramural ectopic pregnancies and bipolar coagulation of bleeding portion was used as a treatment modality to stop the bleeding, these patients were followed up closely for 7 days and then at monthly interval for at least 6

months and till now no complication was noted but long term studies are required regarding the fertility outcome of such patients and these patients should be derived by caesarean section at 38 weeks.

Interstitial ectopic pregnancy represents a specific challenge in the diagnosis and management as it is associated with higher morbidity and mortality. Frequently used surgical treatment options includes laparoscopic cordotomy or cornuostomy.

Maternal mortality rate in interstitial ectopic pregnancy is 2 - 25% which is 7 times higher than ectopic pregnancies overall [6].

The ultrasonographic criteria for diagnosing interstitial ectopic pregnancy are:

- Empty uterine cavity
- Gestational sac located eccentrically and 1 cm from the most lateral edge of uterine cavity
- 5 mm myometrial layer surrounding G sac [7].

Now a days laparotomy is being replaced by laparoscopy because of its advantages of reduced hospital stay, faster recovery, and lower health costs. Also, cornuostomy is preferred over cornual wedge resection as in cornuostomy it only removes interstitial pregnancy while preserving uterine myometrium and cornuostomy has lesser tubal damage than cornual wedge resection. Cornual wedge resection is associated with increased uterine rupture during subsequent pregnancy due to myometrial loss and excess scarring.

Due to risk of uterine rupture after interstitial pregnancy any future pregnancy should be monitored carefully and an elective cesarian section is to be done at term [8].

Conclusion

At present there is no sufficient data available regarding the ideal treatment method for interstitial ectopic pregnancy. The potential benefit and risks of different techniques should be discussed with patients and relatives and an individualised decision should be taken considering surgeons expertise, patients clinical features and patients future fertility desires and should finally chose the option which is acceptable for both.

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Volume 11 Issue 11 November 2022