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Case Report

Case report on interstitial pregnancy in a post adenomyomectomy woman

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ABSTRACT

Intramural pregnancy is a rare form of ectopic pregnancy with early diagnosis essential for prevention of severe hemorrhage and uterine rupture. We report a rare case of an interstitial ectopic pregnancy at 09 weeks gestation in a woman 3 year post laparoscopic adenomyomectomy. 3D transvaginal ultrasound was utilized as diagnostic aids in this case. Due to the size and location of the gestational sac, and early diagnosis made this case undergo conservative surgical management saving her uterus for future pregnancy.

Keywords: Interstitial ectopic pregnancy, Intramural pregnancy, 3D transvaginal ultrasound, Ectopic pregnancy, Laparoscopic management of ectopic pregnancy, Fertility preserving treatment of ectopic pregnancy

INTRODUCTION

Interstitial ectopic pregnancy, also known as intramural ectopic pregnancy, is an important type of ectopic pregnancy which occurs in the proximal portion of the fallopian tube that lies within the muscle wall of the uterus. This accounts for 2-4% of all ectopic pregnancy, however cases are increasing with rise in assisted reproductive therapy.¹

Objective

Objective of the study was to evaluate role of 3D transvaginal sonography in early diagnosis and management of interstitial ectopic pregnancy.

CASE REPORT

A 28-year-old female, PRIMIGRA, came to OPD with complaints of on and off spotting per vagina. Her last menstrual period date was 02-06-2023. Her urinary

pregnancy test was positive. She conceived spontaneously and her active married life was 5 years.

Her past medical history included nothing significant. As per the past surgical history, adenomyomectomy was done in 2020. On examination of vitals, blood pressure- 116/72 mmHg, pulse-80 bpm, chest-clear, cardiovascular system- S1, S2 heard, no murmur, per abdomen-soft, non-tender, per speculum-no bleeding per vagina, and weight- 56 kg. Blood parameters included: haemoglobin- 11.8 g%, platelet count- 1.92 l/mm³, liver function test-within normal limit, kidney function test-within normal limit, and blood group-O positive.

On 2-D transvaginal ultrasonography, gestational sac was found to be eccentrically located at the right cornual region with around 2 mm myometrial thickening, suggestive of right interstitial ectopic pregnancy. On 3-D transvaginal ultrasonography, showed highly suspicious findings with gestational sac seen located at the right side of the uterus at the cornual site; suggesting right interstitial ectopic pregnancy.

Management

After proper counselling and explaining the high risk of the interstitial ectopic pregnancy and the risk involved with management, patient was planned for medical management with chemotherapy and was given injection Methotrexate 1 mg/kg, 50 mg. Her β -hcg was 4220.5 mIU/ml on day 0. Her β -hcg value on 07 August 2023 day 4 was 9557.4 mIU/ml. Due to failure of medical management, surgical management was planned with laparoscopic removal of ectopic pregnancy was done on 09 August 2023.

Steps

Informed consent was taken. Under general anaesthesia, patient placed in lithotomy position with head being in 30-degree low position.

On hysteroscopy, uterine cavity was normal and bilateral ostia appear normal. On laparoscopy, pneumoperitoneum is created with a Veress needle after confirming placement of Veress in peritoneal cavity. Liver dullness disappeared. About 3 litres gas was insufflated at 18 mmHg pressure. Four ports are made for proper visualisation and handling of tissues. Primary port was made after insertion of 10 mm trocar and cannula. Trocar is removed and 30 degree laparoscope inserted. 360 degree inspection of abdominal cavity was done. Three secondary port of each 5 mm were made under vision. Second trocar was inserted 2 cm above left anterior superior iliac spine. Third trocar was inserted 3 cm away from umbilicus making a curved line from anterior superior iliac spine and umbilicus. Fourth port was made opposite and 1 cm above second port. Adhesions was present all over abdomen which was lysed using ALAN bipolar at setting 40 W for cutting and 25 W for coagulating and bipolar 5L/25 W.

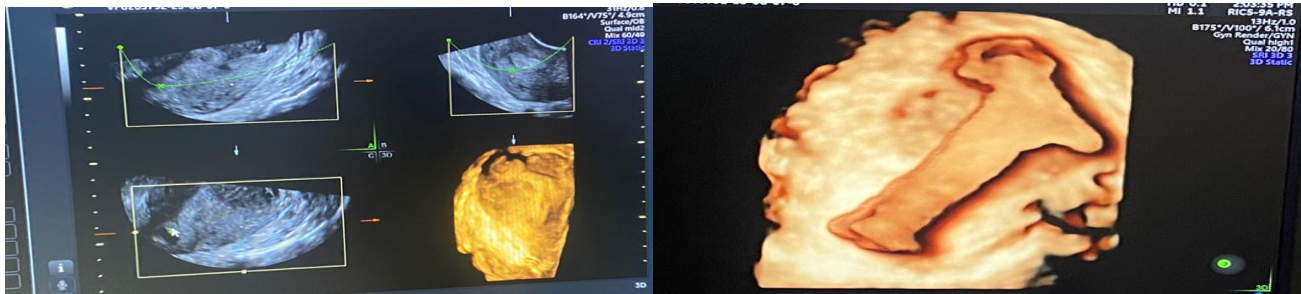


Figure 1: 3D ultrasonography showing ectopic pregnancy site.

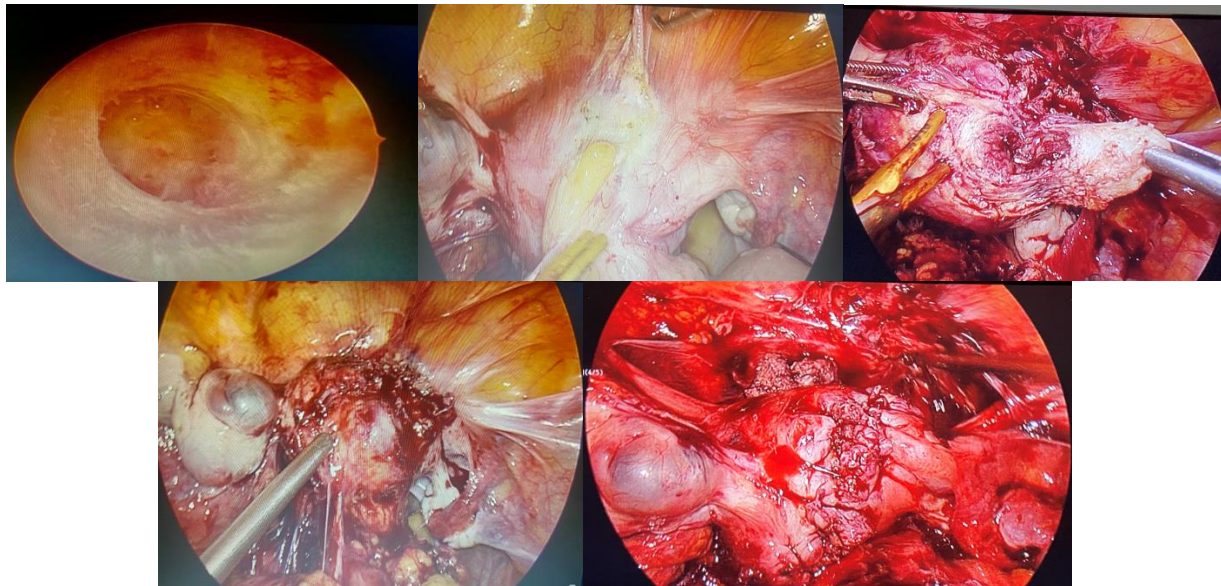


Figure 2: Resection of ectopic pregnancy.

On inspection, bulge was seen at the fundus-posterior aspect of uterus near interstitial part of fallopian tube.

On transvaginal ultrasonographic guidance, gestational sac location was confirmed at the Fundus-posterior aspect of uterus near interstitial part of fallopian tube.

Bladder peritoneum was receded away from uterus. 20 ml vasopressin diluted in 100 ml normal saline was injected around the bulge. Incision was made at height of the bulge. Gestational sac was seen. Laparoscopic resection of product of conception was done and removed.

Margins were sutured in two layers with 1-0 Barbed Stratafix suture. Hemostasis was secured.

Post resection, bilateral fallopian tubes patent on chromopertubation, and bilateral ovaries normal were. Sample sent for histopathological examination.

Post-operative

Patient was doing well postoperatively, antibiotics were given. Patient vitals, input output chart was maintained with regular monitoring. Bowel sounds were present after 6-8 hours of operation, allowed orally.

Early patient mobilization was taken care. Within 6-8 hours patient passed urine.

Serum B-hcg value was 2044.2 mIU/ml on 09 August 2023 post-operative day 1 and was discharged with no significant complaints.

DISCUSSION

A review of the literature demonstrates less than 30 published cases of intramural ectopic pregnancy of various etiologies. Cases associated with previous myomectomy specifically are even more uncommon.

Bannon et al described a similar case to the one here. The patient presented at 6 weeks gestation, having undergone an open myomectomy 3 years previously. She was diagnosed with a missed abortion and underwent suction dilatation and curettage. The pathology revealed decidua with foci of necrosis and portions of gestational endometrium, but no placental villi was identified. A subsequent transvaginal ultrasound and computed tomography scan were performed, with an intramural pregnancy diagnosed at the site of the previous myomectomy scar. A single dose of systemic methotrexate was administered; however, a 5-cm avascular intramural pregnancy with possible fistulous tract persisted, and the patient subsequently underwent laparoscopic removal of the intramural pregnancy. In this case, the incorrect initial diagnosis of missed abortion complicated the clinical timeline and delayed the diagnosis.

It is important to recognize that intramural pregnancy is often difficult to distinguish from other pathologies; however, performing 3D ultrasonography may assist in making an accurate diagnosis and exclude other diagnostic probabilities.

Course of pregnancy

The blastocyst implants in the most proximal section of the fallopian tube (called the interstitial portion), which is within the myometrium.

It is also likely that interstitial pregnancies are larger when they rupture than tubal ectopic pregnancies as the layer of

overlying myometrium is able to accommodate larger pregnancies, before rupture, than the uterine tube.

Late diagnosis was the main cause of rupture, leading to shock or death of the patient.

Diagnosis

Ultrasonography transvaginal/2-D/3-D. TVUS have a sensitivity of 56% at 8.2 weeks' gestation, and 71.4% of patients at 6.9 weeks' gestation.

The diagnosis of interstitial pregnancy by ultrasound is based on the following criteria: the gestational sac is located outside the uterine cavity; the interstitial part of fallopian tube is seen adjoining the lateral aspect of the uterine cavity and gestational sac-; and the myometrial mantle extends laterally to encircle the gestational sac.

MRI may be used in stable patients.

Management

Expectant management

First line approach for declining serum β -hCG levels. Expectant management should be abandoned if there is evidence of clinical deterioration.

Medical management

Criteria

Hemodynamically stable patients with unruptured pregnancy and with <8 weeks of gestation.

Dose

Systemic administration (intramuscular or intravascular) of injection methotrexate.² 50 mg/m² or potassium chloride (KCl) was given.

Local treatment can be administered under laparoscopy or ultrasound guidance into the gestational sac/chorionic tissue, via transvaginal route using a fine spinal needle. This needle may be advanced through the anterior fornix, through the anterior uterine wall and into the targeted area where the methotrexate may be delivered straight into the gestational sac and surrounding area.

Follow up patients with serum B-hcg levels.

For surgical management, laparotomy or laparoscopic approach was used.

Cornuostomy preserve uterine architecture and fertility. Wedge resection disrupts the uterine architecture and should only be performed in cases of ruptured interstitial pregnancy or for patients not desiring future fertility. Other

management includes ultrasound-guided transcervical forceps extraction (UTCE) and transcervical suction under laparoscopic and hysteroscopic guidance.

CONCLUSION

The diagnosis and management of interstitial pregnancies remains challenging. They should be managed in early pregnancy. 3D ultrasonography plays an important role in accurate diagnosis of interstitial ectopic pregnancy. Thus, to conclude 3D ultrasonography with thorough clinical knowledge detects early ectopic pregnancy saving multiple lives.

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