ABSTRACT

Intramural pregnancy, an ectopic gestation completely surrounded by the myometrium located within the uterine wall with separation from the uterine cavity, is an extremely unusual form of pregnancy. Complications resulting from intramural pregnancy include inevitable uterine rupture with resultant hemorrhage and possible hysterectomy if the diagnosis is not made early and treatment is not initiated. A patient presented with missed abortion, suction curettage was done but no placental villi were seen in the products. She had a previous history of laparoscopic myomectomy 6 months ago. A provisional diagnosis of myometrial scar pregnancy was made and was confirmed with Doppler and magnetic resonance imaging. Laparoscopic enucleation of ectopic sac was done against medical management with methotrexate. The patient conceived successfully through intracytoplasmic sperm injection for male factor and delivered twins by lower (uterine) segment cesarean section at term.

Keywords: Ectopic, Intramural, Laparoscopy, Myomectomy.

INTRODUCTION

Intramural pregnancy accounts for less than 1% of all ectopic pregnancies. Our literature search revealed 53 cases of intramural ectopic pregnancies excluding cesarean scar pregnancies.1 The diagnosis requires a very high index of clinical suspicion as the presentation may mimic a missed miscarriage, molar pregnancy, sarcomas, degenerating fibroids, or a normal pregnancy in anomalous uterus.2 Diagnostic modalities include ultrasound [preferably three-dimensional (3D)] and magnetic resonance imaging (MRI). Failure to diagnose this condition at an earlier stage may lead to catastrophic events of uterine rupture, massive hemorrhage which may predispose to hysterectomy, and loss of fertility. The gestation period of intramural pregnancies is generally very less as most of them result in uterine rupture as pregnancy advances, although a case in literature describes a gestational period of 30 weeks but resulting in uterine rupture and peripartum hysterectomy.3


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Conflict of interest: None

CASE REPORT

A 28-year-old lady, with primary infertility for 5 years, showed an intramural fibroid of size 5 × 3 cm located on the right side of the fundus indenting the endometrium, and her husband’s semen analysis showed severe oligoasthenospermia. Patient was counseled for laparoscopic myomectomy followed by intracytoplasmic sperm injection (ICSI) after a gap of 6 months. Laparoscopic myomectomy was done in a conventional manner. A transverse incision was taken over the fibroid site, the fibroid enucleated with the help of myoma screw. The endometrial cavity was not breached at the time of enucleation, which was confirmed with diluted methylene blue solution instilled into the uterine cavity as a standard precaution taken during the surgery. The myoma bed was sutured.
with continuous sutures in two layers. Both intra- and postoperative periods were uneventful. She underwent an in vitro fertilization/ICSI cycle after a gap of 6 months and conceived in the first attempt.

A pelvic ultrasonography (USG) at 7 weeks showed single intrauterine sac with crown rump length (CRL) corresponding to 7 weeks with good cardiac activity. A repeat USG at 9 weeks showed an intrauterine sac with CRL corresponding to 7 weeks and 2 days with absent cardiac activity (Fig. 1). The option of medical management with misoprostol vs surgical management with dilatation and evacuation (D&E) was discussed with the patient. She was very apprehensive and anxious and opted for D&E. At the time of D&E procedure, there were no products of conception seen in the suction cannula and the suction container. Hence, a pelvic USG was done in the operation theater, which showed the presence of sac but no products could be removed even on repeated USG-guided attempts. A decision to do a diagnostic hysteroscopy was taken to find out the location of the sac, which showed an empty uterine cavity. A provisional diagnosis of myometrial scar ectopic pregnancy was made, and a follow-up of the case was done with a 3D USG with color Doppler (Fig. 2) and a pelvic MRI, which showed the gestational sac surrounded on all sides by myometrium outside the endometrial cavity with a good blood flow to the sac.

The patient opted for laparoscopic management of myometrial scar ectopic pregnancy after a detailed discussion about various treatment options.

On laparoscopy, a bulge was seen on right side of the fundus suggesting ectopic pregnancy (Fig. 3). A purse string suture was taken around the bulge and vasopressin was injected into it for ease of dissection (Fig. 4).

An incision was taken over it, sac separated and removed (Fig. 5), which was sent for histopathological examination (Fig. 6).

Uterine incision was closed with continuous sutures. Postoperative period was uneventful. After 1 year gap, she conceived twins through ICSI and delivered a male and a female by lower (uterine) segment cesarean section (LSCS) at term.
DISCUSSION

Intramural pregnancy is a rare type of pregnancy defined as a conception entirely surrounded by the myometrium and completely separated from the endometrial cavity. The postulated mechanism is microfistulae formation between endometrium and myometrium. In this case, the patient had a history of myomectomy 6 months before conception. The location of the ectopic sac at the same site as that of myomectomy scar (right lateral area of fundus) reiterates that fistula arising from myomectomy surgical site was indeed a predisposing factor in this case. The diagnosis of intramural pregnancy can be extremely challenging and confusing. In this case, it was diagnosed as missed miscarriage, which was misleading. The final diagnosis was made by 3D ultrasound with color Doppler and MRI, which showed the sac deep in the myometrium separate from endometrial cavity. Thus, Doppler and 3D ultrasound with or without MRI should be the standard diagnostic modalities in such cases for improving diagnostic accuracy. The treatment of intramural pregnancy can be done medically by injecting KCl in the sac or injecting methotrexate in the sac. Systemic injection of methotrexate has also been tried (single or multiple dose regimen). But a case report mentions persistence of ectopic mass and incomplete resolution in spite of decreasing beta human chorionic gonadotropin titers, which was managed later laparoscopically. Another drawback of medical treatment is although the pregnancy is disrupted, the risk of scar dehiscence is higher in future pregnancies. Uterine artery embolization holds a promising approach for the treatment of intramural pregnancy with fertility preservation. The only drawback is that the patient may suffer from ovarian dysfunction and premature ovarian failure, so it may not be an advisable option for patients seeking fertility. In this case, all the pros and cons were discussed with the patient and her relatives and they opted for a laparoscopic enucleation of ectopic sac as they did not want to take the risk of failure of medical management and eventually a surgical treatment.

CONCLUSION

As the incidence of myomectomy procedure in infertility cases is on a rise, the women conceiving postmyomectomy should be kept on a high-level vigilance to rule out a myomectomy scar ectopic pregnancy in the initial scans. A high index of clinical suspicion and use of appropriate diagnostic modalities will surely help in the timely diagnosis of intramural pregnancy. Early diagnosis will enable ideal conservative management and fertility preservation. The choice of treatment should be based on the patients’ condition and wish after a thorough discussion of all treatment options. It can be managed laparoscopically like a cornual pregnancy. Injection of vasopressin around the sac followed by a purse string suture before taking an incision over the sac helps in reducing the blood loss to almost a bloodless field of surgery.

REFERENCES


