Laparoscopic management of two unusual ectopic pregnancies.

S Kelekci1, R Desdicioglu1, A D Ceyhan Ozdemir1, S Eris1, Z Cetinkaya1, H Aydogmus1

Abstract

Introduction

Ectopic pregnancy occurs when the developing blastocyst implants at a site other than the endometrial lining, most commonly the fallopian tube. However, approximately 5% of pregnancies implant in unusual locations, such as the cervix, the ovary, previous caesarean scars, the interstitial portion of the fallopian tube and the abdomen. Early diagnosis can prevent sequelae associated with this potentially life-threatening condition. This paper reports laparoscopic management of two unusual ectopic pregnancies.

Case report

A 32-year-old patient sought treatment for vaginal bleeding without pain at a gestation of 5 weeks and 2 days. A pelvic ultrasound scan revealed a 3.7 x 4.3 cm right adnexal mass with a gestational sac that contained a secondary yolk sac and a 9 mm non-viable foetal pole. The β-HCG level was 15,818 mU/mL. Laparoscopy was performed, and a mobile uterus with a 4 cm bulge in the right horn of the uterus was detected. The cornual area with pregnancy was resected using bipolar forceps and scissors. The distal portion of the right tube was cauterised and removed. In the second case, a 33-year-old woman was admitted to our emergency room with complaints of abdominal pain and slight vaginal bleeding. The β-HCG level was 7,001 mU/mL. A transvaginal sonogram revealed a right-sided solid mass with a 4 mm central cystic area and a sac in the left tubal region containing a 2.3 mm foetal pole with a positive heart rate.

During the laparoscopy, both fallopian tubes were distented by unruptured tubal pregnancies. Bilateral salpingostomy was performed. Pathological examination confirmed the diagnosis of bilateral ampullary tubal pregnancy.

Conclusion

Unusual ectopic gestations should be considered in the differential diagnosis of obstetric emergencies. The basic management approaches for ectopic pregnancy are expectant management, medical treatment and surgical therapy, including laparotomy and laparoscopy. Management should be decided on a case-by-case basis.

Case Report

Case 1

A 32-year-old gravida 2, para 1 patient was assessed at a gestation of 5 weeks and 2 days calculated by her last menstrual period after complaining of vaginal bleeding without pain. The patient’s vital signs were stable. Pelvic examination revealed a closed cervix with minimal old blood in the vaginal vault. The uterus was of normal size, and the right adnexial side was sensitive on palpation. The abdomen was not tender and was without rebound. A pelvic ultrasound scan revealed a 3.7 x 4.3 cm right adnexal mass with a gestational sac that contained a secondary yolk sac and a 9 mm non-viable foetal pole (Figure 1A). No fluid was observed in the cul de sac. The patient’s haemoglobin level was 12.6 g/dl, and the β-HCG level was 15,818 mU/mL. The provisional diagnosis was a right tubal pregnancy. Laparoscopy was performed after patient consent was obtained. No tubal pregnancy was detected. Instead, a mobile uterus with a 4 cm bulge of the right horn of the uterus was detected (Figure 1B). No fluid was observed in the cul de sac. The cornual area containing the pregnancy was resected using bipolar forceps and scissors (Figure 1C). The distal portion of the right tube was cauterised and removed. After haemostasis was achieved by bipolar coagulation, the peritoneal cavity was irrigated. The patient recovered uneventfully and was discharged.

The basic management approaches for patients with ectopic pregnancy are expectant management, medical treatment and surgical therapy, including laparotomy and laparoscopy. Even unusual types of ectopic pregnancy are currently being managed with laparoscopic surgery. In this report, we present two unusual ectopic pregnancies that were treated using a laparoscopic approach.

*Corresponding author
Email: sefa@kelekci@gmail.com

1 Gynecology and Obstetrics Department, Katip Celebi University Ataturk Training and Research Hospital, Izmir, Turkey

Licensee OAPL (UK) 2014. Creative Commons Attribution License (CC-BY)

discharged on the second postoperative day. The patient’s HCG level was 125.9 mIU/mL on day 10.

Case 2
A 33 year-old patient, gravida 5, para 0, abortus 4, was admitted to our emergency room with complaints of abdominal pain and slight vaginal bleeding. The patient had no history of intra vitro fertilisation or other assisted reproduction procedures. On examination, the patient’s vital signs were stable. A nullipar cervix and normal-sized uterus were observed. Both adnexa were slightly enlarged, and slight tenderness was observed in the lower right quadrant of the abdomen. No rebound tenderness was noted. The patient’s haemoglobin level was 12.6 g/dl, and the β-HCG level was 7,001 mIU/mL. A transvaginal sonogram revealed a right-sided 16 x 29 mm solid mass with a 4 mm central cystic area and a sac situated in the left tubal region containing a 2.3 mm foetal pole with a positive heart rate (Figure 1D). Laparoscopy was preferred by the patient, and informed consent was obtained for the procedure. During the laparoscopy, both fallopian tubes were distented by unruptured tubal pregnancies (Figure 1E, Figure 1F). Bilateral salpingostomy was performed. Pathological examination confirmed the diagnosis of bilateral ampullary tubal pregnancy. The patient had an uneventful recovery.

Discussion
Ectopic pregnancy is one of the most common gynaecological emergencies. Ectopic pregnancy is a serious problem due to significant maternal morbidity and mortality. Although unusual implantation sites are rare, these sites must also be considered. A pregnancy that is implanted at the interstitial portion of the fallopian tube that is embedded within the muscular wall of the uterus is called an interstitial pregnancy. Cornual pregnancies are the least frequent type of ectopic pregnancy, occurring in approximately 1.8% of all ectopic pregnancies. The risk factors are similar to those for other tubal pregnancies, with the addition of ipsilateral salpingectomy. Patients with previous salpingectomy are at increased risk for ipsilateral interstitial ectopic pregnancy. Cornual pregnancies may be misdiagnosed as intrauterine or tubal pregnancies and can cause catastrophic haemorrhage and death because they occur at the most richly vascularised site: the junction of the branches of the uterine and the ovarian arteries. Diagnosis can be facilitated by observation of an unusual implantation location and a thin or incomplete myometrial mantle covering the gestational sac. Although a variety of conservative approaches, such as local, systemic, or combined medical treatment using methotrexate, hysteroscopic removal and laparoscopic resection, have been used, interstitial pregnancy is typically treated by resection or hysterectomy performed by laparotomy. Management of these patients should be decided on a case-by-case basis. Small interstitial pregnancies should be treated by laparoscopy if the surgeon is experienced. In our opinion, fertility may be better preserved using this method, because fewer postoperative adhesions develop after laparoscopic surgery than after laparotomy.

Bilateral tubal pregnancy is a rare occurrence. The incidence of this condition is 1 per 200,000 pregnancies. Bilateral tubal pregnancy was first described by Fishback et al. in 1939. In 1953, Norris broadened the definition and claimed that microscopic identification of chorionic villi in each tube was sufficient to diagnose this condition. Bilateral tubal pregnancy has been reported with increased frequency in recent years because of increasing use of fertility-enhancing drugs and assisted reproduction. Bilateral tubal ectopic pregnancies may also be spontaneous, as in this case. Several theories have been proposed to explain the occurrence of bilateral tubal pregnancies, such as multiple ovulation, superfetation and transperitoneal migration of trophoblastic cells from one tube to another. Management of this condition may be medical or surgical. In published cases, the most common method of diagnosing the second ectopic is by direct inspection of the contralateral tube during surgery. The condition is often misdiagnosed preoperatively. Thus, it is important to

Figure 1: A. Ultrasound image of a cornual ectopic gestation. B. The cornual area with pregnancy under laparoscopy. C. The cornual area after resection using bipolar forceps and scissors. D. Ultrasound image of bilateral tubal pregnancy. E. Left tubal pregnancy under laparoscopy. F. Right tubal pregnancy under laparoscopy in the same patient.
examine both adnexa during surgery to prevent maternal morbidity and mortality. Because of the bilaterality of this condition, salpingostomy is preferred when the tubes are intact to preserve fertility. We recommend laparoscopic salpingostomy rather than an open surgical procedure. β-HCG levels should be monitored after surgery due to the risk of persistent trophoblastic disease or misdiagnosed bilateral tubal ectopic pregnancy. No prospective studies comparing outcomes of medical and surgical management strategies for ectopic pregnancies in unusual locations are available. However, when surgery is indicated for managing ectopic pregnancy, laparoscopic resection should probably be the first line treatment when resources are available and the surgeon is well trained. The lower cost of the procedure, the shorter duration of hospitalisation and convalescence, the reduced perioperative blood loss and the avoidance of the negative consequences of general anaesthesia are clear advantages of this approach compared to laparotomy.

### Conclusion

Unusual ectopic gestations should be considered in the differential diagnosis of obstetric emergencies. Early diagnosis and the use of multiple modalities can reduce morbidity and mortality in these cases. Management strategies should be chosen on a case-by-case basis. However, when surgery is indicated, laparoscopic management should be the first choice due to the benefits of this strategy.

### Consent

Written informed consent for the publication of this case report and the accompanying images was obtained from patients. A copy of the written consent is available for review by the Editor in Chief of this journal.

### Conflict of interests

None declared.

### References