Human Reproduction Vol.20, No.3 pp. 807–809, 2005 doi:10.1093/humrep/deh683
Advance Access publication January 7, 2005.

Primary omental pregnancy: Case report

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Omental pregnancy is a very rare form of ectopic pregnancy. Here we presented a case of primary omental pregnancy diagnosed at surgical exploration. A 28 year old woman submitted with severe abdominal pain, without any delay of menstruation. History of the patient revealed no use of contraceptive method. There was no gestational sac in the endometrial cavity and no tubal ring in the adnexa, but free peritoneal fluid in the pouch of Douglas was detected at ultrasonography. Laparotomy was done according to pre-operative diagnosis of ruptured tubal pregnancy. Bilateral tubes and ovaries were intact; omental pregnancy was detected and partial omentectomy was performed. Although 16 cases of omental pregnancy (mostly secondary) were reported in the literature, herein we describe a primary omental pregnancy without adnexial involvement.

Key words: ectopic pregnancy/primary omental pregnancy/surgical treatment

Introduction

Abdominal pregnancy affects 1 in 10 000 deliveries. The maternal mortality rate is ~6%, and the clinical presentation extremely variable. A review of the literature showed that only a few cases of omental pregnancies have been reported to date, and most were secondary omental pregnancies. The diagnosis of omental pregnancy is usually made at laparotomy. This case report reveals an primary omental pregnancy which is a subcategory of an abdominal ectopic pregnancy, diagnosed at laparotomy. By presenting this case, we want to emphasize that in a patient suggesting ectopic pregnancy with clinical findings if both adnexa are 'normal' during surgical exploration, the omentum may be the implantation site and should be carefully examined.

Case report

A 28 year old gravida 2, para 1 woman was admitted to Gazi University Hospital Emergency Department with a complaint of bilateral severe lower abdominal pain. In spite of her normal vital signs, abdominal examination revealed diffuse abdominal tenderness, signs of peritonitis. History of the patient revealed regular menstrual pattern and no use of contraceptive method. Ultrasound scan (transvaginal) demonstrated a normal endometrial thickness (6 mm), without an intrauterine gestational sac. Both the ovaries were normal; however, the pouch of Douglas was filled with free fluid. We did not observe 'tubal ring', suggesting tubal pregnancy during ultrasound scan. Serum β-hCG was 2017 mIU/ml. Her complete blood count revealed haemoglobin level as 10.2 g/dl. This situation suggested a ruptured ectopic pregnancy. An exploratory laparotomy was carried out through pfannenstiel incision. There was 300 ml of blood in the cul-de-sac. Uterus, both the right and left tubes, and ovaries and adnexa were normal (Figure 1). The omentum was folded on itself, and there was a palpable nodular lesion on the omentum. A bleeding site and a gestational sac were found (Figure 2), and partial omentectomy was performed. Histopathological report revealed an omental pregnancy as extensive villus formation, dense trophoblastic invasion of omental tissue and vascular structures (Figure 3). The patient recovered successfully, and 3 days after the operation serum hCG level sharply decreased to 209 mIU/ml. Serum hCG level was measured as 2.13 mIU/ml (normal) on the 15th day post-operatively.

Discussion

Abdominal pregnancy occurs in 1.4% of all ectopic pregnancy cases, and omental pregnancy is the least common form of abdominal pregnancies. The mortality rate for abdominal pregnancy is seven times higher than non-abdominal cases (Atrash *et al.*, 1987). Although there has been no consensus for the diagnosis of primary omental pregnancy, there are Studdiford's criteria: (i) normal bilateral Fallopian tubes and ovaries with no recent or remote injury; (ii) absence of any uteroperitoneal fistula; (iii) presence of a pregnancy related exclusively to the peritoneal surface and early enough to eliminate the possibility of implantation following a primary nidation in the tube (Studdiford, 1942). Clinical, ultrasonographic, histopathological and surgical findings must be combined to diagnose a case as a primary

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Figure 1. Omental pregnancy.

omental pregnancy. Recent contraceptive usage such as progesterone-only pills and intrauterine devices can be accepted as a risk factor (Mousa and Thong, 2001). Our patient has not been using any contraceptive method.

Symptoms show differences when compared with classical tubal pregnancy. There may be no delay of menstruation and

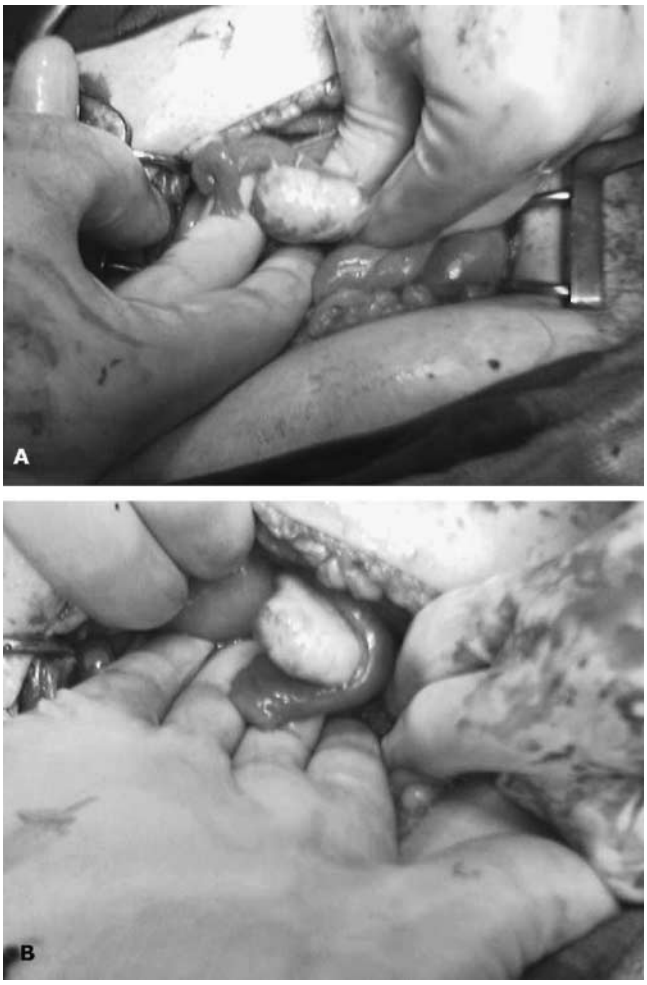


Figure 2. Normal appearence of left (**A**), and right (**B**) adnexa.



Figure 3. Histopathologic slide of omental pregnancy (stained by haematoxylin–eosin under light microscope with ×100 magnification).

patients do not suffer from spotting. The most common symptom is severe lower abdominal pain, as in our case. Mortality due to omental pregnancy is mostly related to haemorrhagic shock.

There are 16 omental ectopic pregnancies in the literature. Most of them are treated with laparotomy, however, three cases were subjected to the laparoscopic surgery (Wong *et al.*, 2004). In laparoscopic exploration, a gynaecologist must have high index of suspicion otherwise an omental pregnancy can easily be missed. In addition, during laparoscopic approach, control of haemorrhagia can be difficult because of trophoblastic invasion of omental vasculature. If a pregnancy invades the omentum deeply and broadly, laparotomy is necessary (Tsudo *et al.*, 1997). In our case, laparoscopic management could be performed, because the patient was haemodynamically stable. Due to technical issues (nighttime) we were unable to set up laparoscopy.

In our case, pre-operative diagnosis was ruptured tubal pregnancy with intra-abdominal bleeding. During laparotomic exploration, upper genital organs were completely normal and nodular lesion was palpated on the omentum which was located in the pelvis. But there was no adhesion between omentum and upper genitalia. To avoid leaving trophoblastic tissue back in the omentum, partial omentectomy was performed with care to remove all indurated parts. Since the true borders of trophoblastic invasion cannot be completely determined, wide omental excision is needed. The success of the procedure can be checked by rapid decrement in β-hCG titres. In our case, there was 90% fall in 3 days.

Usually, omental pregnancies are divided into two categories: primary and secondary. In primary omental pregnancy, histological evidence of neovascularization or growth of trophoblast into the supporting tissue must be found. However, in the absence of histological evidence of neovascularization or growth of trophoblast into the supporting tissue, all cases should be considered as secondary omental pregnancy (Berghella and Wolf, 1996). In our

pathological sections, extensive villus formation and dense trophoblastic invasion deep into the omental tissues including blood vessels were seen. These histopathological findings proved our case to be a primary omental pregnancy.

Although rarely seen, a primary omental pregnancy can present as a ruptured tubal pregnancy. During surgical exploration, with intact tubes and ovaries, omentum should be checked as a possible implantation site.

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Submitted on August 9, 2004; resubmitted on October 19, 2004; accepted on November 23, 2004