CASE REPORT

Primary omental pregnancy

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SUMMARY

We present a case of primary omental ectopic pregnancy in a 31-year-old woman which was discovered intraoperatively during a diagnostic laparoscopy and subsequently removed via mini-laparotomy. We emphasise the rarity of this diagnosis, and the importance of careful inspection of the abdominal cavity including the omentum should an ectopic pregnancy be suspected when bilateral fallopian tubes and ovaries appear normal during surgical exploration.

BACKGROUND

Abdominal pregnancy is a rare condition, occurring in 1.3% of ectopic pregnancies. As it is such a rare disease, clinical suspicion of abdominal pregnancy is often very low. The mortality rate is high and clinical presentation is often non-specific. There are only very few cases of primary omental pregnancies reported in the literature to date, most were managed by laparotomy.

CASE PRESENTATION

A 31-year-old woman presented to the Emergency Department of Singapore General Hospital at 6 weeks amenorrhoea with a 4-day history of intermittent cramping epigastric pain radiating to the suprapubic region. She also reported some dysuria and an increase in urinary frequency over the past week. On examination, there was midline tenderness at the epigastrium to suprapubis with the presence of guarding. There was no rebound tenderness. Cervical excitation was positive on vaginal examination with adnexal tenderness. She was afebrile, with a normal blood pressure and tachycardia at 100 bpm. Prior to this admission, she had been fit and well with no known drug allergies. She had regular periods.

INVESTIGATIONS

As the patient presented at 6 weeks amenorrhoea with a history of regular periods, a urine pregnancy test was performed which returned positive. In view of her dysuria and frequency of urination a urine dipstick was performed which was normal. A bedside transabdominal ultrasound scan was also performed at the emergency department which showed free fluid between the liver and kidneys and between the spleen and kidneys. A transvaginal ultrasound scan confirmed an empty uterus with an endometrial thickness of 20.4 mm. An irregular mass measuring 55×31×39 mm was found medial to the right ovary which was probably a haematoma. Superior to the haematoma, an 11×10×12 mm cystic area was seen which could be the gestational sac. Fluid with internal echoes was also seen in the

pelvis. Blood investigations were sent for a full blood count, urea and electrolytes, amylase and β -hCG. Haemoglobin count was 11.9, β -human chorionic gonadotropin (hCG) 11803, results were otherwise unremarkable. These findings were suggestive of a ruptured ectopic pregnancy.

TREATMENT

In view of the diagnosis of ruptured ectopic pregnancy, the patient was consented for therapeutic laparoscopy keep in view Open. Intraoperatively, there was haemoperitoneum of 500 mL, uterus and bilateral fallopian tubes and ovaries appeared normal (figure 1). On closer inspection, an omental ectopic was noted measuring about 3 cm. The consultant on call was informed and we performed open surgery for the resection of the omental ectopic. A mini-laparotomy was performed and the omental ectopic (figure 2) was removed without event.

OUTCOME AND FOLLOW-UP

There were no postoperative complications and recovery was uneventful. Histology returned as chorionic villi and cytotrophoblasts present in the omental fat with focal haemorrhage confirming the diagnosis. On outpatient follow-up, the patient was well.

DISCUSSION

Abdominal pregnancy is rare, occurring in only 1% of all cases of ectopic pregnancies, with omental implantation being the rarest implantation site.^{1,2} It carries a high mortality rate, with a risk of death seven times greater than in ovarian pregnancies and 90 times greater than in an intrauterine pregnancy.³

Figure 1 Laparoscopic findings. (A) Haemoperitoneum, bilateral tubes appear normal, (B) left ovary and tube appear normal, (C) bleeding from the omentum—suspicion of omental ectopic, and (D) liver appears normal.

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Figure 2 Omental pregnancy.

Omental pregnancy is difficult to diagnose early as clinical features, physical examination, laboratory tests and ultrasonography findings are non-specific. The diagnosis is often achieved intraoperatively, and subsequently confirmed histologically. The first detailed description of an omental pregnancy was in 1903, and since then 38 omental pregnancies in humans have been reported.^{2 4–6}

According to Studdiford,⁷ primary peritoneal pregnancy can be diagnosed based on three criteria: (1) normal bilateral fallopian tubes and ovaries, (2) absence of uteroperitoneal fistula and (3) pregnancy related exclusively to the peritoneal surface and early enough to eliminate the possibility of secondary implantation following a primary nidation in the tube. Later on, Berghella *et al* categorised omental pregnancies into primary and secondary in a more histopathological manner. Neovascularisation or growth of trophoblast into the supporting tissue must be found in primary omental pregnancies otherwise it is classified as secondary omental pregnancy.⁸ Recently, Watrowski *et al*⁹ reported a case of an omental pregnancy invading into the Pouch of Douglas, suggesting that secondary abdominal pregnancy can result from both primary tubal rupture or expulsion, and from primary implantation at any other ectopic location.

Primary peritoneal pregnancies are treated surgically. Previously, abdominal pregnancies were treated by exploratory laparotomy due to the risk of significant haemorrhage from the implantation site; however, there have been increasing reports on laparoscopic diagnosis and treatment of primary peritoneal pregnancies.^{9–13} A laparoscopic approach is preferred in a haemodynamically stable patient as this has the added benefits of less blood loss, less pain, shorter hospital stay, and faster return to normal activities.¹⁴ In 2011, Odejinmi *et al* conducted a large prospective study on laparoscopic surgery in haemodynamically unstable patients with an ectopic pregnancy, and discovered that surgeons can achieve a success rate of 70–100% depending on their experience. They also reported that patients who were treated laparoscopically had a shorter hospital stay and did no worse than those who were treated with laparotomy, although the laparoscopically treated group required more blood transfusions.¹⁵

On the basis of the above discussion, our patient had a primary omental ectopic pregnancy. Sonographically we were able to diagnose a ruptured ectopic pregnancy but the diagnosis of omental ectopic pregnancy was only achieved during laparoscopy. As our patient was haemodynamically stable, we had chosen a laparoscopic approach in her management. A mini-laparotomy was performed only for removal of the specimen and she recovered uneventfully with minimal pain. Diagnosis was later confirmed histologically.

In conclusion, omental ectopic pregnancy is an uncommon form of abdominal ectopic pregnancy which is difficult to diagnose preoperatively due to its non-specific clinical presentation and sonographic findings. It is therefore important to have a high index of suspicion, to examine the omentum carefully should the ovaries and tubes look normal bilaterally intraoperatively and remove the omental ectopic pregnancy should it be found. Early cases and those who are haemodynamically unstable have been treated by laparotomy; however, reports of laparoscopically treated abdominal pregnancies are increasing, especially in the haemodynamically stable cohort. With much experience, operative laparoscopy rate could be 100%, even in the haemodynamically unstable patients. However, patient safety should always be the priority regardless of surgical approach, and we should always aim to stabilise the unstable patient, consider carefully our available facilities as well as operative skills and training in order to provide the best care for our patients.

Learning points

- ▶ Omental ectopic pregnancy is an uncommon form of abdominal ectopic pregnancy which is difficult to diagnose preoperatively.
- ▶ A high index of suspicion is important to detect an abdominal ectopic pregnancy should bilateral tubes and ovaries appear normal during diagnostic laparoscopy.
- ▶ Laparoscopic removal of the abdominal ectopic should be performed if possible as this reduces admission time, and is proven to have a faster recovery time for the patient.
- ▶ Follow-up is important to ensure that the patient is well postoperatively, and that the patient's β -hCG has returned to normal, confirming resolution of the abdominal ectopic pregnancy.

Contributors YSL had direct involvement in the care of the patient and follow-up as part of the primary care team; recognition of the rarity of the presenting case; initialising the case write-up; gathering information regarding the case and background research regarding the diagnoses; drafting, revising, editing and formatting of the manuscript; and in the approval of the final manuscript to be published as well as in being accountable for all aspects of the work. TWK had direct involvement in the care of the patient and follow-up as part of the primary care team; recognition of the rarity of the presenting case; initialising the case write-up; gathering information regarding the case and background research regarding the diagnoses; revising, editing and formatting of the manuscript; and in the approval of the final manuscript to be published as well as in being accountable for all aspects of the work. TLK had direct involvement in the care of the patient and follow-up as the consultant in charge of the patient; recognition of the rarity of the presenting case; reviewing the literature review of the case and supporting the idea of the write-up of this case; supervising the case-write up and critically revising the completed manuscript and in the approval of the final manuscript to be published as well as in being accountable for all aspects of the work.

Competing interests None declared.

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