Rare disease

Adnexal torsion in third trimester of pregnancy

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Summary

The authors report an unusual case of adnexal torsion in a patient in the third trimester of pregnancy. A 32-year-old woman, gravida 1, para 0, in the 32nd week of gestation initially presented with clinical signs of acute appendicitis. On laparotomy, it was identified that a necrotic mass of the right adnexa and performed a unilateral salpingo-oophorectomy. The postoperative period was uneventful. In the 37th week of gestation, the labour was induced by fetal intrauterine growth restriction. She delivered vaginally, a healthy baby, with 2085 g and an Apgar score of 9 and 10 at the first and fifth minute, respectively.

BACKGROUND

Adnexal torsion is a rare condition during pregnancy and accounts for approximately 3% of all gynaecological emergencies.¹ Ultrasonography is the gold standard for evaluation of an adnexal mass, but the diagnosis is ultimately made at surgery.²

The authors report an unusual case of torsion of the adnexa in the third trimester of pregnancy, to keep in mind an important differential diagnosis of acute abdominal pain in pregnant women. Early management allows the diagnosis before irreversible ischaemia occurs, making possible to preserve the adnexa and fertility.

CASE PRESENTATION

A 32-year-old pregnant woman, gravida 1, para 0, in the 32nd week of gestation, was admitted at the emergency

department with a sudden onset of severe right lower quadrant abdominal pain associated with nausea and anorexia. There was slight uterine contractility, but no vaginal bleeding or bowel symptoms. The patient did not have medical or surgical history.

INVESTIGATIONS

On admission, the physical examination revealed a temperature of 37.3°C. There was increased uterine tonus and a doubtful Blumberg sign. Blood tests revealed an elevated leucocyte count of $18.39 \times 10^3/\mu\text{l}$ (normal 4–10) with 80% of neutrophils. There was an elevated C reactive protein of 3 mg/dl (normal <0.5). The transabdominal ultrasound revealed a large hyperechogenic mass containing small cysts in the right lower abdomen (figure 1).

Figure 1 Transabdominal ultrasound showing a large hyperechogenic mass containing small cysts in the right lower abdomen.

DIFFERENTIAL DIAGNOSIS

She was referred to the surgical team on-call with a suspected acute appendicitis, not excluding the hypothesis of right adnexal pathology.

TREATMENT

The patient underwent an urgent exploratory laparotomy, which revealed a normal appendix and necrosis of the right adnexa with no apparent torsion (figure 2) and a unilateral salpingo-oophorectomy was performed. Histologically, it was diagnosed as haemorrhagic necrosis of the right ovary and tube with the presence of a large haemorrhagic corpus luteum in the ovary.

OUTCOME AND FOLLOW-UP

Postoperatively, the patient recovered uneventfully. She was given antibiotics (erythromycin, because of allergy to penicillin) and tocolytics (nifedipine 10 mg four times a day) for 48 h. The pregnancy was carried out successfully to the 34th week, with a documented fetal growth, at the 31st week, in percentile 50 for gestational age. At this time, ultrasound evaluation revealed an abdominal circumference (AC) and an estimated fetal weight (EFW) in percentile 10–25. At the 37th week (+4 days) of gestation, the labour was induced by fetal intrauterine growth restriction (AC and EFW below the 10th percentile for gestational age) with a marked reduced utero-placental perfusion (resistance index of umbilical artery >95th percentile). This was later confirmed by the placenta pathology report showing multiple ischaemic infarcts dispersed. She delivered vaginally a healthy female baby, using a vacuum device. The baby was 2085 g of weight and had an Apgar score of 9 and 10 at the first and fifth minute, respectively.

DISCUSSION

Surgical interventions not of obstetric causes are performed in 0.2–2.2% of all pregnancies, being appendicitis the most common one.³ Adnexal torsion is rare and is one of the gynaecological causes of acute lower abdominal pain occurring in one every 5000 pregnancies.⁴ It can occur in all trimesters, being more frequent in the first one, between the 6th and 14th weeks.³ This condition is

rare during the second trimester and exceptional during the third trimester.⁴ The most frequent aetiologies are cysts and neoplasms with the remainder occurring in the setting of normal-appearing ovaries. The right-side adnexa seem to be more frequently affected.²

Diagnosis of adnexal torsion is usually delayed and difficult to establish because clinical presentation is non-specific and therefore a challenge for the clinicians to recognise and differentiate from other aetiologies.² The most common features are lower abdominal pain, frequently accompanied by nausea, vomiting, low-grade fever and/or leucocytosis.⁵ The ultrasound (transvaginal or abdominal) is the standard complementary diagnostic method for evaluation of an adnexal mass, although, in late pregnancy, its diagnostic accuracy is limited owing to ovary displacement from its normal location.¹ However, the most common ultrasound finding is an enlarged heterogeneous adnexal mass.² The use of colour Doppler sonography can show absent ovarian vessel flow, but diminished flow cannot exclude this diagnosis, because it depends on stage of torsion and degree of vascular compromise.⁶ Recently, MRI without contrast has been used, showing oedema and haemorrhagic infarction secondary to adnexal torsion.¹ The final diagnosis depends on surgical findings.

A pregnant woman with a possible diagnosis of an adnexal torsion should be treated emergently.² Traditionally, adnexal torsion was managed by laparotomy, and although laparoscopy has been described for diagnosis and treatment of adnexal torsion in early pregnancy, in advanced gestation, it can be difficult because of diminished working space available and risk of injury of the enlarged uterus. There is also the risk of labour induction caused by excessive uterine manipulation.^{6 7} Recently, laparoscopy has been used in third trimester of pregnancy, with reported success.⁷

Depending on the degree of ischaemia and adnexal necrosis, distortion and eventually cystectomy, could be possible with a lower death rate and preserving future fertility.⁴ However, when necrosis is identified, salpingo-oophorectomy is appropriate in order to prevent peritonitis, preterm labour and perinatal mortality.³

In our case, although we have not seen intraoperatively the adnexal torsion, the anatomo-pathological changes indicate that there was torsion of the ovary pedicle and tube with subsequent ischaemic changes that led to adnexal necrosis. This could also be explained by adnexal compression by the enlarged third trimester pregnant uterus, with consequent reduction and interruption of blood flow.

A surgical intervention in pregnancy has always the potential of maternal and fetal complications, including changes on the placental blood flow. In this case, it caused fetal intrauterine growth restriction with mandated labour induction.³

In conclusion, torsion of the adnexa is an emergency situation and an important diagnosis to consider in the set of acute abdomen during pregnancy. When it is timely possible, conservative surgery should be performed to preserve the function of the organs affected. Salpingo-oophorectomy is the procedure more appropriate for the management of cases in which necrosis is found, in order to prevent mother and fetus complications.^{2 3 8}

Figure 2 Necrotic right adnexa and pregnant uterus during surgery.

Learning points

- ▶ Adnexal torsion is rare, mainly in the third trimester, but is an important differential diagnosis of acute abdomen in pregnancy.
- ▶ The diagnosis is often delayed because of inconsistent presentation, lack of specific signs and symptoms and imaging features.
- ▶ Expedient diagnosis and treatment are important, allowing to preserve ovarian and tube function and prevent mother and fetus complications.
- ▶ When it is possible that conservative surgery should be performed, but the mainstay of treatment is unilateral salpingo-oophorectomy when there is necrosis or irreversible tissue damage.

Competing interests None.

Patient consent Obtained.

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