Rare disease

Isolated fallopian tube torsion: an unusual cause of acute abdominal pain

Shabana Ashraf Bora,¹ Raj Kanapathipillai,² May Backos¹¹Women and Children's Department, West Middlesex University Hospital, Middlesex, UK;²General Surgery Department, West Middlesex University Hospital, Middlesex, UK**Correspondence to** Miss May Backos, maysoon.backos@wmuh.nhs.uk**Summary**

The authors report a rare, unusual case of an isolated fallopian tube torsion in a young woman presenting with acute lower abdominal pain and a negative pregnancy test. The patient who initially presented with clinical and biochemical features suggestive of acute appendicitis was found to have a large necrotic pelvic mass at laparoscopy, discovered to be a torqued fallopian tube with no ipsilateral ovarian involvement. The patient had a laparoscopic removal of the necrotic tube and recovered well postoperatively.

BACKGROUND

Isolated torsion of the fallopian tube is an extremely unusual finding in a female patient presenting with acute lower abdominal pain. It has no classical clinical features and there are no reliable radiological investigations that would prompt the clinician to suspect this rare condition. Diagnosis is therefore often delayed until laparoscopy after which time it is often too late to salvage the tube from irreversible ischaemic damage. We report a rare case of isolated fallopian tube torsion in a young female patient.

CASE PRESENTATION

A 20-year-old female with learning difficulties presented to the accident and emergency department with a 3 day history of right-sided lower abdominal pain. Associated with the pain were two episodes of vomiting and a decrease in appetite. She denied any urinary or bowel symptoms or fevers. The patient denied ever being sexually active and was unable to recall the date of her last menstrual period. She was otherwise fit and well and had never had any abdominal surgery.

INVESTIGATIONS

On admission, she had a temperature of 37.3°C, a pulse rate of 98 beats per min and a blood pressure reading of 134/71. She was found to be tender in the right iliac fossa with guarding. Blood tests revealed an elevated C-reactive protein of 57 mg/l (normal 0–7.9) and a mild leukocytosis (white blood cell count of $12.7 \times 10^9/l$ (normal 3.8–10.8)). Urine dipstick testing revealed moderate leucocytes and a negative pregnancy test.

DIFFERENTIAL DIAGNOSIS

She was referred to the surgical team on-call with a suspected acute appendicitis.

TREATMENT

A diagnostic laparoscopy was performed with a view to perform an appendectomy by the general surgical team

on-call. Laparoscopic findings revealed a normal appendix but a large, blue-black necrotic pelvic mass (figure 1), and so the gynaecology team on-call were asked to attend. The mass was identified as being the right fallopian tube which appeared to be torqued at the cornual end and distended with blood. There was no associated ipsilateral ovarian involvement and the left tube, ovary and the rest of the pelvis appeared normal (figure 2).

A right laparoscopic salpingectomy was performed. Histopathology confirmed a macroscopic finding of a dilated, congested fallopian tube measuring 9.5×4.5 cm with a cystic lumen containing a blood clot. Microscopy revealed haemorrhagic infarction consistent as being secondary to torsion.

OUTCOME AND FOLLOW-UP

Postoperatively the patient was counselled, recovered uneventfully from the laparoscopy and was discharged home the following day.

DISCUSSION

Isolated fallopian tube torsion has been described as being a rare cause for acute lower abdominal pain in women¹. It was first reported in 1890 by Bland-Sutton and its exact incidence is unknown but estimated to occur in 1 in 500 000 women.^{2–3} Isolated torsion describes a finding which occurs without any ipsilateral ovarian involvement in an otherwise normal fallopian tube; however predisposing factors may include prior diagnosis of haemosalpinx, hydrosalpinx, ovarian or paraovarian cysts.⁴ One case report hypothesised that physiological abnormalities of the tube such as abnormal peristalsis or hypermobility may be a contributing factor.⁵ It is thought to occur more frequently in women of reproductive age but has been reported in females of all ages. It has also been found to occur in pregnancy^{6–8}.

Isolated fallopian tube torsion can present without any obvious pathognomonic clinical signs or symptoms. Cases reported have described a variety of presentations including

Figure 1 Necrotic mass seen in pelvis during laparoscopy.

Figure 2 Contralateral normal left tube and ovary.

lower abdominal and pelvic pain which can radiate to the flank or thigh,⁸ nausea, vomiting and vaginal bleeding with signs of fever, tachycardia and leukocytosis.⁵⁻⁹ Hence, unsurprisingly, if the pain is found to be in the right iliac fossa it is often managed as suspected appendicitis.

In view of its vague presentation, the diagnosis of this rare condition can seldom be made prior to laparoscopy

and there are no reliable imaging modalities.¹⁰ It has been postulated that although ultrasound (transvaginal or abdominal) should reliably identify the presence of a pelvic mass, the use of colour Doppler cannot diagnose nor exclude the presence of torsion.⁵ Sonographic findings have been reported to classically suggest a dilated fallopian tube, thickening of the tubal walls, a

haematosalpinx, with high impedance or absent flow with colour Doppler.⁹

It was originally thought that the condition occurs more often on the right hand side (as found in our case) however, a recent report published a series of six cases and were unable to explain why five of these were present on the left.⁹ Several theories have been hypothesised for the increased incidence in right-sided isolated fallopian tube torsion; surgeons are more likely to operate on women to exclude an appendicitis if they describe symptoms of right iliac fossa pain; it is possible that the sigmoid colon may prevent torsion on the left or there may be a physiological difference in the venous return in the left tube.⁵

In reporting this case, we feel we should mention the potential significance of the patient's learning difficulties. In clinical situations in which consent for surgery is necessary, the doctor is responsible for assessing patients' capacity to understand and retain the information that is conveyed.¹¹ In our case, the patient was deemed to comprehend the need for an emergency procedure and the potential operative risks. Furthermore, the patient had a carer who was able to confirm that she was competent to understand the information given to her.

In conclusion, given that diagnosis and management of fallopian tube torsion is often delayed, irreversible damage to the tube has often already occurred, thereby requiring salpingectomy as in our case. Timely intervention may allow preservation of the tube and therefore fertility however, in view of the difficulty in diagnosis surgery may occur too late for conservative management of the torsion and subsequent conservation of the tube.¹² In an attempt to improve outcome, Philips *et al* have suggested always attempting untwisting of the tube along its axis as the time interval between torsion occurring and irreversible damage is unclear.⁵

Learning points

- We can conclude that isolated torsion of the fallopian tube remains a rare finding with no specific clinical signs or symptoms. A prior history of an adnexal mass may prompt the clinician to suspect this rare condition however, in most cases the diagnosis will be made at the time of laparoscopy.
- The mainstay of treatment is salpingectomy given that it often presents late with necrosis and irreversible damage however, an attempt to untwist the tube should be considered with an aim to regain fertility in women of reproductive age.
- It is probably prudent to mention that a lack of consent for salpingectomy in young women without prior consent will more than likely open a debate from a medicolegal viewpoint. However, we believe that this rare condition would require intervention at the discretion of the surgeon(s) in order to improve clinical symptoms and prevent deterioration of the patient secondary to ischaemia of the tube.

Competing interests None.

Patient consent Obtained.

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