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Case Report

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Laparoscopic Management of Fallopian Tube Torsion Associated with a Paratubal Cyst in a 13-Year-Old Adolescent Girl

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Introduction

Adnexal torsion is an uncommon gynaecological emergency. Torsion is commonly associated with an ovarian mass but rarely with paratubal cyst [1,2]. Paratubal cysts are more common in the pre-menarcheal and adolescent girls. It is therefore important to exclude such pathology in young girls with abdominal pain in order to conserve their future ovarian function and fertility. We report a case of unilateral tubal torsion associated with ipsilateral paratubal cyst managed laparoscopically with good outcome.

Case

A 13-year-old girl was admitted via the emergency department under the general surgeons with one-day history of lower abdominal pain associated with nausea and vomiting. She had her first menstrual period two months ago and was not yet sexually active.

On examination, she was apyrexial and there was a right iliac fossa tenderness and rebound tenderness. She had slightly raised white blood cell count (13×10^9/L). She underwent laparoscopy by the general surgeons for presumed acute appendicitis.

The laparoscopic findings were that of a normal appendix and a twisted but viable right fallopian tube. The tube was twisted three times clockwise. Additionally, there was a tense simple cyst 6-7 cm in diameter that looked like right hydrosalpinx. However after gynaecological opinion was sought, she was diagnosed with right tubal torsion associated with right paratubal cyst with a normal looking and positioned right ovary. Her left adnexa and uterus were completely normal (Figures 1 and 2).

Using 3 ports operative laparoscopy, detorsion of the right tube anticlockwise was performed and proceeded with cystectomy of the paratubal cyst using bipolar endoscopic electrosurgery. The cyst wall was opened and enucleation of the cyst was performed. The cyst was removed complete without any intraperitoneal spillage. The integrity of the fallopian tube including its lumen was maintained and good washout of the pelvis was done.

Figure 1: Torsion of the right fallopian tube, part of the right ovary is also visualized.

Figure 2: Twisted right fallopian tube and normal ovary. The paratubal cyst is seen on the left side of the image.

The patient was discharged home the following day in a good general condition and was seen in gynaecology clinic 3 months later with no reported concerns. Histology confirmed simple epithelial cyst.

Discussion

Preoperative diagnosis of adnexal torsion is difficult. The difficulty in diagnosis was illustrated in a series of 115 cases of adnexal torsion that revealed that the correct preoperative diagnosis had been made in only 38 percent of these patients [3].

The presentation of patients with adnexal torsion can sometimes overlap with other pathologies such as acute appendicitis, acute pelvic inflammatory disease or ruptured ovarian cyst. Good history taking is of great importance. Risk factors in the patients' history that can point to torsion should be explored. These include known tubal pathology (e.g. hydrosalpinx, paratubal cyst, neoplasm, tubal ligation clip, congenital anomaly), ovarian mass, ectopic pregnancy, altered tubal function (e.g., abnormal peristalsis, spasm), or extrinsic lesions (e.g., adhesions, endometriosis) [4]. Abdominal pain, nausea and vomiting are the most common presenting complaints. Abdominal examination may reveal rebound tenderness especially if necrosis has occurred. Fever, although an uncommon finding in tubal or ovarian torsion may be a marker of necrosis, particularly in the setting of an increased white blood cell count [5].

In our case no radiological investigations were done prior

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to laparoscopy. This is because the patient was admitted under the general surgeons and initial working diagnosis was acute appendicitis. The gynaecology team was not involved until the surgeons found a normal looking appendix. However, a number of studies reported radiological features of torsion. The dissociation of the cyst from the ovary when pushing the probe is a useful sign, called as "Split sign", for discriminating paraovarian masses [6]. A characteristic "whirlpool sign" may be seen on colour Doppler where a corkscrew appearance of a twisted vascular pedicle is apparent [7]. Although Doppler has high specificity, studies have revealed that it has low sensitivity missing the diagnosis in up to 60% of the time [8]. Computed Tomography and Magnetic Resonance Imaging have both been used to diagnose adnexal torsion [9,10]. However, definite diagnostic criteria for torsion using these modalities have no yet been well-defined or validated in large studies. One large study has concluded that the cost and time required for these imaging studies does not justify their routine use [11].

Prompt surgical management of suspected adnexal torsion is of extreme importance. Delay in operating can result in the loss of tube or ovary and generalised peritonitis and in rare cases fatal thrombophlebitis especially if in the puerperal period [12]. Moreover, prompt surgical intervention as in this case can result in preserved tubal and ovarian function and consequently fertility. Mode of operative treatment depends on a number of factors including the size of the cyst, any malignant feature and age of patient. Laparoscopic management of paratubal cysts was described in a large study including 118 patients by Darwish et al. [13]. The authors advocated endoscopic-endocystic visualisation of large adnexal cysts where it is difficult to differentiate between paratubal, paraovarian and ovarian cysts. Laparoscopic bipolar coagulation for small cyst or extraction by simple cystectomy is the most common described procedures for benign looking cysts.

The vast majority of paratubal cysts are benign. However, malignant and borderline paratubal cysts have been reported in the literature including borderline serous tumour [2,14] and transitional cell carcinoma in a paratubal cyst [15].

In conclusion, paratubal cysts are uncommon. They can present acutely with torsion. Diagnosis is often difficult to make preoperatively. Radiological investigations are useful. However, prompt surgical intervention should not be delayed in cases highly suspicious of torsion as time is the essence in young women with suspected adnexal torsion.

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