

Laparoscopic Removal of Large Gangrenous Paraovarian Cyst in an Adolescent Girl

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Abstract

Para ovarian cysts arise from the mesothelium lining of remnants of the Müllerian duct and Wolffian duct. They are mostly small and asymptomatic; however, torsion may occur in larger lesions. Case: A seventeen years old girl complained of acute abdominal pain. C.T. scan was arranged which revealed a large adnexal mass 82 × 63 mm. Doppler ultrasound showed absent blood flow to the adnexal mass. Laparoscopy revealed a large right torsion and gangrene in a Para ovarian cyst and right salpingo-oophorectomy was done via laparoscopy. Conclusion: Laparoscopy is preferred over laparotomy in the management of torsion of Para ovarian cysts as it is associated with shorter hospital stay and less patient discomfort. Salpingo-oophorectomy should be reserved to late gangrenous cases.

Keywords: Torsion; Para ovarian cyst; Laparoscopic management

Introduction

Paraovarian cysts are adnexal cysts lined by epithelium adjacent to the ovary and fallopian tubes. They arise from the mesothelium lining of remnants of the Müllerian and Wolffian ducts [1] and represent nearly 10% of adnexal masses [2].

They are mostly small and asymptomatic usually ranging between 1 and 8 cm in diameter however, larger lesions of 20 or more cm have been reported giving rise to pressure symptoms and lower abdomen pain, in addition to, complications as torsion which causes acute abdominal pain and need surgical exploration and removal [3], with only few studies reporting successful laparoscopic management in such complicated cases.

The current case reports successful laparoscopic management of an adolescent girl presenting with acute

abdominal pain due to torsion and gangrene of a Para ovarian cyst.

Case

A seventeen years old girl presented to the emergency department of our hospital complaining of acute abdominal pain for 8 hours. On Examination her pulse was 120 beats per minute, blood pressure 100/60 and temperature was 37.8 Celsius, abdominal examination revealed lower abdominal tenderness and rebound tenderness. Laboratory investigations revealed leucocytosis. She was initially diagnosed as acute appendicitis and C.T. scan was arranged which revealed a large adnexal mass 82 × 63 mm (**Figure 1**).



Figure 1 C.T. scan showing the adnexal mass.

So an urgent Doppler ultrasound was arranged, which showed absent blood flow to the adnexal mass. Based on the above findings laparoscopy with the possibility of laparotomy was decided and the patient was consented for that.

Laparoscopy was done through one umbilical 10 mm. incision and two side incisions 10 and 5 mm. in size. Laparoscopy revealed torsion and gangrene in the Para ovarian cyst (**Figure 2**).



Figure 2 Laparoscopic picture of twisted gangrenous Para ovarian cyst.

The medial part of the right tube immediately next to the uterus was coagulated then cut by diathermy. The right infundibula-pelvic ligament was coagulated then cut by diathermy. The specimen was inserted in an endoscopic retrieval bag then the cyst punctured inside the bag to avoid intra-peritoneal spilling of the cyst contents and to decrease the size of the specimen to be able to extract it through the laparoscopy port, in addition to, aspiration of minimal amount of toxic fluid, which was present in the pelvis.

Postoperatively the girl made an uneventful recovery and was discharged after 2 days. Histo-pathological examination of the cyst revealed gangrenous simple serous Para ovarian cyst (**Figure 3A**) and gangrenous tube (**Figure 3B**).

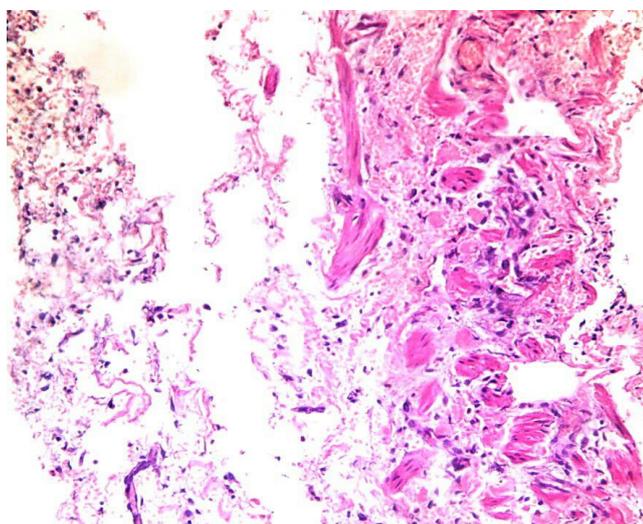


Figure 3A Microscopic picture of twisted Para ovarian cyst.

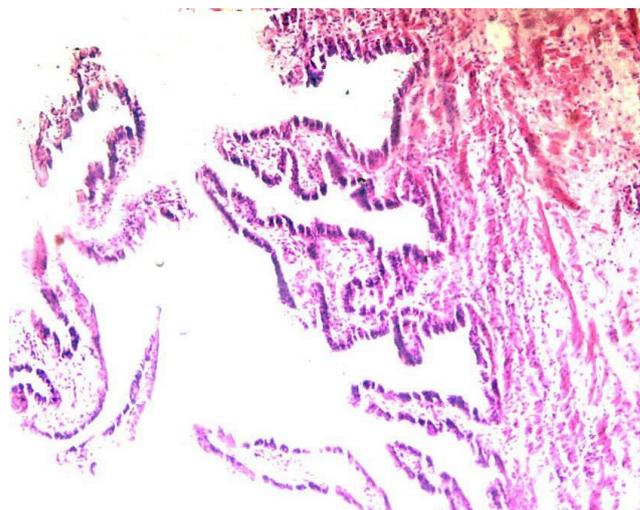


Figure 3B Microscopic picture of twisted tube.

Discussion

The current case represents a large complicated Para ovarian cyst managed by laparoscopy. Most of these cysts are accidentally discovered when they reach a large size or become complicated as with the current case.

Between 2.1 and 16% of Para ovarian cysts become complicated by Torsion [4], which presents clinically as abdominal and adnexal tenderness on pelvic examination, in addition to, a palpable mass with peritoneal signs which were all present in the current case; however, most of these findings are non-specific, and need to be differentiated from ruptured ovarian cyst, acute ureteric colic, pelvic inflammatory disease or acute appendicitis [5], the latter diagnosis was the initial diagnosis in the current case.

Grey scale and colour Doppler ultrasound have 99% specificity in diagnosing paraovarian cysts but only 14% sensitivity [6]. Ultrasonography can diagnose such cases by the "Split sign" which shows cyst dissociation from the ovary upon pushing the probe, thus, distinguishing them from ovarian masses [7]. Ultrasound features of tubal torsion include visualization of the twisted vascular pedicle and dilated tube with thick echogenic walls and internal debris/haemorrhage [8]. Colour Doppler is also helpful, which may show a high impedance waveform with reversal of diastolic flow in the affected tube [5]; however, definitive diagnosis is usually confirmed during laparoscopy or laparotomy [9].

Surgical management of torsion of Para ovarian cysts should be by de-torsion in early cases as ovarian function is usually preserved in 88% to 100% of cases [10]. Agarwal et al. [11], reported their experience in managing 46 cases of ovarian torsion and found that cases with benign pathology and ischemia are not a contraindication for ovarian preservation. In fact Dunckley et al. [12] reported successful decompression, de-torsion and excision of paraovarian cysts laparoscopically in two adolescent girls with preservation of the intact ipsi-lateral

ovary; however, this was not possible in the current case as the both the tube and ovary were gangrenous; therefore, unilateral salpingo-oophorectomy was done, which does not appear to affect the prognosis in patients with germ cell tumours (the most common type in this age group) and tumours with low malignant potential; however, if histopathological examination had shown malignancy, which is not the case in this patient; she should have undergone complete surgical staging even if she chooses to preserve the uterus and remaining ovary [13].

Laparoscopy is preferred over laparotomy as it is associated with shorter hospital stay and less patient discomfort [9]. Darwish et al. [14], reported successful laparoscopic management of 118 uncomplicated Para ovarian cysts by either puncture and bipolar coagulation of the cyst wall in cysts less than 3 cm. or cystectomy in larger cases; however, laparoscopy is usually contraindicated in patients with adnexal masses suspicious of cancer for fear of spilling of cancer cells, although both laparotomy and laparoscopy have equal rates of intraoperative cyst rupture [13]. Another limiting factor for laparoscopy is the size of the cyst [9] although the use of endoscopic retrieval bag narrowed this limitation as in the current case.

Conclusion

Laparoscopy is preferred over laparotomy in the management of torsion of paraovarian cysts as it is associated with shorter hospital stay and less patient discomfort.

De-torsion of the twisted paraovarian cyst should be done in early cases as ovarian function is usually preserved in 88% to 100% of cases, while salpingo-oophorectomy should be reserved to late gangrenous cases.

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