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ABSTRACT

Ovarian torsion involves rotation of the ovary and portion of the fallopian tube on the supplying vascular pedicle. It accounts for 3% of all cases of acute abdominal pain in adult women.15% of all torsions occur in paediatric patients, with two peaks of incidence, in newborns and at menarche. Mesenteric Cyst is any cyst located in the mesentery with a lining of endothelium or mesothelial cells, with/without extension into the retroperitoneum. Incidence is 1:2,50,000 admissions. Approximately one-third of cases occur in children younger than 15 years. Clinical features and radiological investigations usually help in arriving at a diagnosis. However this is not always the case and a surgeon must be ready to manage any situation that he comes across. Here we report a case of 12-year-old girl with a pelvic cystic mass; it was initially thought to be a mesenteric cyst, but the operative and histologic findings revealed a torsion ovarian cyst.

INTRODUCTION

Ovarian torsion is an uncommon cause of acute abdominal pain in children. It is estimated to account for 3% of all cases of acute abdominal pain in adult women.2 Most cases (71%) are seen in women older than 20 years.2 Ovarian torsion is an emergency that mandates early diagnosis and timely surgical exploration and detorsion. However, because the signs and symptoms can mimic other acute abdominal conditions, the preoperative diagnosis often remains a challenge. This can delay surgical intervention and lead to a greater risk of complications.

Case

A 12yr old female came to the Gynaecology Outpatient department with pain in lower abdomen since 8 days which increased progressively over time and did not respond to medication. It was associated with lump in the lower abdomen since 5 days, which gradually increased in size and was tender. She did not have complaints of burning micturition or any other bowel disturbances. She also complained of vomiting and fever since 1 day. She attained menarche 6 months back and had regular 30 days cycle. On examination a 10x7cm lump was palpable in the center of the abdomen just above the suprapubic region which was tender on palpation, cystic in consistency and slightly mobile. Guarding of abdomen was noted. Routine biochemical and haematological investigations were normal. Ultrasonography revealed a 10x12x10cm mesenteric/peritoneal cyst, with bilateral ovaries normal. Hence the patient was referred to the Department of Pediatric Surgery for further evaluation and management. CT (Abdomen+pelvis, Plain+contrast) was done which revealed a large well defined peripherally enhancing cystic lesion of the retroperitoneum arising from the root of the mesentery with features suggestive of benign etiology- mesenteric cyst. Left ovary appeared normal, right ovary showed a 2.5x2.5cm simple cyst.
CT scan showing a 10x15x10cm well defined cystic lesion with multiple septations without any solid component with features suggestive of benign etiology - mesenteric cyst

An exploratory laparotomy was done with an upper transverse incision and the cyst was found to be a large, detorted, hemorrhagic left ovary measuring approximately 10x15x10cm weighing 2.5kgs with congested left infundibulum. Consent was taken again from the parents of the patient and left infundibulo-oophorectomy was done. Biopsy was also taken from the grossly normal looking right ovary.

Pre excision blood sample was collected for LDH, Beta-hCG, Serum CA-125 and AFP. LDH was found to be 770 IU/L (N=185-640), CA125-40 U/mL (N=0-30), beta hCG- 623 mIU/mL (Non pregnant N= upto 5.3) and AFP-0.5 IU/mL (N=2-15). Histopathological examination of the left ovary revealed a haemorrhagic ovarian cyst due to torsion with no evidence of malignancy while the histopathology report of the right ovarian tissues showed unremarkable ovarian stroma with no evidence of malignancy.

Follow up

The patient had an uneventful postoperative stay. As the cyst was non malignant, she wasn’t offered any further treatment. The patient’s parents were counselled regarding solitary ovary and all the fertility concerns that they had. The patient was followed up after 3 weeks and was found to have no complaints and her biochemical markers showed a declining trend.

DISCUSSION

Cysts originating from mesentery and omentum are important differential diagnoses of ovarian cysts. Both mesenteric and ovarian cysts can be asymptomatic and only present with acute symptoms due to sudden hemorrhage into the cyst, rupture of the cyst or due to torsion. It is very important to have a high degree of suspicion for prompt diagnosis and treatment of adnexal torsion specially in paediatric age group. As there is no unequivocal diagnostic modality, such a case should be carefully assessed and early surgical intervention carried out with an aim to preserve the adnexa.

Preoperative blood sample was collected for LDH, Beta-hCG, Serum CA-125 and AFP. LDH was found to be 770 IU/L (N=185-640), CA125-40 U/mL (N=0-30), beta hCG- 623 mIU/mL (Non pregnant N= upto 5.3) and AFP-0.5 IU/mL (N=2-15). Histopathological examination of the left ovary revealed a haemorrhagic ovarian cyst due to torsion with no evidence of malignancy while the histopathology report of the right ovarian tissues showed unremarkable ovarian stroma with no evidence of malignancy.

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Despite the difficulty to recognize this condition in children – due to their low frequency – these girls show a more favorable prognosis: the ovarian salvage rate has been reported as low as 10% in adults but raises to 27% in a study regarding pediatric patients [3]. In this perspective, the early diagnosis of ovarian torsion is paramount and will reduce the risk of complications and increase the probability of ovarian preservation. Indeed, some authors report an 80%-90% rate of ovarian salvage with early surgical intervention [8].

However, delay and misdiagnosis may cause the loss of the ovary, of the fallopian tube, or both [9]. This is not only attributed to the loss of blood supply during torsion, but also to the oxidative stress during ischemia/reperfusion injury [10].

The twisting of the ovary may involve a normal ovary (15-25%) [11,12] or an ovary with functional pathology, benign or malignant neoplasm [5,13]; however, malignancies are very rare. At presentation, the symptoms are usually nonspecific, thus often causing a delay of some hours in both diagnosis and surgical management [12].

CONCLUSION

Abdomen is a Pandora’s box. In spite of several investigations at our disposal, the human belly defies them all and reveals its secret only when confronted by a surgeon’s scalpel. To date there is not a reliable and unequivocal method to assess a correct diagnosis, thus it is not infrequent to have a definitive diagnosis during surgery. It is also paramount that a surgeon keeps an open mind and adequately prepares the patient and the
relatives before a decision is taken to operate a patient. Also laparoscopy can play a major role when dealing with such cases of diagnostic dilemma.

References


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