

Ovarian teratoma presenting as torsion in a 5-year-old girl

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Case report

A previously healthy 5-year-old girl presented with sudden onset of lower abdominal pain for 1 day. Associated symptoms included nausea and vomiting, reduced oral intake and constipation. She did not have any history of recent fever, diarrhoea, upper respiratory tract infections or urinary tract infection.

Examination showed a lethargic, afebrile child with no pallor. Blood pressure was 105/60mm Hg (range for age 95-110/60-75mm Hg) with pulse 98/min (range for age 80-120/min). There was tenderness in right iliac fossa, periumbilical and suprapubic regions of abdomen without signs of peritonitis. Respiratory, cardiovascular and neurological examinations were unremarkable. Full blood count showed a total white cell count of 11,300/cu mm with 65% neutrophils and urinalysis was negative for blood, nitrite and leucocytes. Abdominal x-ray showed a faecal loaded picture with no evidence of bowel dilatation (Figure 1).

As the symptoms persisted with worsening pain, an abdominal ultrasound was organized. It showed free fluid in the right iliac fossa, Morrison's pouch and pelvis. Laparotomy was performed to exclude a perforated appendix. A twisted gangrenous right ovarian mass, measuring 7cm x 5cm with surrounding haemorrhagic fluid was found during laparotomy (Figure 2). The appendix, bowel and other pelvic organs were normal. Right salpingo-oophorectomy was performed. She recovered completely and was discharged subsequently.

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Figure 1: Abdominal x-ray, green arrow indicating presence of faeces throughout bowel



Figure 2: Ovarian mass with torsion. Green arrow indicates point of torsion

Histopathology showed congested mature cystic teratoma consistent with torsion. Serum alpha fetoprotein (AFP) and beta human chorionic gonadotropin (BHCG) levels were normal. Paediatric oncology referral was done for further follow up and surveillance

Discussion

Ovarian tumours in children are rare, with an incidence of 2.6 in 100,000 cases per year, 90% being benign tumours, mature teratoma being the most common¹. Abdominal pain is the most common presentation in children, other presentations including menstrual disorder, abdominal swelling and precocious puberty². In terms of aetiology, either mature cystic teratoma or torsion with no underlying pathology were more common in younger children, follicular or corpus luteal cyst being more common in older children³.

Diagnosis of ovarian tumours is mainly by ultrasonography or computed tomography (CT), showing a solid, cystic or complex pelvic mass with or without the presence of free fluid³. Ultrasonography, being operator dependent, may miss small ovarian masses, and CT scan may not be readily available in certain centres.

Management of ovarian tumours is mainly surgery. The challenge is trying to balance between optimal surgical resection versus fertility preservation. It has been advocated that borderline ovarian tumours be managed with cystectomy with close surveillance or oophorectomy⁴. Malignant tumours require salpingo-oophorectomy to confirm complete resection⁵. In a patient presenting with ovarian torsion, the congested and necrotic ovary would be difficult to distinguish from a normal ovary, an ovarian cyst or ovarian tumour. Children's Cancer and Leukaemia Group (CCLG) of the UK guidelines state that 'in strongly suspected ovarian mature teratoma, it is reasonable to attempt fertility-preserving surgery with resection of tumour only, rather than oophorectomy'⁶. In relation to our patient, differentiation between the ovarian tumour and normal tissue was difficult. Other points to note are that the patients in paediatric groups tend to present out of hours, managed by paediatric or general surgeons who may not be familiar with ovary-sparing surgery. Pure mature teratomas rarely present with malignant transformation and thus surgical resection is curative⁷.

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