

# Giant parovarian cyst: A case report

## Dev parovaryan kist: Olgu sunumu

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Giant parovarian cysts in adolescents are rare clinical entities<sup>(1-2)</sup>. They usually arise from the broad ligament predominantly from mesothelium covering the peritoneum but may also be observed in between the fallopian tube and ovary. Although they are usually asymptomatic, symptoms due to pressure effect to neighbourhood organs or symptoms due to complications such as enlargement, torsion, perforation and hemorrhage may also be observed. Conservative ovarian surgery including enucleation of the cyst with preservation of the ovary and fallopian tubes is the standard therapy for the development of puberty and future fertility<sup>(3,4)</sup>. In complicated cases excision of ovary and/or fallopian tubes may also be needed. We present a case of giant paraovarian cyst in an 14-year-old girl treated by enucleation of the cyst with preservation of the ovary and review of the literature on this subject.

A 14-year-old girl was admitted to our department due to a 1 month-old huge abdominal cystic mass extending from the symphysis pubis to the epigastric region. She was medically treated for precocious puberty for 4 years. Clinical examination revealed a manifest bulge of the entire abdomen. Ultrasonography and computed tomography (CT) of the abdomen and pelvis revealed a huge unilocular smooth surface cyst without septations filling the entire abdominal cavity (Figure 1). Maximum diameter of the cyst was 40 cm. Due to pressure effect of the cystic mass, cranial displacement of the liver, posterior relocation of the intestine with right ureteral dilatation was observed.

Laboratory test results were within normal limits, including the LDH,  $\beta$ -HCG, AFP, and CA-125. Clinical investigations and radiological work-up excluded any signs of malignancy. Regarding the risk of cyst rupture and limited space within the abdomen, laparoscopic approach was found to be difficult and the patient underwent elective surgery with laparotomy. Intraoperatively, there was a huge paraovarian cyst measuring 40x27x19 cm with a fluid volume of 14 liters extending to the left fallopian tube and left ovary (Figure 2). The right ovary and fallopian tube were found to be normal. Due to close proximity to the left fallopian tube, the giant cyst was excised together with the left fallopian tube and the left ovary was preserved. Histopathology revealed serous cystadenoma with no solid components. With a follow-up period of 3 years, the postoperative course was eventless and the patient was well.

Paraovarian cysts are uncommon in children and account for 10% to 33% of adnexal masses and are most commonly seen in the 3rd and the 4th decades of life<sup>(5,6)</sup>. They vary from small asymptomatic lesions to larger cysts. Enlarged cysts become symptomatic due to mass effect including abdominal pain and distension. In addition to precocious puberty, our patient presented with a huge abdominal bulge producing abdominal discomfort which necessitated surgical intervention. If cysts extending into the layers of the broad ligament do not have pedicles, complications related to paraovarian cysts have been rarely reported. These complications include torsion, hemorrhage,

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perforation and neoplasm within the cyst<sup>(5)</sup>. These masses are usually seen during puberty but may arise as a neonatal intraabdominal mass<sup>(4)</sup>. Our adolescent patient presented with a huge abdominal mass.



**Figure 1.** Computed tomography scan showing giant cystic lesion filling the entire abdominal cavity.



**Figure 2.** Operative view of the case. Note the cyst was pulled out of the abdominal cavity and cyst content was evacuated.

Although ovarian cysts are labelled as large cysts when they are over 5 cm and giant when they are over 15 cm, giant paraovarian cysts lack a strict numerical definition and there are no uniformly accepted criteria that define this entity<sup>(8)</sup>. Although cysts that reach such a giant size are almost always benign, careful diagnostic work-up including imaging and analysis of tumor markers with a oncology consultation should be carried out in suspect cases with malignancy. In case of malignancy, open surgical intervention is highly recommended. In our

patient laboratory work-up was normal, including analysis of oncological markers LDH,  $\beta$ -HCG, AFP, and CA-125. Clinical investigation and radiological tests including oncological consultation excluded any signs of malignancy. Giant paraovarian cysts always require resection because of symptoms due to mass effect the cyst produces, difficulties in establishing the origin of the mass, possible complications including torsion, hemorrhage, perforation and a risk of malignancy<sup>(5)</sup>. Enucleation of the paraovarian cyst with an attempt of ovarian salvage should be considered. In our case, due to close proximity to the left fallopian tube, the giant cyst was excised together with the left fallopian tube and the left ovary was preserved. This procedure can be performed by laparoscopy or by an open surgical intervention. Presently laparoscopy is widely used in pediatric surgery with the advantages of minimal invasive technique including better cosmesis, less pain and shorter hospital stay. Regarding the risk of cyst rupture and limited working space, the laparoscopic approach was found to be infeasible in our patient and an open surgical intervention was performed. The histology of paraovarian cysts has been described well and papillary serous cystadenoma, borderline tumor and endometrial sarcoma arising paraovarian cysts have all been reported<sup>(6)</sup>. Histopathological examination revealed serous cystadenoma with no solid components in our patient.

Preoperative diagnosis of paraovarian cyst is difficult and it should be included in the differential diagnosis of abdomino-pelvic masses. As is commonly advocated for ovarian salvage in adnexal torsions, preservation of the ovary during the surgical intervention -if possible- may increase the future reproductive potential of these patients.

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