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Giant Parovarian Cyst: A Case Report

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Introduction

Giant parovarian cysts in adolescents are rare clinical entities [1,2]. They usually arise in the broad ligament predominantly from mesothelium covering the peritoneum but may also be observed 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 preserving the ovary and fallopian tubes is the standard therapy for the development of puberty and future fertility [3,4]. In complicated cases excision of the 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 preserving the ovary and review of the literature on this subject.

Case Report

A 14-year-old girl was admitted to our department due to a huge abdominal cystic mass extending from the symphysis pubis to the epigastric region with a duration of 1 month. 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. The laboratory work-up was normal, including the lactate dehydrogenase, beta-human chorionic gonadotropin, alpha fetoprotein, and cancer antigen-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 laparatomy. Intraoperatively, there was a huge paraovarian cyst measuring 40 × 27 × 19 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 was 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 is eventless and the patient is well.

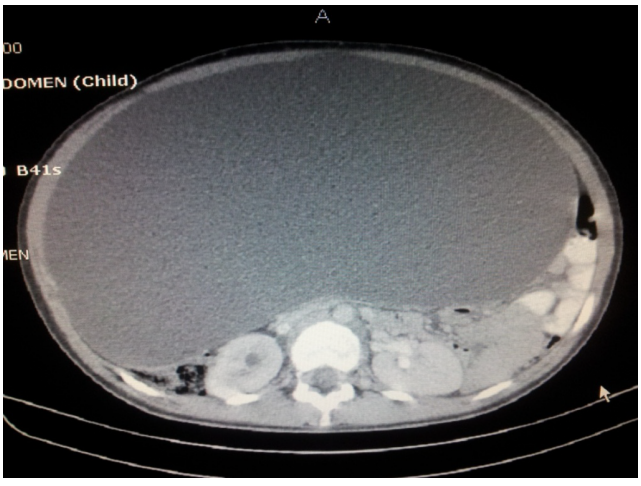

Figure 1: Computed tomography scan showing giant cystic lesion filling the entire abdominal cavity.

Discussion

Paraovarian cysts are uncommon in children and account for 10% to 33% of adnexal masses and are most commonly seen in the 3rd and 4th decades of life [5-8]. They vary from small asymptomatic lesions to larger cysts. When large, they become symptomatic due to mass effect. In addition to precocious puberty, our patient presented with a huge abdominal bulge producing abdominal discomfort. As they expand into the leaves of the broad ligament and do not have pedicle, complications related to paraovarian cysts have been rarely reported. These include torsion, hemorrhage, perforation and neoplasm within the cyst [5,9]. These masses are usually seen during puberty but may arise as a neonatal

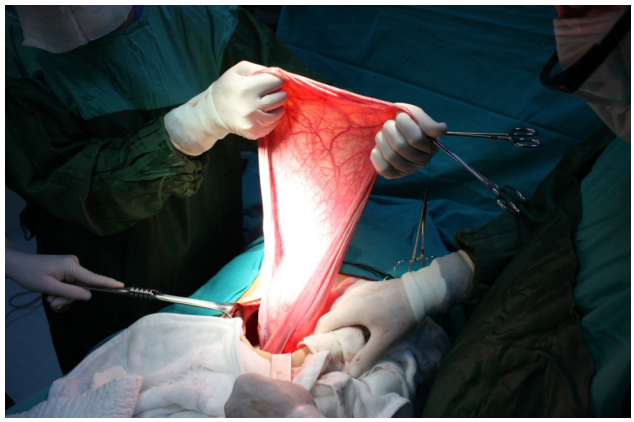

Figure 2: Operative view of the case. Note the cyst was pulled out of the abdominal cavity and cyst content was evacuated.

intraabdominal mass [4]. Our patient presented with a huge abdominal mass during adolescence.

Giant paraovarian cysts lack a strict numerical definition, and there are no uniformly accepted criteria that define this entity [10]. Although cysts that reach such a giant size are almost always benign, careful diagnostic work-up including imaging and tumor markers with a oncology consultation should be carried out due to the suspicion of malignancy [11]. In the case of malignancy, open surgical intervention is highly recommended. In our patient laboratory work-up was normal, including the oncologic markers lactate dehydrogenase, beta-human chorionic gonadotropin, alpha fetoprotein, and cancer antigen-125. Clinical investigation, and radiologic tests including oncologic 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 [5,9,10]. 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 [12]. 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 [13,14,15,16]. 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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