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## Case Report

# Ovarian huge serous cystadenoma with torsion in adolescent girl: a case report

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### ABSTRACT

In adolescent Ovarian cysts are an extremely common gynaecological problem. Majority of ovarian cysts are benign with few cases being malignant. Ovarian serous cystadenomas are rare in children. A 14-year-old presented with severe abdominal pain and abdominal distention. She underwent emergency laparotomy and surgical removal, the mass was found to be torsion of ovarian serous cystadenoma-fibroma on histology. In conclusions, germ cell tumours the most important causes for the giant ovarian masses in children. Epithelial tumours should not be forgotten in the differential diagnosis.

**Keywords:** Adolescent, Cystadenoma, Ovarian Cysts/diagnosis, Ovarian cystadenoma, Ovarian Neoplasms/surgery, Serous/surgery

## INTRODUCTION

During infancy and adolescence, which are hormonally active periods of development cystic lesions of the ovary are most common.<sup>1</sup> Cysts are mostly non-neoplastic in children and could be categorized as follicular, simple, and corpus luteum cysts.<sup>1</sup> Ovarian cysts rarely grow immense. Ultrasonography scanning permits early detection and appropriate treatment. Occasionally, ovarian cysts reach enormous dimensions without raising any symptoms. A few cases of giant ovarian cysts have been sporadically reported in the literature.<sup>1</sup>

We presented a case of a giant ovarian cyst with torsion in a 14-year old girl, with characteristics of ovarian serous cystadenoma-fibroma both grossly and microscopically.

## CASE REPORT

The patient is a 14-year-old female who presented at our gynec emergency with acute pain in abdomen colicky in nature associated with 2 episodes of vomiting. She gave history of blunt trauma to abdomen 5 days back after which she noticed abdominal distension. She had constipation since 15 days. She had no previous history of any illnesses, allergies or operations. She had normal regular menses. On general examination she weighed 42 kg and vital signs were normal. There was no icterus, edema, or lymphadenopathy. Abdominal examination showed general abdominal distension with 32 weeks size mass, tense, cystic in consistency. Intestinal sounds were normal. External genital examination was normal. Abdomino-pelvic ultrasonography was suggestive of a large 18.7x14.5 cm cyst in the abdominopelvic region extending into right adnexal region. No intrinsic calcification or solid components, bowel loops are

displaced to the sides and uterus was normal but compressed by mass.



**Figure 1: Midline vertical incision.**



**Figure 2: Huge right ovarian cyst.**



**Figure 3: Huge right ovarian cyst with torsion (360 degree) of pedicle.**

The patient underwent emergency laparotomy with a vertical midline incision, under and up to the umbilicus (Figure 1). After opening the layers, a large tense, smooth-surfaced cystic mass was noted. The mass was removed from the incision (Figure 2). The cyst measured  $20 \times 11 \times 9$  cm, extended up to the undersurface of the

left diaphragm, and totally weighed 3.5 kg. The mass originated from the right ovarian region with 360 degree of torsion of pedicle of cyst (Figure 3). We excised the cyst with ovary and the ipsilateral fallopian tube as it is adherent and stretched out over ovarian cyst (Figure 4). The left ovary and fallopian tube was explored and normally noted. There was minimal fluid in the abdomen.



**Figure 4: Huge right ovarian cyst (20 x 11 x 9 cm in size).**

In pathologic examination, cyst was lined by flattened to low cuboidal epithelium with few papillary configurations with fibrous proliferation with fresh and old hemorrhages sign of benign serous cystadenofibroma with torsion (Hematoxylineosin stain, original magnification, X 100). Peritoneal fluid cytology shows RBC, neutrophils, histiocytes in proteinaceous background with no malignant cells. The postoperative period was uneventful and the patient was discharged on the fifth day after the operation.

## DISCUSSION

Ovarian neoplasms may be divided according to original cell types into three main groups: epithelial, stromal, and germ cell. The epithelial tumors are the most common type. The single most common benign ovarian neoplasm is the benign cystic teratoma; however, according to some studies, it is serous cystadenoma. The most common types of epithelial neoplasms encountered were benign cystadenoma, of which 75% were serous and 25% were mucinous.<sup>2</sup> Serous or mucinous cystadenomas of the ovary, benign or malignant, are rare in children. They arise from mullerian germinal epithelium. Patients are usually post-pubertal.<sup>2</sup>

Children with an ovarian mass might have no symptoms, and the mass might be detected incidentally or during a routine examination. Other children present with lower abdominal pain or an increase in abdominal girth that may be accompanied by nausea, vomiting, dysuria, increased urinary frequency, urinary retention, constipation, weight loss, menstrual abnormalities, dyspnea, orthopnea, ascites, supine hypotension, hydronephrosis, or pleural effusion.<sup>3</sup> Ovarian masses in

children more frequently are associated with acute complications such as torsion, hemorrhage, and rupture.<sup>2</sup> Torsion of the ovary usually occurs with torsion of the fallopian tube as well on their shared vascular pedicle around the broad ligament, although in rare cases the ovary rotates around the mesovarium or the fallopian tube rotates around the mesosalpinx. In 80%, torsion happens unilaterally, with slight predominance on the right.<sup>4</sup>

In (pre) pubertal girls, the differential diagnosis with functional cysts can involve some delay. A functional cyst is mainly a unilocular and anechoic cyst with thin borders. Second differential diagnoses of ovarian cysts are omental cysts. Omental cysts occur in all age groups, but most often they present in children and young adults. Other diagnoses may be mesenteric cysts, cysts arising from retroperitoneal structures like pancreatic pseudocysts, urinary retention, bladder diverticulum, hydronephrosis, cystic lymphangiomas, choledochal cysts, splenic cysts, multicystic dysplastic kidney, gastrointestinal duplication cysts and large uterine tumors.<sup>5</sup>

Management of ovarian cysts depends on the patient's age, the size and structure of the cyst and menopausal status. Surgical management of cysts is by laparotomic or laparoscopic cyst excision or cystectomy with oophorectomy. In addition, the contralateral ovary should be examined and where it looks suspicious, a frozen section will assist in deciding whether to remove it or not.<sup>6</sup> Some authors have emphasized that intact cyst removal, with gradual rolling of the mass off the inferior vena cava, is the optimal technique. On the contrary, Hunter et al have reported that gradual decompression prevents rupture of the cyst capsule and greater dissemination.<sup>7</sup>

The potential complication of repeated paracentesis is the intraperitoneal spillage of cyst components. This could result in tumor seeding of the peritoneal cavity or paracentesis tract if the cyst is malignant. Other complications associated with repeated paracentesis include infection, bleeding, and an increase in the number and density of peritoneal adhesions, making eventual cyst removal even more difficult.<sup>8</sup> In the cases of emergency surgery that do not allow waiting for results of tumor markers, decision of choice, laparoscopy versus laparotomy, can be based on size and structure of the enlarged ovary.<sup>9</sup> Low malignant recurrences have been reported more than ten years after initial surgery in the adult patient population, so it may be safe to assume that those diagnosed in adolescence should be observed into

adulthood. Although adherence to long-term follow-up can be difficult, this should not alter the decision to perform a conservative surgical procedure in an attempt to preserve a patient's fertility.<sup>10</sup>

## CONCLUSION

In conclusion, we had known that germ cell tumors are the most important causes for giant ovarian masses in children. But epithelial tumors should not be forgotten in the differential diagnosis.

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