A Giant Serous Cystadenofibroma Presenting as Massive Abdominal Distension in an Adolescent: A Case Report

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INTRODUCTION

Ovarian neoplasms are uncommon in children and adolescents, with an estimated incidence of fewer than three cases per 100,000 girls annually [1]. Although epithelial tumors account for the majority of ovarian neoplasms in adults, they are much less common in pediatric populations, where reported frequencies range from approximately 5% to 31% depending on age and study population [1]. Most ovarian masses in adolescents are benign, but giant ovarian cysts remain clinically important because their size and nonspecific presentation can complicate diagnosis and raise concern for malignancy. Lesions larger than 15 cm are generally considered giant cysts in the pediatric literature, and recent adolescent cases have included serous cystadenomas measuring more than 30 cm in diameter [2].

The present case is notable for the development of an exceptionally large ovarian cystadenofibroma in a 17-year-old adolescent following approximately two years of progressive abdominal distention with minimal associated symptoms. The mass measured approximately 50 × 36 × 26 cm and contained 27 L of serous fluid, exceeding the dimensions of many recently reported giant ovarian tumors in adolescents. Final histopathologic examination demonstrated a benign papillary serous cystadenofibroma with focal calcification and no evidence of dysplasia or malignancy. The combination of the patient's young age, extreme tumor size, prolonged progression, limited symptom burden, and uncommon histopathology makes this an unusual presentation and highlights the diagnostic challenges associated with giant benign ovarian neoplasms in adolescent patients.

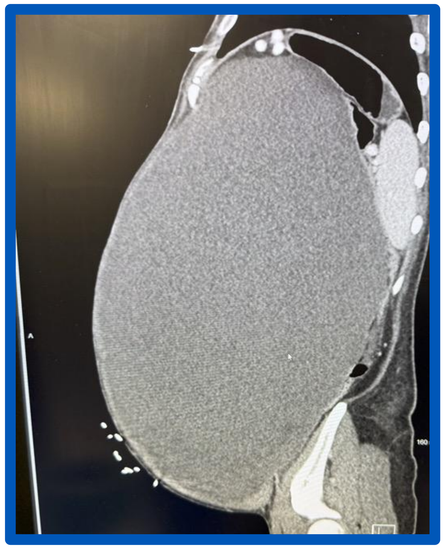

Figure 1. CT scan performed in the emergency department.

CLINICAL COURSE

Time	Clinical Course
~2 years before presentation	Progressive painless abdominal distension
July 15, 2026	PCP evaluation → ED referral
July 15, 2026	A CT revealed a 50 × 36 × 26 cm abdominopelvic cyst
July 15, 2026	OB/GYN consultation; case reviewed with GYN oncology
July 16, 2026	Exploratory laparotomy, drainage of 27 L, right salpingo-oophorectomy
Postoperative	Pathology: benign papillary serous cystadenofibroma
2 weeks postoperative	Uncomplicated recovery; weight decreased 73.2 → 48.8 kg

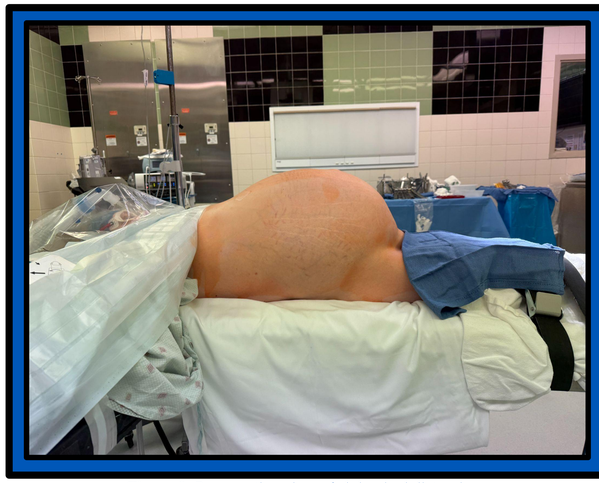

Figure 2. Preoperative view of abdominal distension.

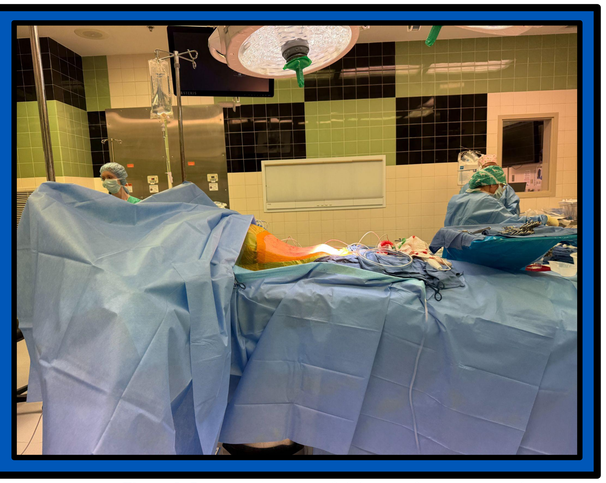

Figure 3. Postoperative view of abdomen after cyst removal.

CASE PRESENTATION

A 17-year-old caucasian female with no significant past medical or surgical history presented to the emergency department on July 15, 2026, with progressive abdominal bloating and distension over approximately two years. She had been evaluated by her primary care physician earlier that day and was referred to the emergency department for further evaluation. Despite the degree of abdominal distension, she denied abdominal pain, fever, or shortness of breath and reported feeling well overall, although she endorsed fatigue. She had not previously undergone evaluation for the abdominal enlargement. She reported regular menses, with her most recent menstrual period ending two days prior to presentation. She reported no allergies. She denied prescription and over the counter medication usage. She denied current and previous tobacco, alcohol, illicit drug use. The only significant and reported family history is cancer in her grandfather.

On presentation, she weighed 73.2 kg with a BMI of 27.7 kg/m². She was afebrile at 98.9°F, tachycardic at 124 beats/min, with a respiratory rate of 20 breaths/min, blood pressure of 122/81 mmHg. Physical examination was notable for temporal wasting and marked abdominal distension without tenderness, guarding, or rebound. Despite the degree of abdominal distension, the patient was not ill-appearing and demonstrated normal respiratory effort. Cardiovascular examination was notable for tachycardia with a regular rhythm. The remainder of the physical examination was unremarkable. Electrocardiography demonstrated sinus tachycardia. Laboratory evaluation demonstrated a negative serum pregnancy test. CA-125 was elevated at a level of 120 U/ml, bicarbonate of 20 mmol/L, potassium of 3.5 mmol/L, creatinine of 1.12 mg/dL, and INR of 1.2. Her hemoglobin was 14.2 g/dL, hematocrit 42.9%, white blood cell count 4.5 × 10^3/µL, and platelet count 262 × 10^3/µL. Computed tomography of the abdomen and pelvis with intravenous contrast demonstrated a massive simple-appearing cyst replacing most of the peritoneal cavity, extending from the diaphragm to the deep pelvis and measuring approximately 50 × 36 × 26 cm. The radiologist favored an unusual low-grade ovarian lesion, although a massive peritoneal cyst was also considered, and recommended gynecologic oncology consultation.

On July 16, 2026, the patient underwent exploratory laparotomy under general anesthesia. The procedure was performed by an attending obstetrician-gynecologist with surgical assistant and medical student assistance. A large cystic mass was encountered through a 9 cm low vertical midline incision and decompressed using a 14-mm suction curette, yielding 27 L of serous fluid. Following decompression, the approximately 50-cm mass was delivered through the incision. Although cystectomy with ovarian preservation was planned if technically feasible, intraoperative assessment demonstrated that ovarian and tubal conservation was not possible due to the degree of distension and the location of the adnexal structures within the mass. Therefore, a right salpingo-oophorectomy was performed. Estimated blood loss was 20 mL, and no intraoperative complications occurred.

Histopathologic examination of the right ovary and fallopian tube demonstrated a benign papillary serous cystadenofibroma with focal calcification, without evidence of dysplasia or malignancy. At 2-week follow up, the incision was well healed, symptoms had resolved, baseline function was restored, and weight decreased by 24.4 kg following fluid removal, with no postoperative complications.

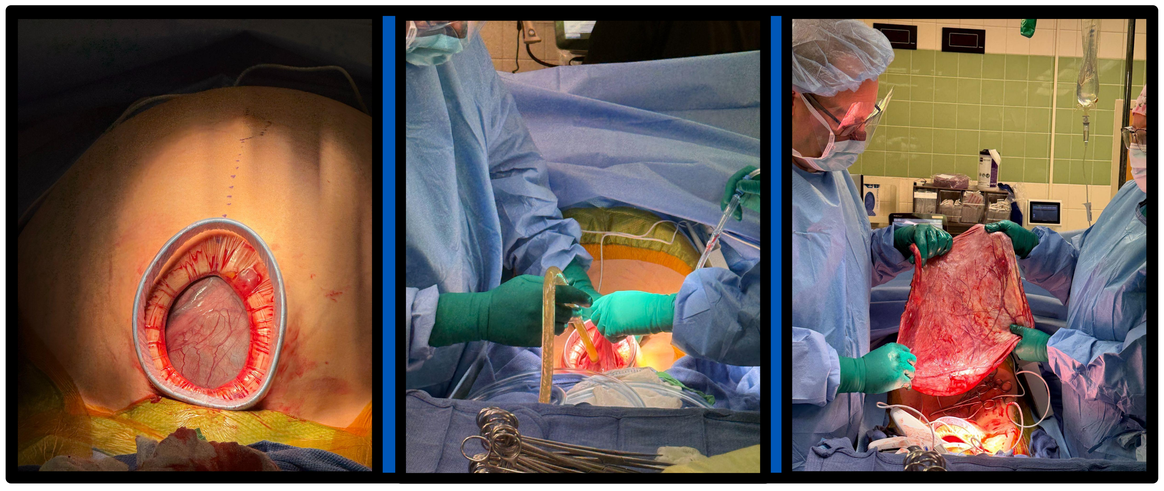

Figure 4. Intraoperative progression of cyst removal with low vertical midline incision, decompression with suction curette, and delivering the cyst wall through the incision.

DISCUSSION

A benign ovarian cystadenofibroma reached extraordinary size (≈50 × 36 × 26 cm; 27 L drained) in a 17-year-old with only painless, progressive abdominal distension — mimicking malignancy and precluding ovarian preservation despite fertility-sparing intent.

Cystadenofibroma is a rare benign epithelial–stromal ovarian tumor whose cystic and solid components, septations, and papillary projections may resemble malignancy on imaging [3,4]. Although these tumors are more commonly reported in symptomatic adult women, this case highlights an unusual presentation in an asymptomatic adolescent. Giant ovarian tumors are generally defined as those exceeding 25 cm; comparable serous cystadenofibroma neoplasms (80 × 50 × 50 cm;~100 L) have been reported, but most giant ovarian tumors are mucinous rather than serous [6]. CT imaging favored an ovarian origin but could not establish histology, and pelvic ultrasound and MRI were not performed.

Strengths of this case include multidisciplinary management, definitive intraoperative assessment, histopathologic confirmation, documentation of intraoperative decision-making, and an uncomplicated early postoperative recovery. Limitations include CT-only characterization, absence of prior imaging to assess tumor growth, lack of documentation regarding the rate of intraoperative decompression, which limits assessment of potential hemodynamic effects, and only two weeks of postoperative follow-up. As a single case, these findings cannot be generalized; however, this case underscores the diagnostic and surgical challenges posed by exceptionally large benign ovarian tumors in adolescents and the importance of balancing definitive treatment with fertility-preserving goals.

Figure 5. Serous fluid cyst content.

CONCLUSION

Take-Away Lessons

Ovarian cystadenofibroma should remain in the differential diagnosis of large complex ovarian masses, as its clinical and radiologic features can closely mimic malignancy. When feasible, a stepwise imaging approach beginning with preliminary ultrasound followed by definitive T2-weighted MRI may improve characterization and reduce diagnostic uncertainty. Primary care also plays an important role in facilitating timely referral and evaluation of progressive abdominal distension. In this case, factors including health literacy, health education, and access to care may have contributed to delayed presentation and subsequent extreme tumor growth. Fertility implications should be considered early in the evaluation and management of large adnexal masses, particularly in adolescents. This patient ultimately underwent a procedure that affected future fertility, raising the question of whether earlier recognition and intervention might have allowed for fertility-sparing management. Fertility preservation should be prioritized when feasible, particularly in adolescent patients; however, extreme tumor size and anatomic distortion may preclude ovarian preservation.

Conclusion & Acknowledgements

These conclusions follow directly from the case findings and their concordance with the literature. Written informed consent for publication and any accompanying images was obtained from the patient and is retained by the author. The authors declare no conflicts of interest. No funding was received for this case report. Institutional review board or ethics committee approval was not required for this case report. Generative artificial intelligence (ChatGPT, OpenEvidence) was used to assist with language editing, organization, and refinement of the manuscript and poster. All content, citations, and conclusions were reviewed and verified by the authors.

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