# Giant Paraovarian Cyst in a Young Female

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**A thirty-two year old woman presented with painless, gradually increasing abdominal distension of eight months duration. Ultrasound and CT scan of the abdomen and pelvis were suggestive of an ovarian cyst. At laparoscopy a huge right broad ligament (paraovarian) cyst was found and cystectomy was performed.**

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Paraovarian cysts (POC) represent approximately 10% of adnexal masses[1-4]. They are more common in women aged 30-40 years. Most of the time, the cysts are small and asymptomatic, although occasionally they can be large resulting in pelvic pain[5]. POC usually arise in the broad ligament and is thin walled and unilocular. It may be difficult to differentiate POC from an ovarian cyst reliably by radiological imaging. Therefore, the definitive diagnosis is made during surgery.

The aim is to report a case of broad ligament cyst in a young female patient, which presented as a huge pelvi-abdominal mass suggestive of an ovarian cyst and to increase the awareness of surgeons for better diagnosis and management.

## THE CASE

A thirty-two years old, single Bahraini Art teacher, presented to the surgical clinic with gradual abdominal distention of about 8 months duration. The patient had no history of loss of appetite or weight. There were neither any gastro-intestinal nor any urinary complaints, and she had no significant menstrual, past or family history.

On examination, the patient was generally lying comfortable in bed. She had no respiratory distress. The patient's weight was 50 kg.

The abdomen was distended, not tender with a huge pelvi-abdominal mass mimicking full term pregnancy. It was occupying the entire abdomen up to the xiphoid process. Clinically, the differential diagnosis was ovarian or mesenteric cyst. The rest of her systemic examination was normal.

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Laboratory results showed, normal CBC, urea, sugar, electrolytes, and LFT. Tumor markers such as alpha-fetoprotein, B-HCG, CA-125, and Carcino-embryonic antigen were normal.

Ultrasound of the abdomen and pelvis showed a large cyst 32 x 30 $cm^2$ occupying the abdomen. It was filled by a clear fluid. Its nature could not be differentiated radiologically from being ovarian or mesenteric in origin.

CT scan showed 32 x 30 $cm^2$ pelvi-abdominal cyst. The origin of the cyst could not be ascertained although the possibility of an ovarian cyst was kept in mind, see figure 1 and 2.

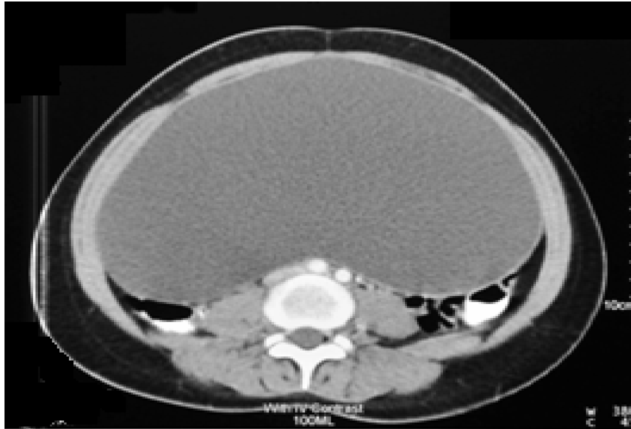


**Figure 1: CT scan of the Abdomen Showing 32 x 30 $cm^2$ Cyst Occupying the Abdomen, Pushing the Small Bowel Posteriorly and in Close Contact with the Abdominal Wall Anteriorly**

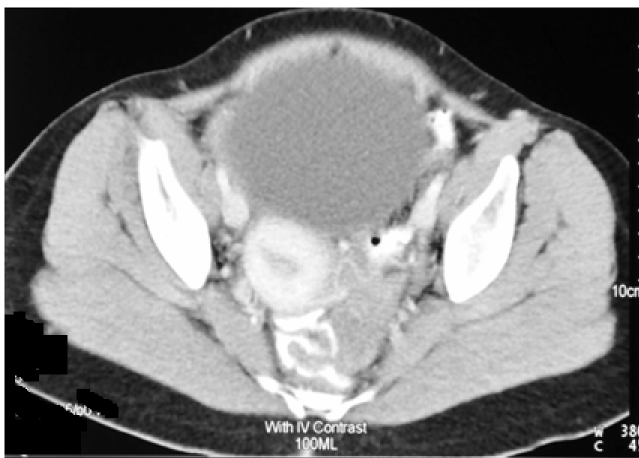


**Figure 2: A Pelvic CT Scan Showing the Cyst in Close Contact to the Uterus but Both Ovaries Could Not Be Visualized**

Diagnostic and therapeutic laparoscopy under general anesthesia was performed. Supra-umbilical transverse incision was performed and the cyst was identified. The cyst content was sucked out completely (4.2 L of clear fluid was aspirated). The cyst was closed and pushed inside the abdomen. Through laparoscopic camera the cyst was found originating from the right broad ligament. Complete dissection of the cyst (right para-ovarian para-tubal cyst) with good hemostasis was successfully performed, see figure 3.

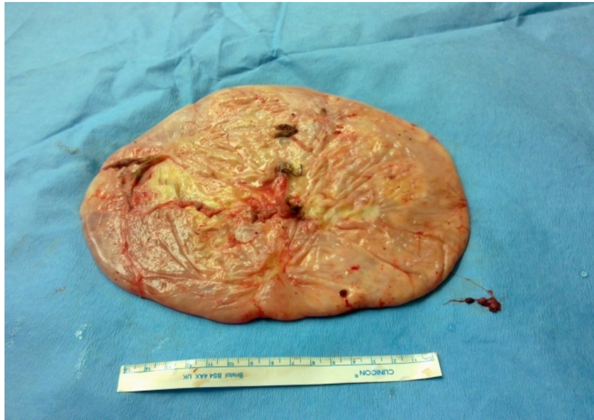

**Figure 3: The Cyst after Retrieval Laparoscopically, about 20 CC of Saline Was Injected in the Cyst for Photographing**

Histopathology confirmed that the cyst was completely resected and the diagnosis was cyst adenoma. The patient had uneventful postoperative recovery. Postoperatively the weight dropped to 43kg compared to 50 kg preoperatively.

## DISCUSSION

A paraovarian cyst is a closed, fluid-filled sac that grows beside or near the ovary and fallopian tube, but never attached to them. It is usually located on the ligament between the uterus and the ovary, and often only found unilateral. It is thought to develop from Wolffian structures, the tubal epithelium or peritoneum. Paraovarian cysts are usually very small, ranging in size from 2 to 20 cm. These cysts have little clinical significance; they are asymptomatic and usually found incidentally during other pelvic examinations and surgeries. Most often, they are diagnosed as benign ovarian cysts or as fluid-filled distensions of the fallopian tube (hydrosalpinx)[1-5].

During pregnancy, paraovarian cysts could grow larger. The large cyst is symptomatic and could exert pressure on the bladder and bowel. It might cause pelvic pain or painful sexual intercourse (dyspareunia)[1-6].

It is well known that the smaller cysts are most commonly found in middle-aged women, 30 to 40 years and are often indistinguishable from simple ovarian cysts. Large paraovarian cysts tend to develop in younger women, quite often during a pregnancy, at which time they have a tendency to grow rapidly.

Our patient was single and not pregnant but still the cyst reached a huge size in which to our knowledge was not reported before in either pregnant or non-pregnant[1,5] Paraovarian cysts are relatively common and account for 10% of all pelvic masses[1,5,6].

Imaging techniques are usually not helpful to differentiate an ovarian, mesenteric or paraovarian cyst preoperatively. This was clearly seen in our case. Since 1995, only one single article reported that all POC have a separate normal ipsilateral ovary that can be detected easily by means of transabdominal ultrasonography, thus aiding in distinguishing paraovarian from true ovarian cysts[7,8].

Laparoscopic cystectomy is usually indicated for young girls who have not reached puberty, for those with an ovarian mass and for postmenopausal women. A laparoscopic cystectomy enables the surgeon to determine whether more extensive surgery is needed[9,10]. Sometimes, it is possible to remove the cyst during the laparoscopic procedure. In our patient assisted laparoscopic resection helped the patient to avoid major laparotomy[9,10].

Complications that arise from paraovarian cysts include infection, bleeding, and rupture of the cyst. Cyst rupture is a medical emergency[8].

In one of the studies, there was a report of a clear cell carcinoma complicating a paraovarian cyst on top of endometriosis. It is a rare presentation and it was successfully excised[11].

In another report, there was a case of giant paraovarian cyst in a fourteen-year-old girl characterized with serous cystadenomas grossly and microscopically and complicated with double adnexal torsion[12]. In our case, the size was huge enough to the extent that it would not allow torsion.

## CONCLUSION

**Paraovarian cyst is embryological remnant and mostly asymptomatic. It could attain big size but no reports were found in the literatures on cysts as big as ours (32 x 30 cm$^2$). They are difficult to differentiate from ovarian cysts on radiological images and are rarely malignant. Careful laparoscopic resection is feasible in most of the cases.**

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