Giant Cysts of Ovary, Case Reports and Review of Literature

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Abstract

Cystic abdominal tumors are extremely common and now a day they are diagnosed more frequently due to availability of better imaging modalities. Presentations of huge cysts have become rare as most of them are diagnosed and treated early. Still we get reports of patients with huge benign abdominal cysts and many of them are serous cyst adenoma of ovary. Sometimes, it becomes very difficult to identify the source of these cysts and misdiagnosed as mesenteric cyst. Absolute diagnosis is only possible at laparotomy. We present two cases of giant ovarian cysts mimicking ascites.

Introduction

Abdominal cysts are sacs or lumps surrounded by a thin membrane and consist of fluid or semi-solid material. While most cysts are benign, the development of an abdominal cyst may signal an underlying disease. There are several types of abdominal cysts. One of the most common is an ovarian cyst, which forms on ovarian follicles. Mesenteric cysts are another type of abdominal cyst. This kind of cyst is so named because they develop in the mesentery, the area of the peritoneum that encompasses the gastrointestinal tract and extends from the duodenum to the rectum. While most abdominal cysts are not dangerous, they should not be ignored. Due to the simple fact that some cysts can grow from the size of a pea to a grapefruit over time, they can sometimes present complications. Pain, unexplained bleeding and bowel obstruction, should be investigated without delay.

Case 1: We came across a 45 year old female who presented with history of gradual distension of abdomen over 4 years. The distension was painless throughout till 2 months back when it started causing breathlessness, early satiety and fullness after meal. There was no history of vomiting, jaundice, haematemesis, melaena or any other constitutional symptoms. She had normal appetite and regular bowel bladder habit. She had a normal menstrual and obstetric history (P3+0). On clinical examination, she was of average built and nutrition and her vitals were normal. There was no pallor, icterus, cyanosis or lymphadenopathy. Abdomen was diffusely distended involving all quadrants. Umbilicus was centrally placed but stretched and everted. Skin was normal without any dilated veins but scar of previous tubal ligation was present. Lump was soft and cystic and fluid thrill was present. We made a differential diagnosis of ovarian vs mesenteric cyst. Computed Tomographic (CT) scan and ultrasonography (USG) revealed a huge cyst arising from left ovary, measuring 30x20x10 cm³ without internal echoes, septations or contrast enhancement [Figure 1]. Urinary system was normal on intravenous urography. CA-125 was less than 24.97 units per ml on chemiluminescent immuno-assay. Rest of the laboratory investigations (Hb: 13 gm%, WBC: 8200/ml, Bilirubin: 1.14mg/dl, Albumin: 6.49 gm%, ESR: 20 mm) were normal.

On laparotomy, a huge cyst (30x20x10 cm³) was arising from left ovary reaching up to the liver and stomach. It was non-adherent to surrounding structures. Uterus and right ovary were normal in size and texture [Figure 2]. Liver and spleen were normal. Peritoneal deposits, free fluids and lymphadenopathy were absent. Cyst was excised along left tube and diseased ovary. Right ovary, fallopian tube and uterus were left intact. Histopathological examination confirmed it to be a benign serous cystadenoma of ovary. Section from cyst wall showed single flattened cuboidal lining epithelium and ovarian tissue with multiple follicles at one end.

Case 2: An 18 year old unmarried adolescent girl presented with lump and severe pain abdomen of acute onset. On examination she was pale with associated tachycardia and hypotension. A tense and tender lump was arising out of pelvis and was extending up to umbilicus. USG of abdomen and pelvis revealed bilateral ovarian cyst (12x10.8 cm on left side and 10.7x8.1 cm on right side). No ascites or pleural effusion was seen. WBC count was 21600 per cubic mm and Hemoglobin level was 9.2 gm%. CA-125 was 858.90 units per ml on chemiluminescent immuno-assay.

Emergency laparotomy was performed as we suspected rupture of cyst. On laparotomy both cysts were leaking from small rent in it. Two litres of chocolate coloured fluid present inside the peritoneal cavity and both cysts. Cysts were marsupialised and mucosa was thoroughly destroyed with cautery.
Remaining parts of both ovaries were preserved [Figure 3]. Histopathological examination of resected specimen showed compressed ovarian tissue with dense fibrosis and congestion suggestive of haemorrhagic or chocolate cyst of ovary. Biochemical examination showed plenty of RBCs with triple phosphates crystals and amorphous phosphate.

**Discussions and Conclusion**

Many ovarian tumors present as cysts, but all cysts are not tumors. The benign, non-neoplastic ovarian cysts are usually of functional origin. The follicular cyst represents failure of a developing follicle to rupture or regress and rarely exceeds 8 cm in diameter. Corpus luteum cysts occur due to haemorrhage and usually regress over 4 to 8 weeks period. Theca lutein cyst and luteoma of pregnancy are also functional cysts resulting from high levels of circulating HCG.

The benign neoplastic cysts are most frequently endometrial or chocolate cyst and simple cyst. Serous and mucinous cystadenomas arise from neoplastic changes in germinal epithelium. An ovarian cyst can be of any size, from a small ping pong ball to larger than a full term pregnancy and fewer than 10% have menstrual irregularity. Most of bigger cysts are benign or of low grade malignancy.[1,2]

The most common cystic ovarian neoplasms are serous tumors, 60% of which are benign, 25% are malignant, and 15% are borderline cases. Serous tumors usually present as large masses, up to 40cm in diameter. Mucinous tumors also present as a large multi-loculated cystic mass filled with jelly-like fluid. 80% of mucinous tumors are benign, 10% borderline, and 10% malignant. Endometriosis of the ovary is another cause of ovarian cysts; hemorrhage inside the cyst results in the so-called chocolate cyst. Polycystic ovarian syndrome effects young women and results in multiple, 0.5cm-1cm subcortical cysts imbedded in the ovaries. The disorder is associated with increased androgen levels, infertility, hirsuitism, and obesity. 20% of all ovarian cancers are endometroid tumors, which have both solid and cystic components. Endometroid tumour cells closely resemble endometrium histologically. [3]

When an adnexal mass is suspected, transvaginal ultrasound is the imaging modality of choice. Ultrasound findings can help to distinguish between benign and malignant tumors. A simple cyst is characteristic of a benign tumor, consisting of anechoic fluid, thin walls, and diameter less than 2-2.5 cm. Hemorrhage within the cyst suggests a benign process such as an endometrioma, since malignant tumors do not usually bleed. A mass with a hyperechoic solid area with acoustic shadowing suggests a benign teratoma. The findings which suggest a malignant process are solid components to the mass and septations within the mass thicker than 2-3mm. Size of tumor is not helpful in differentiating benign and malignant tumors.[4]

Transvaginal ultrasound with Doppler was initially thought to aid in the identification of malignant tumors by detecting lower vascular resistance within the mass. Studies have demonstrated this theory to be unreliable in determining benign or malignant status of an ovarian mass. According to Laing et al.(2001), a solid component of an ovarian mass was the most useful finding in malignancy. Other findings suggesting malignancy include: central flow, moderate to large amount of intraperitoneal fluid, and thick septations. Other than ultrasound, CT or magnetic resonance imaging (MRI) is useful for larger masses and examining the abdomen for metastasis.[5]

Surgery is recommended for simple cysts larger than 5cm and complex cysts of any size. Simple cysts of smaller than 5cm with a normal CA-125 level may be followed with serial ultrasounds. Benign cysts have an excellent prognosis; prognosis of malignant tumors varies with the type of tumor involved and time of detection.[6] In any event, bilateral oopherectomy is rarely indicated in young female unless one is certain that the malignancy is present. If there is any doubt, abdomen should be closed even if reoperation is needed at a later date.

**References**

Illustrations

Illustration 1

CT abdomen with contrast shows Cyst without contrast enhancement.

Illustration 2

Figure 2: Cyst arising from left ovary.
Illustration 3

Chocolate cyst of ovary.
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