

Pseudoascites: Report of three cases

Yalancı asit: Üç vaka sunumu

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Giant intra-abdominal cysts masquerading as ascites are rare. We present three cases with giant intra-abdominal cysts (one mesenteric cyst, two ovarian) that were initially misdiagnosed as refractory ascites in another hospital. On ultrasound examination, displacement of bowel loops to outside the fluid without dispersion of fluid around the liver and spleen were the main findings suggesting the possibility of giant intra-abdominal cysts in our patients. In all three patients, the diagnosis of giant intra-abdominal cysts was confirmed after their total excision. Clinicians must consider processes other than ascites in the differential diagnosis of large abdominal fluid accumulation.

Key words: Pseudoascites, mesenteric cyst, ovarian cyst

INTRODUCTION

Several processes including bladder distention or diverticulum, hydronephrosis, non- pancreatic pseudocyst (1), large uterine or ovarian tumors (2-4), and giant mesenteric (5, 6), omental (7, 8) and echinococcal cysts (9) can mimic ascites. Giant intra-abdominal cysts and pseudocysts have become comparatively rare because of advances in health care systems. Nonetheless, when they occur, they are often misdiagnosed as ascites (1, 2, 7, 8, 10). Cystic lesions of the omentum, mesentery and retroperitoneum are distinctly uncommon in children (7). Despite a propensity for life-threatening complications, their rarity ranks them low in the diagnostic options in a child presenting with an abdominal mass. Ovarian cysts are a common pathology after the fourth decade of life. Smaller functional and non-neoplastic cysts can be seen or larger tumoral cysts, which, however, are usually benign. They may be serous or mucinous type and can sometimes reach giant sizes (2, 3).

We report three cases initially diagnosed as ascites, who were determined to have intra-abdominal giant cysts.

Serbest asit varlığını taklit eden dev karın içi kistleri nadir görülür. Başlangıçta başka hastanede refrakter asit olarak kabul edilen ve tarafımızdan dev karın içi kisti olduğu saptanan üç vakayı (bir mesenter kisti ve iki over kisti) sunduk. Ultrasonografide barsak anslarının sıvının dışına itilmiş olması ve karaciğer ile dalak etrafında serbest sıvı bulunmaması hastalarımızda karın içi dev kist varlığını düşündüren ana bulgularıdır. Her üç hastamızda da, kistlerin cerrahi olarak tamamen çıkarılması sonrası dev karın içi kist varlığı doğrulandı. Karın içinde ileri derecede sıvı toplanmaları durumunda klinisyen ayırıcı tanıda asit dışı nedenleri de düşünmelidir.

Anahtar kelimeler: Yalancı asit, mesenter kisti, over kisti

CASE REPORTS

Case 1

A 19-year-old female with worsening shortness of breath caused by progressive abdominal distention was admitted to our hospital. She had been diagnosed with ascites of unknown origin and a total of 8 liters of ascites had been drained for therapeutic paracentesis in another hospital. On admission, her physical examination was unremarkable, except for symmetrically distended abdomen with a positive fluid thrill indicating massive ascites. All laboratory findings were within normal limits. Plain chest radiography showed compression of the thoracic cavity caused by the abdominal distention. Abdominal ultrasound showed large-volume fluid filling the entire abdominal cavity and displacement of bowel loops to outside the fluid. The fluid was not dispersed around the liver and spleen. Computerized tomography (CT) findings also supported the diagnosis of single giant intra-abdominal cyst. We performed laparotomy and a giant cyst originating from the left ovary and containing a total of 14 liters of serous fluid was totally excised. Histopathologic diagnosis of cyst was

reported as benign serous ovarian cyst. The patient was followed for six months, and was completely symptom-free.

Case 2

A 13-year-old boy with history of end stage renal disease (who had been undergoing hemodialysis three times per week for one year), congestive heart failure and chronic active hepatitis caused by hepatitis B infection was admitted to our hospital. He had had dyspnea and severe abdominal distention for one year. Repeated paracentesis had been performed in another hospital over the last eight months. He appeared pale and weak on presentation. His physical examination was remarkable for his protuberant abdomen with no rebound tenderness. There was clearly defined fluid thrill. A chest X-ray showed moderate cardiomegaly with clear lung field. Laboratory data were: hematocrit 32%, hemoglobin 11 g/dl, blood urea nitrogen 102 mg/dl, creatinine 4.5 mg/dl, albumin 3.2 g/dl, aspartate aminotransferase (AST) 67 U/L, alanine aminotransferase (ALT) 79 U/L, calcium (Ca) 8.1 mg/dl, HBsAg positive, Anti HBs negative, HBe Ag negative, and Anti HBe positive; other parameters were within normal limits. Abdominal ultrasound showed large fluid filling the entire abdominal cavity and displacement of bowel loops posteriorly and outside the fluid. The fluid was not dispersed around the liver and spleen. CT findings also showed single, giant intra-abdominal cyst. We performed laparotomy and single cyst originating from the small bowel mesentery and containing a total of 9 liters serous fluid was totally excised. Histopathologic examination of the cyst was compatible with benign mesenteric cyst. We followed the patient for three years and abdominal symptoms did not recur.

Case 3

A 22-year-old female had a history of slowly progressive abdominal distention for three years. She had been evaluated in another hospital and was reported as ascites of unknown origin. Her physical examination was unremarkable, except for symmetrically distended abdomen with a positive fluid thrill indicating massive ascites. All laboratory findings were within normal limits. Abdominal ultrasound showed large fluid filling the entire abdominal cavity with displacement of bowel loops posteriorly and outside the fluid. The fluid was not dispersed around the liver and spleen. CT supported the diagnosis of giant intra-abdominal cyst

(Figure 1). We performed laparotomy and found the giant cyst originating from the left ovary and containing a total of 10 liters serous fluid when excised. The histopathology of the cyst was reported as benign, serous ovarian cyst. The patient was followed four months and was completely symptom-free.

DISCUSSION

Mesenteric cysts are uncommon, and may occur anywhere between the duodenum and rectum, with a frequency of approximately 1 in 105,000 hospitalized patients (5,10). The majority of cysts occur in the small bowel mesentery and 40% involve the mesocolon, most commonly sigmoid (5). The etiopathogenesis of the disease remains unknown, and many pathologic processes have been reported, including benign proliferation of ectopic lymphatics, obstructions of the lymphatics, abdominal traumas, and local degeneration of some lymph nodes (5, 6, 10). Mesenteric cysts are usually asymptomatic. Almost half of the cases are noticed incidentally in routine abdominal examination when the patients present with various abdominal complaints. There are no pathognomonic signs or symptoms for the diagnosis of mesenteric cysts. Clinically, mesenteric cysts can present with chronic abdominal pain, palpable mass, nausea, vomiting, constipation, and diarrhea (5, 6, 10, 11). Abdominal CT, ultrasound, and magnetic resonance imaging are noninvasive studies able to accurately identify cystic structures. Ultrasound appears to yield the most information for the least expense. Mesenteric cysts can be uni- or multilo-

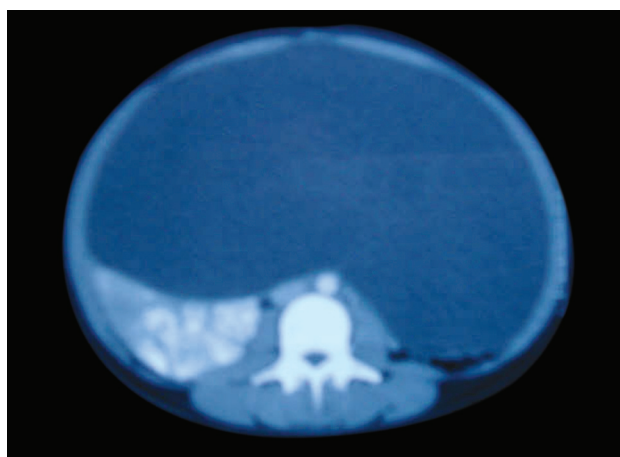


Figure 1. Computerized tomography of a patient (Case 3) with giant ovarian cyst shows the displacement of the bowel loop posteriorly outside the ascites.

cular, and are mostly benign (11). Fluid volume within a mesenteric cyst varies widely, from a few milliliters to 8 liters (5). There are several treatment methods for mesenteric cysts. Total cystectomy is the therapeutic method of choice, even in those cases requiring intestinal resection. This procedure notably reduces the possibility of recurrence and can prevent potential malignant degeneration of the cysts (5, 6, 10, 11).

Case 2 is the first case with mesenteric cyst to be diagnosed in our hospital. He had a history of chronic renal failure (undergoing regular hemodialysis), chronic active hepatitis B infection and chronic congestive heart failure. The main symptoms of our patient were slowly progressive abdominal distention and shortness of breath. All physical examination findings were compatible with ascites. He had thus been accepted as free ascites secondary to the primary diseases mentioned above and repeated therapeutic paracentesis had been performed in another hospital. On ultrasound examination, we identified displacement of bowel loops posteriorly and outside the fluid and non-dispersion of fluid around the liver and spleen. For this reason, we considered the possibility of giant intra-abdominal cysts of unknown origin. The diagnosis of mesenteric cyst was confirmed after laparotomy findings and histopathologic examination of the specimen.

Ovarian cysts are one of the most common involvements in females. Aside from non-neoplastic functional cysts (follicular or luteal) of relatively small size, the neoplastic types are generally benign and serous or mucinous type, and can sometimes reach weights of 23 kg (12), 30 kg (13) and 64 kg (3). Reports of giant ovarian manifestations were more frequent a few decades ago. Prior to the advent of modern radiological imaging techniques, diagnosis was often difficult. Nevertheless, even today, some cases with giant ovarian cysts have been reported (as a result of pronounced obesity, for

example, associated perhaps with diagnostic negligence). Giant ovarian cysts mimicking ascites have been reported previously (2-4, 13). They may cause abdominal distention, tachypnea, dyspnea, and pitting edema of both legs and inability to walk. Elevated amylase levels without lipase elevation in the fluid of ovarian cysts have been reported (4).

Our two female patients had no systemic disease known to cause ascites. There were also no clinical or laboratory findings of local peritoneal disease such as tuberculosis or peritonitis carcinomatosa. Both patients were evaluated in other hospitals and ascites of unknown origin had been considered. The absence of any symptoms of systemic disease and ultrasound findings supported the diagnosis of giant intra-abdominal cysts. Interestingly, neither abdominal ultrasound nor CT showed any ovarian abnormality. The final diagnosis of giant ovarian cyst was confirmed after laparotomy and histopathologic examination of the removed specimen. We suggest that in every female patient with ascites and without clinical or laboratory findings of systemic disease, giant ovarian cysts should be considered in the differential diagnosis.

One patient had undergone repeated therapeutic paracentesis for symptomatic relief. Echinococcal cyst is a rare cause of intra-abdominal giant cyst (9). When there is doubt about the nature of such abdominal distention, abdominal paracentesis should be avoided.

In conclusion, we suggest that the operator should carefully evaluate the patient with ascites for a relationship between ascites and intra-abdominal organs during abdominal ultrasound examination. The displacement of bowel loops to outside the ascites and absence of fluid around the spleen and liver are very important and simple findings that discriminate free ascites from giant intra-abdominal cysts.

REFERENCES

1. Oray-Schrom P, Martin DS, Bartelloni P, et al. Giant non-pancreatic pseudocyst causing acute anuria. *J Clin Gastroenterol* 2002; 34: 160-3.
2. Menahem S, Shvartzman P. Giant ovarian cyst mimicking ascites. *J Fam Pract* 1994; 39: 479-81.
3. Suntharasaj T, Sriwonpanich S, Sorapipat C. The largest ovarian cyst in Songklanagarind Hospital: a case report. *J Med Assoc Thai* 1994; 77: 445-8.
4. Grobe JL, Kozarek RA, Sanowski RA, et al. Pseudo-ascites associated with giant ovarian cysts and elevated cystic fluid amylase. *Am J Gastroenterol* 1983; 78: 421-4.
5. Hassan M, Dobrilovic N, Korelitz J. Large gastric mesenteric cyst: case report and literature review. *Am Surg* 2005; 71: 571-3.
6. Chim H, Chuwa E, Chau Y-P, Chow PK. Gastrointestinal: mesenteric cystic lymphangioma. *J Gastroenterol Hepatol* 2006; 21: 916.
7. Rahman GA, Johnson AW. Giant omental cyst simulating ascites in a Nigerian child: case report and critique of clinical parameters and investigative modalities. *Ann Trop Paediatr* 2001; 21: 81-5.

8. Klim B, Lotan G, Efrati Y, Vinograd I. Giant omental cyst in children presenting as pseudoascites. *Surg Laparosc Endosc* 1997; 7: 291-3.
9. Bar-Maor JA, Lernau OZ. Giant abdominal cysts simulating ascites. *Am J Gastroenterol* 1981; 75: 55-6.
10. Aydinli B, Yildirgan MI, Kantarci M, et al. Giant mesenteric cyst. *Dig Dis Sci* 2006; 51: 1380-2.
11. Sahin DA, Akbulut G, Saykol V, et al. Laparoscopic enucleation of mesenteric cyst: a case report. *Mt Sinai J Med* 2006; 73: 1019-20.
12. Forinetti A, Buttazzia A, Tazzioli G, et al. Giant ovarian cyst: a case weighing 23 kg. Literature review. *Minerva Chir* 2003; 58: 261-5.
13. Bernal Martinez S, Luna Benitez I, Olivares Valencia CV, et al. Giant cyst of the ovary. Report of case. *Ginecol Obstet Mex* 2001; 69: 259-61.