Cysts of the Omentum

Gary D. Shackelford* and William H. McAlister

The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis, Missouri

Date of final acceptance: December 12, 1974

Abstract. Omental cyst is a rare lesion occurring primarily during childhood and young adulthood. It is closely related to mesenteric and retroperitoneal cysts, all conditions most likely being of congenital or benign neoplastic lymphatic origin. Omental cysts usually present as abdominal distention of long duration, less frequently as a palpable abdominal mass. Rarely they cause an acute abdominal surgical crisis clinically resembling appendicitis with peritonitis. Two cases are reported, one with acute and one with chronic symptoms. The clinical and radiologic features of omental cyst are reviewed in order to increase awareness of this entity.

Key words: Abdominal mass, acute abdomen, abdominal plain film examination, omental cyst, benign neoplasms.

Omental cysts are the least common variety of all types of intraabdominal cysts and are from 1/3-1/10 as common as mesenteric cysts, the next in rarity [3, 5, 8]. There are over 100 reported cases of omental cyst, few of which were correctly diagnosed or even suspected preoperatively. Our interest in this condition was stimulated by 2 patients who came to our attention, in one of whom the radiologic features permitted a correct preoperative diagnosis.

Case Reports

Case I: This 5 year old boy started to have intermittent abdominal pain and vomiting 3 months prior to admission, often lasting 2 to 3 hours. He was asymptomatic for intervals ranging from 3 days to 2 weeks. The last episode was 3 days prior to admission.

On physical examination a movable nontender mass was felt in the abdomen. The mass could be moved to all quadrants. Intravenous urogram, barium enema and upper gastrointestinal series demonstrated a large mobile anterior abdominal mass (Fig. 1). The radiographic findings were interpreted as an omental cyst. At surgical exploration a 15 × 15 cm. smooth-walled cyst was in the greater omentum half way between the stomach and transverse colon. There was a small pedicle and the unilocular cyst contained approximately 300 cc. of serous fluid. On sections there was an endothelial inner lining and a loose outer fibrous tissue lining. There was minimal hemorrhage into the wall. The cyst was excised and the patient did well postoperatively.

Case II: A 2–5/12 year old girl was in good health until three days prior to admission when she had sudden onset of abdominal pain. During the next three days she was somewhat irritable and had only one bowel movement. There was no nausea or vomiting. On physical examination she was an acutely ill girl with diffuse abdominal tenderness. A mass was felt on rectal examination. The temperature was 38.5 °C, and the Hct. 33, and W.B.C. 16,680. On urinalysis there were 16 to 20 W.B.C/hpf and 1 + bacteria. The clinical diagnosis was appendicitis with abscess formation. Abdominal radiographs demonstrated gaseous distention, particularly of the transverse and ascending colon (Fig. 2). There was a large lower and mid abdominal mass displacing the bowel superiorly. Dilated small bowel was seen in the left upper quadrant. No calcifications were demonstrated. A twisted ovarian cyst was suspected. On surgical exploration of the abdomen a large dark brown omental cyst approximately 14 cm. in diameter was found arising from the greater omentum. The cyst was on a pedicle and had undergone torsion and was somewhat hemorrhagic, containing dark brown watery fluid and some cheesy material. The cyst was removed. The cyst was unilocular and had an outer fibrous wall and an inner epithelial lining. Chronic inflammatory cells were present in the wall. In addition there was acute inflammation of the appendix which was filled with organisms of Enterobius vermicularis. The patient did well postoperatively.

Discussion
Pathology and Etiology

Cysts of the omentum may be classified into primary or false types [5]. The latter may occur as a result of fat necrosis, trauma with hematoma, reaction around a foreign body or hydatid infection.

True omental cysts are for the most part lined with low cuboidal epithelium surrounded by a fibrous wall. Frequently the lining of the cyst is destroyed as a result of pressure. The contents of the cyst are usually serous unless secondary hemorrhage has occurred. The cyst may be unilocular or multilocular. In one series of omental cysts, 67% were solitary and 33% were multiple [3].

The most likely held theories are that they are either congenital cysts or are benign neoplasms most
likely related to the lymphatic system. Pathologically and embryologically omental, mesenteric and retroperitoneal cysts are all probably related and are identical in structure to cavernous lymphangi-omata found elsewhere in the body [7, 8].

Clinical Features

Omental cysts occur in all age groups. Thirty-five percent of the cases occurred in the first decade and 68% were found in the first 30 years of life. The average age was 20 years [3]. A case of an omental cyst in 3-week-old child causing fatal ileus because of pressure on the mesenteric vascular pedicle has been described. Walker and Putnam [8] reported 4 infants aged 1 day, 14 weeks, 11 months, and 23 months. There is a slight preponderance of females over males [3].

The most common manifestation of omental cyst is abdominal distention of long duration, frequently with abdominal pain. Gastrointestinal and genitourinary symptoms can be caused by