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Original Research Article

Intra-abdominal Cystic Lymphangiomas and Mesenteric Cysts and Methods of Excision

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Abstract

Intra-abdominal cystic lymphangiomas and mesenteric cysts are uncommon and clinically confusing lesions, histopathologic evidence suggests that they are pathologically different. So these lesions must be differentiated, because lymphangiomas are more relapsing and invasive than mesenteric cysts. The aim of the study is to discuss the different methods of excision of these cysts and to detect the histologic difference between them. The study is retrospective study included twelve patients and performed in El Fayoum University Hospital during the period from December 2013 to September 2017. All Patients were children between (5 to 12 years). Provisional diagnosis depended on patients' evaluation after complete clinical examination, laboratory, radiological investigations and final diagnosis was reached after excision and histopathological examination. Eleven Patients were admitted with abdominal pain, 1 with abdominal distension and constipation, 11 cases with abdominal mass, one case with small intestinal obstruction and tenderness. Plain x-ray erect, abdominal ultrasound and CT scan with intravenous contrast were diagnostic in 10 patients, 2 patients were diagnosed after exploration. Mesenteric cyst was found in mesentery of small intestinal in 10 cases and 2 were in the greater omentum. Complete excision was done laparoscopically in 2 patients and with open laparotomy in 10 patients. Histopathological examination revealed cystic lymphangiomatous tissue with no malignant features in 3 patient and mesenteric cysts lined by endothelium in nine patients with no malignant features. Intra abdominal mesenteric and lymphangiomatous cysts can be completely excised by laparoscopy. Histologic evidence suggests that intra-abdominal cystic lymphangiomas and mesenteric cysts are pathologically different, so these lesions must be differentiated because lymphangiomas are more relapsing and invasive than mesenteric cysts.

Keywords: Mesenteric cyst, lymphangiomatous cysts, Laparoscopy

INTRODUCTION

Mesenteric cysts are rare intra-abdominal tumours, benign located in the mesentery its incidence is 1 case per 250,000 hospital admitted cases (Miliras et al., 2006).

In the literature approximately 830 cases have been reported (Durshan et al., 2006). Several theories explains its cause but the aetiology of these cysts remains unknown. Due to the rarity and variability of clinical picture of mesenteric cysts, its diagnosis may be delayed or discovered accidentally during radiological exami-nation so mesenteric cysts should be kept in mind in patients with acute abdomen to avoid complications of late diagnosis (Kurtz et al., 1986). The aim of the study is to discuss the different methods of excision of these cysts and to detect the histologic difference between them.

Table 1. Patients data and clinical presentation

Data		
Gender	7 Males	5 Females
Age	3-10 Years	5-8 Years
Symptoms		
Pain	11	
Disension of abdomen and Constipation	1	
Signs		
Abdominal mass	11	
Tenderness	1	

METHOD

The study included 12 patients age ranged from 5 to 12 years (mean = 7.12 years). The study was in El Fayoum University Hospital during the period from December 2013 to September 2017 and was approved by the ethics committee of Fayoum University. Eleven patients were admitted with abdominalpain, 1 with abdominal distension and constipation, 11 cases with abdominal mass, one case with small intestinal obstruction and tenderness.

Complete laboratory investigations were done for all patients, plain x-ray abdomen erect, abdominal ultrasonography and computed tomography (CT) scan for all cases. Laparoscopic excision was performed for2 patients and open laparotomy for excision was performed for 10 cases.

During the laparoscopic exploration, the cysts were with thin walled, with haemorragic and yellow fluid, and were fixed to the mesentery. Some cases were with deuodenal and greater omentum attachment. The cysts were excised with the harmonic scalpel. The contents were completely aspirated, via the 10 mm port the remaining cysts wall were removed. During open exploration, we found multiple cysts in 9 cases compressing the small intestine arising from the mesentry one case with mesenteric cyst arising from the greater omentum. What we found in the aspirate was serous and blood in one patient and chylous in one patient. Complete excision of cysts was done. We didn't find any gangrene of the bowel. Histopatholoigical examination was performed for all patients.

Informed consent was obtained from parents of all individual participants included in the study

Statistical analysis

Results are expressed as means ± SD. Significance is obtained by analysis of variance (ANOVA).

RESULTS

The study included 12 patients age ranged from 5 to 12 years (mean = 7.12 years). The study was in El Fayoum University Hospital during the period from December 2013 to September 2017. 10 Patients were admitted with abdominal pain, 2 with abdominal distension and constipation, 10 cases with abdominal mass, 2 cases with small intestinal obstruction and tenderness.

Clinical, laboratory findings, and radiological finding are summarized in Table 1. All patients underwent complete laboratory investigations which were normal in 11 patients and elevated TLC (Total leucocytic count) in the patient with intestinal obstruction, plain x-ray erect for the abdomen showed small bowel distension in 1 case with homogenous mass compressing the bowel loops and the other 11 cases showed a homogenous mass without small bowel distension. By ultrasonography there were abdominal cystic lesion, all patients were investigated also with CT scan with intravenous contrast to confirm the diagnosis which showed compressed bowel with multiple cystic structures or a rim of intestine over the cyst margin (Figure 1). By abdominal exploration we found multiple cysts in 9 cases compressing the small intestine arising from the mesentry one case with mesenteric cyst arising from the greater omentum. What we found in the aspirate was serous and bloody in 8 patients and chylous in 2 patients (Figure 2). Complete excisions of cysts were done. We didn't find any gangrene of the bowel. No post-operative complications. During the laparoscopic exploration, a 10 mm trocar was placed at the umbilicus via the open method and two 5 mm trocars placed in the bilateral lower quadrants, the cysts were with thin walled, with haemorragic and yellow fluid, and was fixed to the mesentery, some cases were with deuodenal and greater omentum attachment (Figure 3). The cysts were excised with the harmonic scalpel. The contents were completely aspirated, via the 10 mm port the remaining cysts wall were removed. Post-operative histopathological examination revealed cystic lymphangiomatous tissue with no malignant features in 3

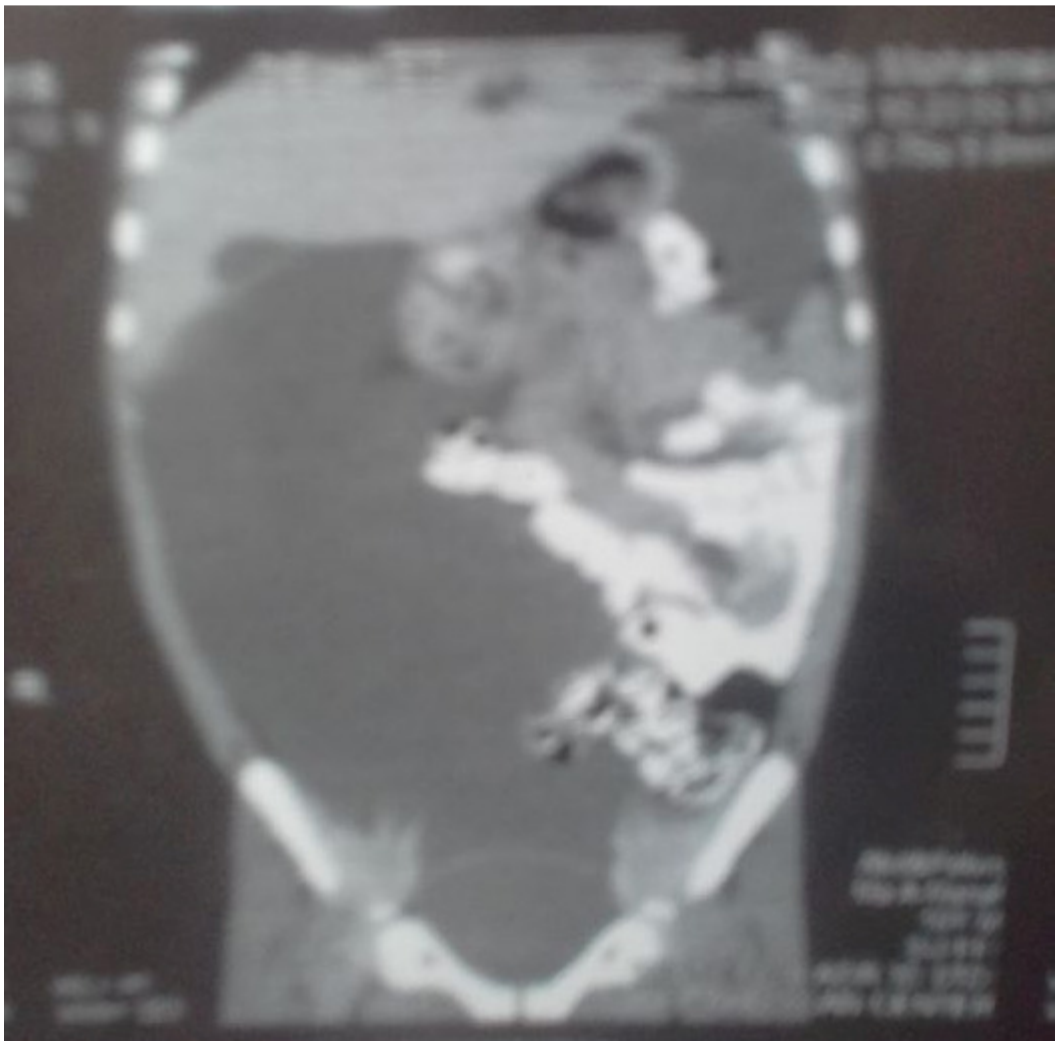

Figure 1. CT scan shows the mesenteric cyst

Figure 2. Mesenteric cyst on exploration

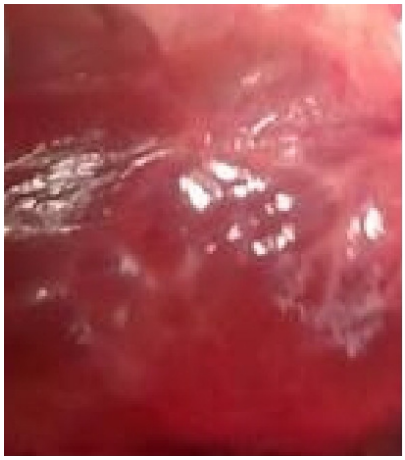

Figure 3. Mesenteric cyst on laparoscopic exploration

patients and mesenteric cysts lined by endothelium in nine patients. Follow up for 6 months for all patients revealed no recurrence.

DISCUSSION

Intra-abdominal cystic lymphangiomas and mesenteric cysts are clinically confusing lesions and rare, histopathologic evidence suggests that they are pathologically different. lymphangiomas are more relapsing and invasive than mesenteric cysts, so these lesions must be differentiated .

In 1842 Rokitansky published the first description of a chylous mesenteric cyst and in 1880 Tillaux performed the first surgery for a cystic tumour in the mesentery (Mohanty et al., 1998).

A mesenteric cyst may or may not extend into the retroperitoneum. Mesenteric cyst can be present anywhere in the of gastrointestinal tract mesentery from duodenum to rectum (Saviano et al., 1999).

Several theories explains its cause but the aetiology of these cysts remains unknown, the most accepted theory is benign proliferation of ectopic lymphatics in the mesentery with lack of its communication with the remainder of the lymphatic system (Richard, 2006).

These cysts has no pathognomonic symptoms and signs, however, in our study, 11 Patients were admitted with abdominal pain, 1 with abdominal distension and constipation, 11 cases with abdominal mass, one case with small intestinal obstruction and tenderness. Other study presented by Santana et al. included 18 patients, showed mass and abdominal pain (72%), constipation and vomiting, acute abdomen in one patient.

In our study the patients were presented with smooth well defined mobile cystic mass like other studies (Blss et al., 1994; Boecha, 1996; Chung et al., 1991; Coelho, 2009; Liew et al., 1994; Mackenzien et al., 1993; Okumu et al., 2004; Pereira et al., 2010; Santana, 2010). Abdominal pain was the most common presenting symptom in other studies by Chung et al., (1991) and Walker and Putnam (1973). In our study, abdominal distension present in 1 case with intestinal obstruction.

Malignant mesenteric cysts are rare, usually low-grade sarcomas. Kurtz et al. reviewed malignant transformation in 3% of cases of 162 mesenteric cyst, all were adults.

In this study, laboratory investigations little help the diagnosis as they were normal in 11 patients and elevated TLC (Total Leucocytic Count) in the patient with intestinal obstruction.

Abdominal ultrasound and CT scan tend to be the most reliable methods (Mason et al., 2001). In our study, plain x-ray erect for the abdomen showed small bowel distension in 1 case with homogenous mass compressing the bowel loops and the other 11 cases showed a homogenous mass without small bowel distension. By ultrasonography there were abdominal cystic lesion, all patients were investigated also with CT scan with intravenous contrast to confirm the diagnosis which showed compressed bowel with multiple cystic structures.

Complete excision of cyst with or without bowel resection is the treatment of choice. Partial excision with marsupialisation of remaining cyst cavity may be the treatment of choice if complete excision, even with bowel resection is not possible (Kurtz et al., 1986). In our study complete excision was possible in all cases. Open method is the preferred method for excision. Laparoscopic excision of mesenteric cyst has also been reported (Durshan et al., 2006; Raghupathy et al., 2003). In our study laparoscopic excision was performed in 2 patients safely and open excision was performed in 10 patients. Histopathological examination revealed cystic lymphangiomatous tissue with no malignant features in 3 patients and mesenteric cysts lined by endothelium in nine patients with no malignant features.

CONCLUSION

Intra abdominal mesenteric and lymphangiomatous cysts can be completely excised by laparoscopy safely. Histologic evidence suggests that intra-abdominal cystic lymphangiomas and mesenteric cysts are pathologically different, so these lesions must be differentiated because lymphangiomas are more relapsing and invasive than mesenteric cysts.

Conflict of Interest

All authors declare there is no conflict of interest.

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