

# Ruptured Infected Mesenteric Cyst as a Differential Diagnosis of Suspected Appendicitis

**Faris Dawood Alaswad, MD, FICMS, FRCS, MRCPS, FEBS, FACS, FICS**

NMC Speciality Hospital  
Dubai, UAE

*Address for correspondence:*

Dr. Faris Dawood Alaswad  
NMC Speciality Hospital  
P.O. Box 7832  
Dubai, UAE  
Tel: 00971-509523829  
Fax: 00971-4 2678889  
Email: faris\_alaswad@yahoo.com

## ABSTRACT

Lower abdominal pain of acute onset in young patients is a very common reason for referral to general surgical team and a differential diagnosis include acute appendicitis, gynecological causes and inflammatory bowel diseases. Intestinal and mesenteric cystic disease is a rare entity. We present a case of a 25-year-old male who underwent diagnostic laparoscopy for acute lower abdominal pain and was diagnosed with a ruptured infected mesenteric cyst which, up to our knowledge, is the fifth case reported in the literature.

**KEY WORDS:** mesenteric cyst, acute appendicitis, general surgery

## INTRODUCTION

Lower abdominal pain of acute onset in young patients is a frequent cause for referral to general surgery department and the differential diagnosis of acute appendicitis is all the time there. Intestinal and mesenteric cystic disease is a rare entity and less than half of the cases present acutely. We present a case of a young man who was presented as a case of acute abdominal pain and was diagnosed as a case of ruptured infected mesenteric cyst.

## CASE REPORT

A 25-year-old male was presented to our emergency department as a case of acute onset of abdominal pain before 24 hours the patients gives a history of previous recurrent attacks of abdominal colics for which he attend to the emergency department three times in the past year. On examination the patient was feverish (38C) malaised with anorexia, pulse rate was 120 per minute, guarding and tenderness all over the abdomen and mostly in the supra pubic area. Urinalysis was negative for blood and leukocytes. His blood test investigations revealed a raised white blood count which was 21000 and C reactive protein was 11mg-L. An ultrasound examination was performed

which shows free fluid in the pelvis and a decision was taken to do diagnostic laparoscopy.

Diagnostic laparoscopy was done under general anesthesia and the camera port was at the umbilicus and another working 5mm port was inserted at the suprapubic area. A huge collection of pus was noted at the pelvic area was seen and the appendix was identified but it was not perforated and only slightly congested as it was immersed in the pus so the differential diagnosis of the acute appendicitis was revised as it seems not to be the cause of this abscess and looking for the cause by systemic four quadrant search is established.

On inspection of the small bowel a 10cm cystic lesion was found involving the mid ilium and neighboring mesentery, the rest of the abdomen was normal. Lower midline laparotomy incision was done, the involved segment of the small bowel was resected and the bowel end to end anastomosis was performed. The resected segment was sent to the pathology assessment and the diagnosis of mesenteric cyst was confirmed. His postoperative course was uneventful and was discharged home 7 days after surgery.

## DISCUSSION

Intestinal and mesenteric cystic disease is rare and the incidence is one in 100,000 of acute surgical admissions.<sup>1,2</sup> Patients usually present in 3 ways, first asymptomatic and the cyst is discovered accidentally, second the patient might be presented with non specific symptoms, third as a complication as in our case.<sup>3,4</sup>

Complications include rupture, infection, bowel obstruction, bleeding and the rarest presentation is rupture of the infected cyst, up to our knowledge there are only four previous cases reports in literature.<sup>5</sup> One case was a middle aged male with a known asymptomatic 12 cm intra-abdominal cystic lesion treated conservatively for nine years before presenting acutely once the cyst had

become infected and ruptured. Another case was an 18 year old female presenting acutely and found to have lower abdominal cystic lesion on ultrasound prior to laparotomy.<sup>6</sup> The third case was a pediatric patient again treated by laparotomy following acute presentation and the fourth case was a female admitted as a case of acute abdomen and US was done before surgery and the suspect was a case of torsion ovarian cyst.<sup>7,8</sup>

CT and MRI are better modalities to decipher the location and contents of a suspected mesenteric cyst preoperatively.<sup>9</sup>

In addition to the reports of infected cyst rupture there are other reports of non ruptured infections attributed to streptococcus pneumonia, salmonella enteritis and mycobacterium tuberculosis. Mesenteric cyst are mostly benign lesions but malignant transformation into lymphangiosarcoma, teratoma or even adenocarcinoma has also been reported.<sup>10</sup>

Mesenteric cystic lesion are usually found in the small intestine mesentery (66%) but also in the mesentery of the large intestine (33%) and mostly the right side colon.<sup>1,3,5</sup> Very few had been reported in the mesentery of the descending colon or the sigmoid. The first reported case was in 1507 and the first successful surgical excision by Tilaux in 1880.<sup>7,8</sup> The cause might be congenital or traumatic and according to Bears et al. in 1950 who first classified mesenteric cysts in four different categories:

1. embryonic and developmental cysts
2. traumatic cysts
3. neoplastic cysts
4. infective and degenerative cysts

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Later Ros et al. proposed a histological classification into five groups correlated with the radiological findings of the cysts:<sup>10</sup>

1. lymphangiomas
2. enteric duplication cysts
3. enteric cysts
4. mesothelial cysts
5. non pancreatic pseudocysts

According to this new classification, our patient suffered from a mesenteric lymphangioma.

The usual location of the cysts is the mesentery of the small intestine, large bowel colon mesocolon is only involved in one third of the cases.<sup>4</sup>

We do believe that MRI is the most accurate method in diagnosis and we do believe that the treatment of choice is surgery, the type of resection depends upon the location of the cyst and its relation to the adjacent organs. Enucleation is adequate in the majority of benign cysts but sometimes resection of adjacent intestine is necessary, especially in cases of malignant transformation. Now a days, some centers do this laparoscopically. Mesenteric cysts have excellent prognosis and no recurrence has been reported following complete resection.<sup>2,6,9</sup>

## CONCLUSION

Even though mesenteric cysts are rare and usually lack of symptoms, they must be kept in mind in cases of non specific abdominal symptoms and also in cases of acute abdomen (emergency cases). CT, MRI are very good method for diagnosis and surgical excision is the treatment of choice with excellent results.