

An Unusual Cause Of Small Bowel Obstruction By Dead Mesenteric Calcified Hydatid Cyst

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Citation

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Abstract

The most common cause of small bowel obstruction in adults is adhesions due to the previous abdominal surgery. Intestinal obstruction may arise from enterolith formation, intussusception or volvulus [1,2,3]. In the latter situation the diverticulum acts as a pivot, especially where previous diverticulitis results in adhesive band formation. Such adhesions may also cause obstruction by direct kinking of the bowel or by trapping another loop of bowel underneath.

The case is discussed of a 55-year-old male with small bowel obstruction caused by dead mesenteric echinococcal cyst. The small bowel was strangulated by the calcified entity. Although it is an uncommon condition, it is the dread of every surgeon in endemic regions. The diagnosis was highly suggestive by plain abdominal radiography and confirmed on Abdominal computed tomography, where a radio-opaque structure with hyperdense border is noted. The case was treated surgically and the patient passed uneventful post operative recovery.

INTRODUCTION

The most common cause of small bowel obstruction in adults is adhesions due to the previous abdominal surgery. Intestinal obstruction may arise from enterolith formation, intussusception or volvulus [1,2,3]. In the latter situation the diverticulum acts as a pivot, especially where previous diverticulitis results in adhesive band formation. Such adhesions may also cause obstruction by direct kinking of the bowel or by trapping another loop of bowel underneath.

The case is discussed of a 55-year-old male with small bowel obstruction caused by dead mesenteric echinococcal cyst. The small bowel was strangulated by the calcified entity. Although it is an uncommon condition, it is the dread of every surgeon in endemic regions. The diagnosis was highly suggestive by plain abdominal radiography and confirmed on Abdominal computed tomography, where a radio-opaque structure with hyperdense border is noted. The case was treated surgically and the patient passed uneventful post operative recovery.

CASE REPORT

A 55-year-old male presented with symptoms of acute abdomen. On Physical examination the abdomen was distended with diffuse intractable pain and tenderness. Laboratory investigations showed white blood cells 21.000 / mm³. Other biochemical parameters were within normal

limits. Plain X-Ray CT Scan abdomen shows round radio-opaque structure with intense calcified border and variable density core located in the right sided of the para lumbar vertebrae

Figure 1

Figure 1: CT scan Plain X-Ray showing right para-lumbar round calcified structure and dilated small bowel.



However, this radiological appearance is highly suggestive for echinococcosis in endemic areas. Non-contrast enhanced abdominal CT scan revealed a round, well-defined calcified mass with proximal dilatation and narrowed lumen of the small bowel immediately proximal to a stricture segment at

site of the calcified mass (Demonstrated on series CT sections) (Fig 2-a-b).

Figure 2

Figure 2a: Non-enhanced axial CT scan revealed proximal dilatation to a stricture segment of the small bowel loops.

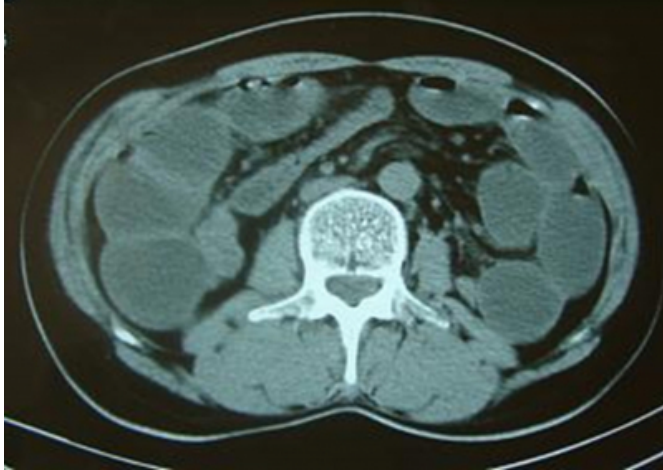
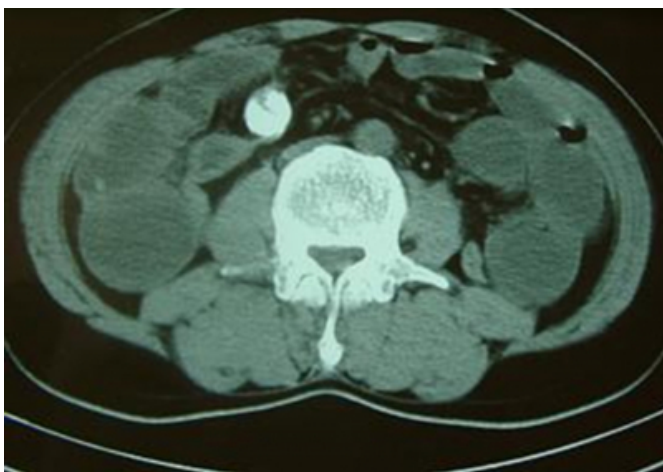


Figure 3

Figure 2b: Axial CT scan caudal section demonstrated that the small intestinal obstruction is caused by the calcified structure.



Abdominal laparotomy was performed; the presence of a small calcified mesenteric hydatid cyst strangulating the ileum leading to acute small bowel obstruction was reported. It was surgically removed and the patient discharged in good condition. The patient has been symptom-free in 6 month follow-up.

DISCUSSION

The diagnosis of intestinal obstruction is easily made by plain abdominal radiography. Although bowel obstruction is commonly seen in our daily clinical practice, to the best of our knowledge, acute mechanical intestinal obstruction

caused by small calcified hydatid cyst was not reported in literature before. The abdominal finding on plain x-ray in hydatid disease is calcification of the wall [4]. Plain film calcification occurs in 20 - 30 % of patients. X-ray of the abdomen may show spotty calcified densities or a calcified cyst wall. It is usually curvilinear or ring-like and lies in the ectocyst. Daughter cyst may calcify, producing several rings of calcification [5]. Calcification of the wall is diagnostic for hydatid disease. When calcification is extensive, it implies the death of the parasite, because the large calcified surface reduces the nutritional exchange between the cyst and the surrounding parenchyma [6].

Ultrasonography is another helpful and informative diagnostic tool to identify extra or intra-organic calcified cysts. CT reveal comprehensive details about the mass in most cases of old dead hydatid cysts showing that the center of the mass may have variable densities while the thickened wall usually has high density, in addition, localization is usually possible.

In summary, although small mesenteric dead hydatid cyst rarely leads to intestinal obstruction, it should be considered in the differential diagnosis of acute mechanical intestinal obstruction in patients who show calcifications and fluid levels on routine plain abdominal X-Ray. The prevention of this condition can not be achieved, as small calcified abdominal Echinococcal cysts are considered clinically insignificant.

In conclusion we suggest that the surgical approach should be performed in patients with intestinal obstruction close to the region of the calcified entity and it is advisable to remove such these mesenteric calcified structures after thorough exploration in Patients undergone surgical intervention for other reasons.

References

1. Geroulakos G. Surgical problems of jejunal diverticulosis. *Ann R Coll Surg Engl* 1987;69:266-268.
2. Maglinte DDT, Chernish SM, DeWeese R, Kelvin FM, Brunelle RL. Acquired jejunoileal diverticular disease: subject review. *Radiology* 1986;158:577-580.
3. Krishnamurthy S, Kelly MM, Rohrmann CA, Schuffler MD. Jejunal diverticulosis. A heterogeneous disorder caused by a variety of abnormalities of smooth muscle or myenteric plexus. *Gastroenterology* 1983;85:538-547.
4. Langer J.C., Rose D.B., Keystone J.S., Taylor B.R., Langer B. Diagnosis and management of hydatid disease of the liver. *Annals of surgery* 1984;199 : 412 - 417.
5. Beggs I., *The Radiology of hydatid disease.* *The American J. of Roentgenology.* 1985; 145 : 639 - 648.
6. Pandolfo I., Blandino G, Scribano F, Longo M, Certo A., Chivico G. C.T findings in hepatic involvement by echinococcus granulosus. *Journal of Computer Assisted*

Tomography. 1984; 8 : 839 - 845.

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