

**Enterolith with multiple ileal strictures causing sub-acute intestinal obstruction –
A rare sequela of mesenteric ischaemia****Santosh Kumar Dhaked^{*1}, Irfan Hussain Khan², Pawan Kumar Meena³, Rohit Gupta⁴, Amit Jain⁵,
Bhupen Songra⁶**^{1,2}Senior Resident, ^{3,4}Resident, ⁵Assistant Professor, ⁶Associate Professor, Dept of General Surgery, Sawai Man Singh Medical College Jaipur, Rajasthan, India Pin-302004***Corresponding author**

Dr Santosh Kumar Dhaked

Email: drskdhakedms@gmail.com

Abstract: Intestinal calculi or enteroliths are rare cause of intestinal obstruction. Most commonly formed in setting of intestinal tuberculosis and crohn's disease, enteroliths can be formed in variety of conditions causing intestinal strictures. We report a case of 75 year old male, who presented with history of recurrent episodes of obstruction. There was a past history of myocardial infarction 2 years back. Patient was a chronic smoker for 40 years. X-ray abdomen showed an oval radio-opaque shadow in right lower quadrant. On laparotomy, multiple ileal strictures were found in distal 4 feet of ileum with an enterolith above proximal most strictures. Resection of affected segment with primary anastomosis was done. HPE was consistent with chronic inflammation. Ischaemic ileal strictures are infrequent cause of intestinal obstruction and formation of enterolith is seldom seen in these cases.**Keywords:** enteroliths, intestinal tuberculosis, laparotomy

INTRODUCTION

Enterolithiasis is a scarcely known cause of intestinal obstruction. Formed as a consequence of intestinal stasis, it is commonly seen in tuberculosis, crohn's disease, pelvis inflammatory disease. Other rare causes include stricture formation due to infection, infiltrative diseases of intestine, ischaemic enteritis and malignancy. Patients present with symptoms of recurrent obstruction and the diagnosis is usually made during emergency laparotomy. Surgery remains the definitive treatment with resection of the affected segment usually relieving the patients of its symptoms; however the treatment of primary cause is essential. We describe a case of multiple ileal strictures with enterolith, treated surgically. The diagnosis of ischaemic stricture was confirmed after histopathological examination.

CASE REPORT

A 75 year old male reported to our emergency department with three days history of severe colicky pain, recurrent vomiting and inability to pass flatus and motion. The patient had similar episodes in past two years which were treated at periphery. Patient also

reported hospitalization for acute myocardial infarction 2 years back. Patient was a known smoker for 40 years.

On examination, there was mild distension of abdomen with slight tenderness in umbilical area. Bowel sounds were exaggerated. X-ray abdomen showed dilated bowel loops with an oval radiopaque shadow in the right lower quadrant. Ultrasonography revealed normal gall bladder, liver, spleen but dilated bowel loops.

On laparotomy, multiple ileal strictures were noted in distal 4 feet of ileal segment. There was an enterolith of size 5*3 cm lodged into the proximal most stricture. Gut wall was oedematous with dilatation of proximal bowel loops. Creeping of mesenteric fat was also noted which was pointing towards crohn's disease. Resection of the affected segment with primary anastomosis was done. Patient was discharged on day fifth after an uneventful post-operative period.

However, pathological report of the specimen was not in favour of crohn's disease. It consists of chronic inflammatory cells in mucosa and sub mucosa with marked fibrosis.



Fig- 1: X-ray abdomen showing radiopaque enterolith



Fig-2: Multiple strictures in Ileum



Fig- 3: Enterolith in Ileum after enterotomy

DISCUSSION

The formation of stones in intestine is a rare incident complicating situations of intestinal stasis. It has been described in conjunction with diverticular diseases of intestine [1]. However in India, it is mostly found in abdominal tuberculosis cases [2]. Other etiological factors consists of crohn`s disease, ischemic enteritis, malignancy, post traumatic and post surgical strictures.

Gallstones, Urinary tract stones or multiple calcified lymph nodes, teratoma of the mesentery and mesenteric fat necrosis are important entities in the differential diagnosis [3]. Enteroliths in intestine can be primary or secondary [4]. Secondary enteroliths are formed in gall bladder and then passed on to intestine through a cholecystoenteric fistula. Primary enteroliths are divided in two types, true and false enteroliths. False enteroliths are formed by clumping and inspissations of intestinal contents eg fruits, vegetable seeds etc. Phytobezoars and trichobezoars can also be kept in category of false enteroliths.

True enteroliths are formed in intestine only with precipitation and deposition of substances from alimentary contents. Stasis is an important phenomenon, necessary for the formation of enteroliths. Stasis can be in form of strictures, diverticula or blind loop syndromes. Enteroliths can be of different shapes and sizes [2]. Enteroliths are unimpeachable eyewitnesses that merely indicate the presence of an underlying disease. However, it has been rarely a cause for gut perforation and obstruction necessitating emergency surgeries.

The chemical composition and radiolucency of the enteroliths depend on the site of its formation. When formed in proximal ileum or jejunum , they are made up of choleic acid and are radiolucent while the enteroliths formed in distal ileum and colon encounters alkaline

environment and thus are formed by calcium salts, result being radiopacity of the stones [5].

Patients presents with recurrent abdominal pain and obstruction. Plain x-ray films may demonstrate enteroliths. Ultrasonography and CT abdomen can also help in diagnosis. Treatment consists of removing the stone by enterotomy and doing stricturoplasty or resection of the affected segment.

CONCLUSION

Small bowel obstruction due to enteroliths is common in crohn`s disease and tuberculosis but is rare in ischaemic strictures. The long history of chronic abdominal pain and obstruction in our patient with a past history of cardiac event demonstrated the occurrence of intestinal ischaemia, stricture formation and subsequently genesis of stone. The definitive treatment of these patients is enterotomy or occasional resection [6].

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