



## SMALL INTESTINAL OBSTRUCTION DUE TO A CONGENITAL BAND -A RARE CASE REPORT

**Dr Asha Abdulsalam**

KVG medical college hospital, Sullia , Dhakshina kannada , Karnataka , India

**Dr Ranjith K Bhaskar**

KVG medical college hospital, Sullia , Dhakshina kannada , Karnataka , India

**Dr Aashik J. S**

KVG medical college hospital, Sullia , Dhakshina kannada , Karnataka , India

**ABSTRACT** We report a case of a 48 year old female who presented with symptoms and signs of intestinal obstruction. She reports no previous history of abdominal surgeries. Abdominal examination showed signs of intestinal obstruction. Laboratory studies were unremarkable and radiologic examination where in conclusive. An open laparotomy was performed and the intraoperative findings were consistent with a congenital band extending from antimesenteric wall of ileum to the root of mesentery, which was ligated and divided with an uneventful postoperative period. Congenital bands are extremely rare in adulthood than compared to childhood. Hence this case derives attention of surgeons due to the unusual age of presentation.

### KEYWORDS :

#### INTRODUCTION:

Acute intestinal obstruction is a frequent emergency . it can be due to functional disorders or mechanical causes such as obstruction or strangulation , which are frequent due to postoperative flanges [e 1]. some patients with no previous history of abdominal surgeries can develop adhesions , this can be explained by congenital or spontaneous or initial adhesions. Peritoneal bands on a virgin abdomen are an extremely rare etiology of occlusive symptoms.

Congenital adhesions can be in 0.7 to 2% a cause of small bowel obstruction. Congenital adhesions are infrequent in children and is rare in adults. Ileum is the commonest site of congenital bands, followed by colon, mesentery, omentum, peritoneum, jejunum as well as every site of the gastrointestinal tract, including the abdominal organs and peritoneum [1].

There are no differences in the clinical manifestation and initial work-up of small bowel obstruction (SBO) due to congenital bands when compared to other causes of SBO [1].

Although there are beneficial effects to adhesions, they are the leading cause of small intestinal obstruction after abdominal surgery and can be the source of significant morbidity, in some cases leading to mortality.

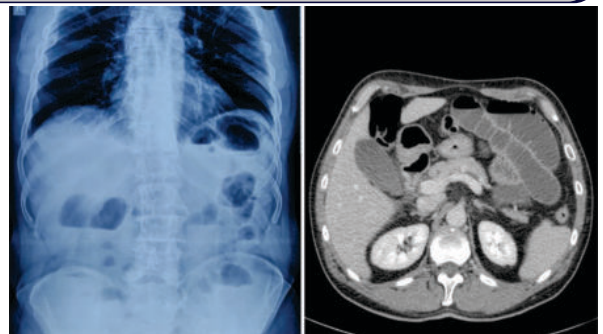
In the past decade, limited clinical research has produced uncertainty about best practice with subsequent international variation in delivery and in outcome. There is a diagnostic dilemma on how to distinguish between adhesive SBO and other causes, and how to distinguish between ASBO that needs emergency surgery and ASBO that can be successfully treated conservatively [2].

#### Case Report

A 48 year old female visited the emergency department with a history of diffuse colicky abdominal pain which was insidious in onset and rapidly progressed. Abdominal pain was associated with vomiting and constipation. She had no previous history of abdominal surgeries or abdominal trauma.

Abdominal examination revealed soft distended abdomen , tenderness on right para umbilical region, tympanic on percussion with sluggish bowel sounds . No signs of peritonism. Vital were stable. Laboratory studies were unremarkable.

X-ray erect abdomen showed dilated small bowel loops with air fluid levels .Ultra sonography of abdomen revealed dilated small bowel loops with mild circumferential thickening of ileal loops ,suggestive of distal ileal stricture. Contrast-enhanced CT of the abdomen revealed distended jejunal and ileum loops with a transition point in the right iliac fossa after which ileal loops with small bowel feces sign was also observed and was diagnosed with close loop obstruction.

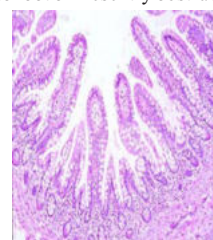


**Fig 7 & 8:** x ray erect abdomen showing multiple air fluid level,CECT showing dilated small bowel loops

Patient underwent emergency exploratory laparotomy under general anesthesia in our surgical department at KVG medical college hospital via a right paramedian incision . On table a band of 15cm in length extending from antimesenteric wall of ileum to the root of mesentery over 2 feet distal to ileo-cecal junction obstructing the ileum was identified ,which was ligated and divided . Bowel was found to be health. she recovered uneventfully postoperatively and was discharged on 7<sup>th</sup> post operative day in a satisfactory condition. Histopathology was consistent with ileal band .



**Fig 5:** showing the congenital band arising from antimesenteric wall of ileum and attached to root of mesentery obstructing ileum



**Fig 6 ;** showing histology of ileum

**DISCUSSION**

Congenital peritoneal bands are common in adults ,they cause 3% of intestinal obstruction .they are defined as intraperitoneal adhesion not related to abdominal procedure[2]. These bands are difficult to classify and define referring to Lorimier there are two types of congenital adhesions due to involution of omphalo mesenteric duct or omental malformation which are called ladd flanges and associated generally with other congenital abnormalities [7].

The incidence of congenital adhesions bands is still uncertain. The incidence of adhesions without previous operations has been reported to range from 3.3 to 28% as determined by autopsy. Ileum is the commonest site of congenital bands, followed by colon, mesentery, omentum, peritoneum, jejunum as well as every site of the gastrointestinal tract, including the abdominal organs and peritoneum [4].

Symptoms are the same as acute intestinal obstruction which lead to misdiagnosis

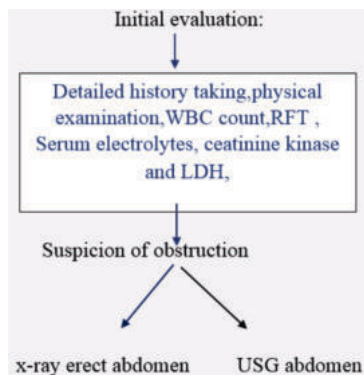
X ray erect abdomen without bowel preparation is gold standard to demonstrate features of bowel obstruction or perforation of bowel.

Contrast enhanced computed tomography (CT) has improved diagnosis of ASBO in general but cannot be performed in each patient (severe vomiting, kidney failure) and fails to accurately identify adhesions as the cause. Also, predicting which treatment should be installed and success of treatment by CT is under debate. Regarding surgical treatment laparoscopy has gained popularity but also is associated with increased risk of iatrogenic complications[2]

In a study done by Fausta et al ,they give a outline on how to go about with such cases with a preliminary and secondary assessment[2].

**Preliminary Assessment**

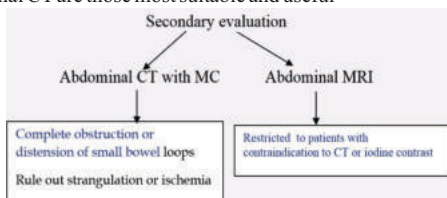
The first step in the diagnostic work flow for ASBO is a detailed history and physical examination, followed by the evaluation of a complete blood count with differential especially white blood cell (WBC) count, electrolytes including blood urea nitrogen and creatinine, C-reactive protein, serum lactate, lactate dehydrogenase (LDH) and creatine kinase (CK). In patients who present with systemic signs ,additional laboratory investigation should include arterial blood gas and serum lactate



**Figure 1**

**Secondary Evaluation:**

While ASBO may be suspected based only upon risk factors, symptoms, and physical examination, abdominal imaging is usually required to confirm the diagnosis, eventually detecting the location of obstruction and identifying complications, like ischemia, necrosis, and perforation. Although multiple imaging modalities are available to confirm a suspected diagnosis of ASBO, plain radiography and abdominal CT are those most suitable and useful



**Figure 2**

Accuracy of CT scans for ASBO diagnosis are, respectively, from 90% to 94%, 96%, and 95%[8]. CT has been demonstrated to be highly diagnostic in ASBO, especially in all patients with inconclusive plain X-ray.

A high mortality is mainly due to delay in diagnosis ,which has decreased over the years due to better imagings modalities. Mortality associated with SBOS has been reported to be less than 10% [9,10]

The treatment part of the SBO describes both non operative methods (NOM) and operative methods with variable results.

**Non Operative Methods (nom)**

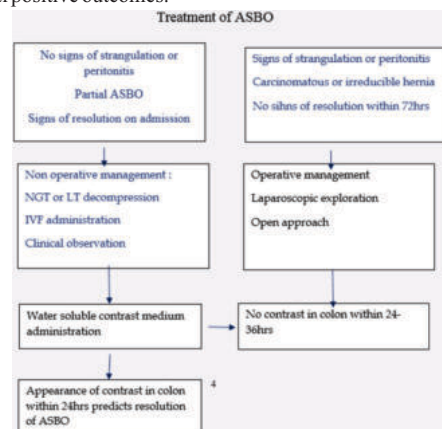
The patient should be hospitalized, should keep no oral intake, and a nasogastric tube should be inserted to aspirate enteric contents while fluid volume and electrolyte abnormalities are corrected.

Nasogastric (NG) and nasojejunal (NJ) aspiration have equivalent efficacy [11]. In a randomized controlled study, NJ suction did not initially show any advantage in reducing the need for surgical treatment compared to NG suction (30 vs. 40%, P=0.16) [12].

As a counterpart, a delay in operation for ASBO places patients at higher risk for bowel resection. A retrospective analysis showed that in patients with a ≤ 24 h wait time until surgery, only 12% experienced bowel resection and in patients with a ≥ 24 h wait time until surgery, 29% required bowel resection[9].

However, at any time, if there is an onset of signs of strangulation, peritonitis or severe intestinal impairment, NOM should be discontinued and surgery is recommended.

Tube decompression, WSCA and other treatments are also tried with minimal positive outcomes.



**Figure 4**

**Operative Methods**

Surgical exploration is the cornerstone of the management of congenital adhesions causing SBO as it is the only way to establish the final diagnosis and treatment [2]. laparoscopic exploration has gained much popularity and is considered a safe and low-risk option for diagnosing and treating adhesive SBO [3]. The potential benefits of laparoscopy are the shorter length of stay, reduced operative time, lower postoperative pain, earlier return of bowel movements, less extensive adhesion reformation, decreased 30-day mortality, lower morbidity and fewer major postoperative complications [2]. On the contrary, the estimated bowel injury with laparoscopic adhesiolysis is 6.3–26.9% of cases. Additionally, bowel resection was more frequent in laparoscopic surgery than laparotomy (53.5 vs. 43.4%) [3].

**CONCLUSION**

Although this entity is rare ,the possibility of anomalous congenital band should be taken into account in any patient who present with signs of intestinal obstruction with a virgin abdomen . There is a diagnostic dilemma on how to distinguish between adhesive SBO and other causes, and how to distinguish between ASBO that needs emergency surgery and ASBO that can be successfully treated conservatively [2]. CT has been demonstrated to be highly diagnostic in ASBO, especially in all patients with inconclusive plain X-ray. Although accuracy of CT scans for ASBO diagnosis are, respectively,

from 90% to 94%, 96%, and 95%[2], only exploratory or laparoscopic laparotomy can be said definitive for the diagnosis and treatment of this problem.

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