# Obstruction of proximal jejunum due to anomalous congenital mesenteric band with herniated bowel: A case report

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## Introduction

Small bowel obstruction (SBO) is the most common cause of surgical emergencies of the small intestine, mainly due to postoperative adhesions. While very rare, congenital anomalous bands are known to cause SBO in children and adults, especially those without a history of abdominal or pelvic surgery. Their exact origin is unknown; there are only a handful of case reports and series investigating the derivation of the mesenteric band, for example, being related to a mesenteric remnant that failed to resorb [1-3] or not being embryonic at all [2,4]. The anomalous band most commonly attaches at the ascending colon and the terminal ileum [5,6] but, more rarely, to the proximal jejunum. This case presents a rare cause of mechanical obstruction and highlights the evaluation of a congenital abdominal pathology in an older patient.

## Patient Presentation

We present a 56-year-old male with a history of hypothyroidism, with no previous history of abdominal surgery or pathology, that presented to the emergency department with a 1-day history of sharp abdominal pain and nausea. On exam, vital signs were normal, and the physical exam revealed a diffusely tender abdomen without rebound or guarding. Initial investigations included laboratory findings that were significant only for leukocytosis of 14,600/mm^3 with left shift and a comprehensive metabolic panel that revealed an elevated lactate level of 2.3mmol/L. Computerized tomographic imaging of the abdomen showed dilated loops of small bowel in the mid-jejunum compatible with small bowel obstruction. At laparoscopy, multiple distended bowel loops were seen at the terminal jejunum, along with two non-contiguous segments of small bowel herniated through a congenital mesenteric band. The band was cut with scissors to decompress the bowel and release the dusky-appearing herniated segments. The dusky bowel was immersed in warm saline until the return of normal color before returning the bowel to its natural position. The patient had an uncomplicated postoperative recovery and returned home 4 days later.

## Imaging



Figure 1A – CT Abdomen Pelvis with Contrast – Coronal view

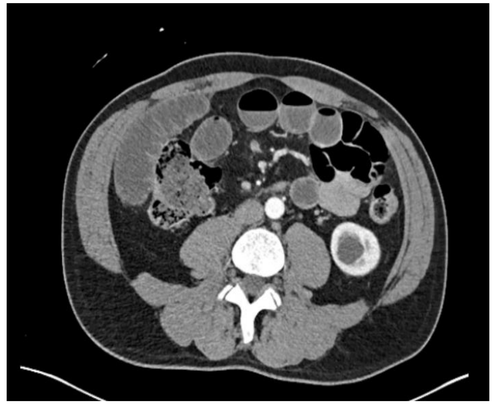


Figure 1B– CT Abdomen Pelvis with Contrast – Axial view

## Discussion

Bowel obstruction is a common pathology for patients of all ages, caused by a variety of different etiologies, adhesions being the most prevalent, occurring about 65% of the time [7]. Congenital bands are a rare cause of intestinal obstruction in children and even more so in adults [8]. The symptoms for obstruction do not vary due to etiology and most commonly consist of abdominal pain and distention, nausea and vomiting, and constipation with positive bowel sounds [7]. Another common theme in the patients with such pathology is that they have no abdominal or pelvic surgical history, which causes the differential for an obstruction to widen, especially in older patients [9]. Hernia and possible bowel strangulation are common and serious complications to anomalous bands [11],which present as persistent, severe pain or tenderness and loss of bowel sounds [9]. Such complications stress the need to include congenital bands as a cause of bowel obstruction, especially in those with no surgical history.

Anomalous congenital bands causing bowel obstruction are rare, but the two most common attachment points, as demonstrated in the largest case series of anomalous congenital bands in children [5,6] , were between the ascending colon and the terminal ileum, occurring about 50% of the time, with the second most likely to be between the ligament of Treitz and mesentery of the terminal ileum. A case study reported a band spanning from the terminal ileum and the sigmoid mesentery [3], while several others reported the band traversing the anti-mesenteric wall of the jejunum to the root of the mesentery [1,4,12,13] and even extending from the gallbladder to the transverse mesocolon [11].

The origin of the anomalous band has been investigated by many and remains unclear. Some researchers suggested that the bands directly resulted from a mesenteric development anomaly that occurred during the 28th day of intrauterine life[5] when the mesentery enters its final position. Others have proposed that the origin is related to a mesenteric remnant that failed to resorb [1,2,3]. However, some studies have excluded embryological structures such as the vitelline vessels or the omphalomesenteric yolk duct as the cause for the bands [2,4]. Based on a case series of 14 children with congenital mesenteric bands, Erginel et al. concluded that the band's origin could not be attributed to any specific embryonic structure due to the wide variety of attachment points in each patient.

In conclusion, the possibility of congenital anomalous bands must be included in the differential when an adult with no past surgical history presents with symptoms classic for small bowel obstruction. These bands have no sure origin and are very rarely considered due to their similarity in presentation to more common causes. The diagnosis for congenital bands cannot be determined by CT alone and requires prompt surgical intervention, especially due to the increased risk of herniation and subsequent incarceration and strangulation. In future studies, the origin of the anomalous mesenteric band needs to be investigated, as well as possible reasons for the varying attachment points in both child and adult patients.

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