

**CASE REPORT**

# Meckel's Diverticulum with Mesodiverticular Band (A Rare Cause of Intestinal Strangulation In Elderly)

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## Abstract

We present a 60 year old male who had 3 days history of intestinal obstruction. At the time of presentation there were signs of peritonitis. The patient was operated after proper resuscitation. Per-operative findings were that of distended small bowel with a band (mesodiverticular band) extending from mesentery across the ileum to Meckel's diverticulum beneath which the herniated loops of ileum were strangulated. Division of the mesodiverticular band, resection of involved gut along with Meckel's diverticulum and end to end anastomosis was done. The patient made an uneventful recovery in the post-operative period.

## Key Words

Meckel's diverticulum, Mesodiverticular band, Intestinal strangulation

## Introduction

Meckel's diverticulum can cause intestinal obstruction in a number of ways; the principal mechanisms are: intussusceptions, herniation, kinking or volvulus in relation to a persistent remnant of the vitelline duct. Occasionally, the Meckel's diverticulum may be associated with a mesodiverticular band which is an embryologic remnant of the vitelline circulation which carries the arterial supply to the diverticulum(1). In the event of an error of involution, a patent or non-patent arterial band persists and extends from mesentery across the ileum to the apex of Meckel's diverticulum. The importance of this band is that it creates a triangular hiatus under which a loop of intestine can become strangulated(2). The risk of developing symptoms of Meckel's diverticulum decreases with advancing age. In infancy, a child with Meckel's diverticulum runs 4.2% risk of developing symptoms, dropping to 3% in adults and almost zero in old age(3,4). The present case seems to be unique in presentation as the occasionally found mesodiverticular band has caused intestinal obstruction in an elderly and forms the basis of this case report.

## Case Report

A 60 year old male was referred from district hospital with features of acute intestinal obstruction three days preceding admission at Govt. Medical College, Jammu. At the time of admission, the patient had signs of dehydration. Blood pressure was 90/50 mm of Hg and urine output of about 300 ml in the last 24 hours. Per abdominal examination revealed signs of frank peritonitis and on rectal examination there was no blood in stools.

Laboratory investigations revealed hemoglobin of 9.0 gm/dl with normal coagulation profile, total leukocyte count was 11,500/mm<sup>3</sup> and differential count showed leucocytosis. The patient had deranged renal parameters with blood urea 90 mg/dl and serum creatinine 2.1 mg/dl however serum electrolytes were normal. X-ray abdomen erect and supine films were consistent with signs of small bowel obstruction and there was no pneumoperitoneum.

The patient was operated after proper resuscitation. Per operative findings revealed distended small bowel and a fibrovascular band extending from mesentery to

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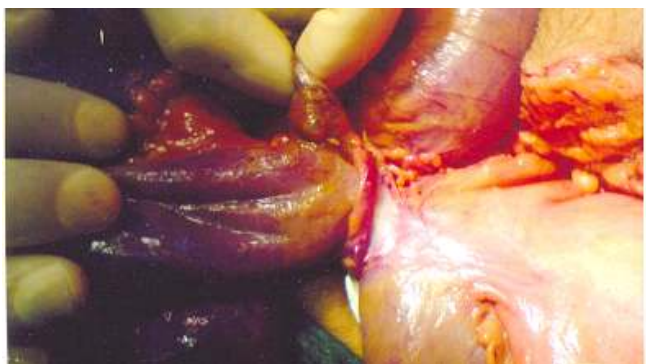
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antimesenteric Meckel's diverticulum under which herniated loops of ileum were strangulated. The rest of the bowel was normal. The causative mesodiverticular band was divided, the involved gangrenous portion of small bowel along with Meckel's diverticulum was resected and end to end anastomosis was done in 2 layers with 3-0 vicryl.

The patient was maintained on drip-suction in the post operative period till bowel sounds returned on the 4th post-operative day. Oral feeding started on 5th post-operative day and abdominal drains removed. Stitches were taken out on 9th post-operative day. The patient made an uneventful recovery post-operatively.



**Fig 1: Meso-diverticular Band Causing Obstruction of ileal segment**



**Fig 2: Strangulated/Gangrenous ileal segment due to band**

#### Discussion

Meckel's diverticulum is an uncommon cause of intestinal obstruction during adult life(4,5). 60% of the patients who present with complications are under two years of age(6). Salto and Bill in a study in 1971 estimated that in infancy a child with Meckel's diverticulum runs 4.2% risk of developing symptoms, dropping to 3% in adults and almost zero in old age(2). Rarely Meckel's

diverticulum is complicated by a mesodiverticular band which is believed to be a remnant of vitelline artery(1). Beneath this band the bowel can herniate and become strangulated(7,8). When this anomaly occurs it is associated with high mortality(2). Vork and Kristensen in another study in 2004 found this anomaly after autopsy of a 48 years old man who had presented with symptoms of intestinal obstruction(5). Furthermore, in a study of 50 cases of Meckel's diverticulum in one hospital in 20 years period Moore and Johnston stressed the possibility of attached Mesodiverticular band leading to intestinal obstruction(9).

After reviewing the pertinent literature, most of the cases of mesodiverticular band causing intestinal obstruction were seen in paediatric age group(1,4,10). But our case is unique in the presentation that this rarely found anomalous band has caused intestinal strangulation in an elderly.

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