

## Case Report

## Intersigmoid Internal Hernia – A Rare Etiology of Small-Bowel Obstruction

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Submitted: 25-May-2021

Revised: ??-Oct-2021

Accepted: 06-Jun-2021

Published: \*\*\*

## ABSTRACT

Internal hernias account for only a small percentage of all instances of intestinal obstruction. Hernias which result from defects or abnormalities of the sigmoid mesocolon are among the rarer types of internal hernia. When untreated, they have been reported to have a high overall mortality. Due to a lack of specific clinical manifestations, they are usually diagnosed late. In addition, evaluation and imaging studies can also be nonspecific. The possibility of sigmoid mesocolon hernia should be considered in patients presenting with symptoms of progressive or persistent small-bowel obstruction without a previous history of surgery or abdominal inflammation as it is associated with a high incidence of strangulation. Without a heightened awareness and understanding of this hernia, it can always be misdiagnosed, with subsequent significant morbidity and mortality. Here, we report a case of acute intestinal obstruction secondary to sigmoid mesocolon hernia.

**KEYWORDS:** *Internal hernia, intersigmoid hernia, intestinal obstruction, mesosigmoid hernia, sigmoid mesocolon hernia*

## INTRODUCTION

Internal hernia is the protrusion of the intra-abdominal viscera through peritoneal or mesenteric orifices within the peritoneal cavities. They are a rare cause of small-bowel obstruction and account up to 5.8% of cases.<sup>[1]</sup>

Mesosigmoid hernias are very rare accounting for only about 5% of the internal hernias.<sup>[2]</sup> Mesosigmoid hernia and sigmoid mesocolon hernia are used as synonyms. Early computed tomography (CT) and timely surgical intervention is crucial as mortality exceeds 50% following strangulation.<sup>[3]</sup>

## CASE REPORT

A 52-year-old gentleman with no comorbidities presented to the emergency department with acute abdominal pain associated with distension and obstipation and no past history of abdominal surgeries. On examination, he had tachycardia of 102/min and blood pressure was 120/70 mmHg. Abdominal examination revealed gross distension, tenderness all over the abdomen, and bowel sounds were absent. Per rectum examination was unremarkable. Contrast-enhanced CT of the abdomen

showed dilated small-bowel loops with pneumatosis intestinalis suggestive of acute intestinal obstruction with probably bowel gangrene [Figure 1a and b]. The patient underwent emergency explorative laparotomy under general anesthesia which revealed free fluid and a perforated gangrenous ileal loop [Figure 1c] stuck deep into the pelvis, in-between folds of sigmoid colon mesentery [Figure 1d]. Internal hernia was released, peritoneal lavage was given, and segmental resection of perforated gangrenous ileal loop and end-ileostomy were performed.

## DISCUSSION

The diagnosis of internal hernia is very difficult and moreover, mesosigmoid hernia is an uncommon type of internal hernia. Benson and Killen defined three types of mesosigmoid hernia [Figure 2]:<sup>[4,5]</sup> (a) intersigmoid hernia (most common) arising in the

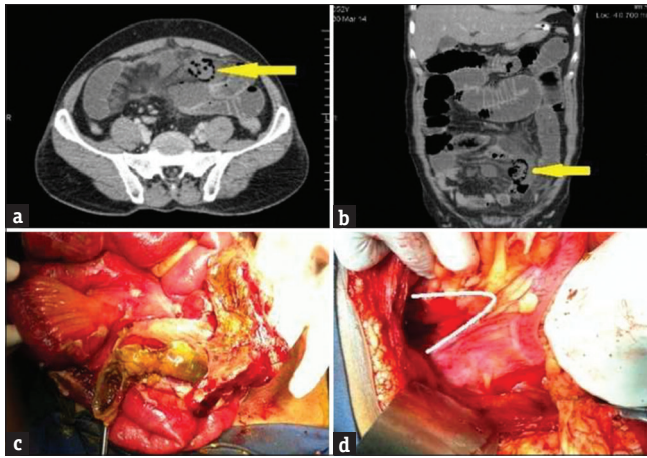
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**How to cite this article:** Alur SB, Siva S. Intersigmoid internal hernia – A rare etiology of small-bowel obstruction. Indian J Colo-Rectal Surg 2021;XX:XX-XX.

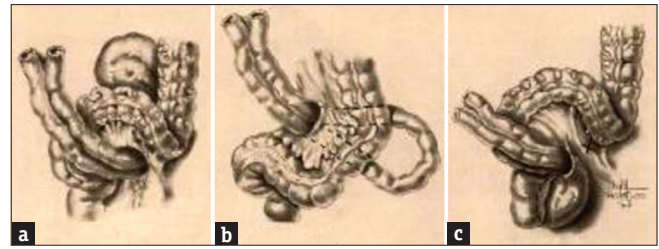
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	<b>DOI:</b> 10.4103/ijcs.ijcs_15_21



**Figure 1:** (a and b) Computed tomography of the abdomen/pelvis in transverse and coronal sections showing dilated small bowel loops with pneumatosis ilei (c) Intraoperative photograph showing perforated gangrenous ileal loop (d) Intraoperative photograph showing intersigmoid fossa

congenital fossa located in the attachment of the lateral aspect of the sigmoid mesocolon to the posterior abdominal wall [as seen in our patient, Figure 1d]; (b) transmesosigmoid hernia occurring when the loops of bowel pass through a defect in the sigmoid mesocolon; and (c) intrasigmoid hernia (least common) that results when the defect in the sigmoid mesocolon affects only the left leaf of the peritoneum and the hernial sac lies within the sigmoid mesocolon. Due to a lack of specific signs and symptoms, the diagnosis is confusing and is usually made late and peroperatively.<sup>[6]</sup> In addition, imaging changes can also be nonspecific, such as abdominal X-ray, contrast series, or CT.<sup>[7]</sup> Sigmoid mesocolon hernias are associated with a high incidence of strangulation. The diagnosis of internal hernia should be considered for patients with signs and symptoms of intestinal obstruction in the absence of any intra-abdominal pathology such as inflammatory intestinal disease, or previous intervention as external hernia or previous laparotomy.<sup>[6,8]</sup>

Internal hernias can cause considerable morbidity and mortality and sigmoid mesocolon hernia is a rare internal hernia. Due to a lack of specific clinical manifestations, they are usually diagnosed late. Without a heightened awareness and understanding of this hernia, it can always be misdiagnosed. Since there is a high incidence of strangulation, diagnosis is



**Figure 2:** Internal hernias involving the sigmoid mesocolon—(a) Intersigmoid hernia; (b) Transmesosigmoid hernia; (c) Intramesosigmoid hernia (X = site of intersigmoid fossa)

paramount and the role of early surgical intervention is stressed.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

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Author Queries???

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