

Case Report

**SMALL BOWEL OBSTRUCTION AFTER OPEN DONOR
NEPHRECTOMY: INTERNAL HERNIA WITH BAND –
AN UNUSUAL CASE**

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ABSTRACT

Internal hernias are a rare cause of small bowel obstruction. Following donor nephrectomy, a missed rent or defect in mesentery or mesocolon lead to, herniation of small bowel loops through defect and presented as intestinal obstruction. The need for presenting this case is the rarity of its occurrence, to stress the fact that following major abdominal surgery mesenteric or mesocolic defects should be closed.

Keywords: *Internal Hernia, Donor Nephrectomy, Retroperitoneal Approach, Intestinal Obstruction*

INTRODUCTION

An internal hernia following nephrectomy is a relatively rare occurrence. A nephrectomy via the transperitoneal approach has complications which are common to any abdominal surgery, as well as some which are specific to it. However, nephrectomise by retroperitoneal approach avoid complications related to peritoneal breach. Here in we report a case of donor nephrectomy done by extraperitoneal approach presented 3 months after as intestinal obstruction due to internal herniation of jejunal loops in renal fossa with a band.

CASES

A 42 year old male presented to outpatient department of MGMCH, Jaipur with a history of vomiting, Pain abdomen and constipation for 3 days. Pain abdomen was colicky and appeared in waves at interval of 3-5 minutes, mainly in epigastric and umbilical region of the abdomen, relieved for some time after vomiting. This was 3 months after he underwent an open donor nephrectomy left side. X-ray flat plate abdomen revealed only 3 air fluid levels. A CECT suggested dilatation of the stomach, duodenum and proximal jejunum with features of bowel obstruction in the mid jejunum, with the loops lying in left renal fossa.

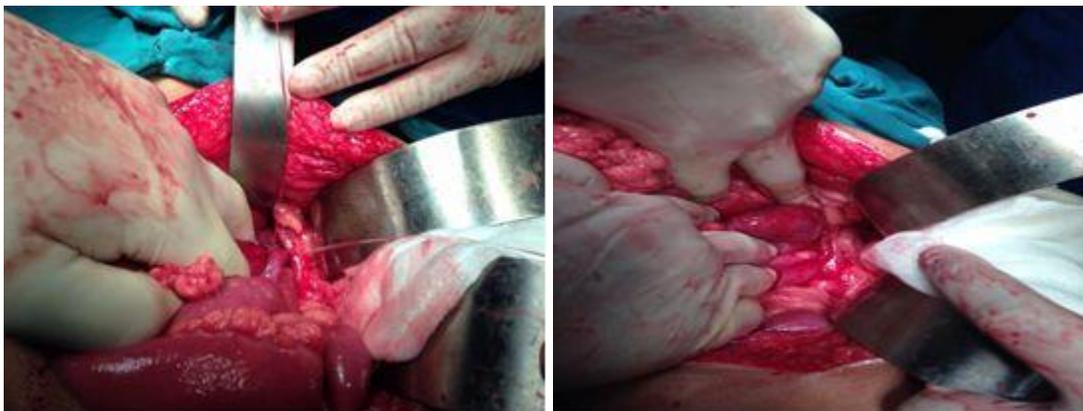


A provisional diagnosis of obstructed left para duodenal hernia was made. Patient was explored by midline laparotomy. Herniation of dilated jejunum was noted in the left paraduodenal space and a fibrous band arising from left lateral peritoneum was found compressing the distal jejunum loop. The fibrous band compression site was nonviable, so division of fibrous band with resection of jejunal loop and end to

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end anastomosis was done. Narrow internal herniation orifice in the upper descending colonic mesentery was also repaired.

Patient had an uneventful recovery and was discharged from hospital on 6th postoperative day. Patient was well when last seen at 6 month follow up.



DISCUSSION

Internal hernias through normal or abnormal peritoneal or mesenteric aperture constitute less than 1% of all common causes of small bowel obstruction (Balthazar *et al.*, 1992). Recently the increased use of laparoscopy for advanced procedures has resulted in an increase in the postoperative complication of intestinal obstruction due to internal hernias (Blachar *et al.*, 2001). These hernias usually occur through the transmesenteric or transmesocolic defects that are inadvertently made during the procedure and are not subsequently closed. In view of this fact, it is generally recommended that these rents or openings should be specifically sutured and closed to prevent postoperative intestinal obstruction (Wadhawan *et al.*, 2012).

Further, extensive colonic mobilization and mesenteric dissection to maximize renal vessels length for subsequent anastomosis in donor nephrectomy may predispose to creation of these transmesocolic defects (Wong *et al.*, 2008). However, to prevent these mesocolic defects during access to kidney, it has been suggested to dissect close to Gerota's fascia medially and staying lateral to the Gonadal vein (Regan *et al.*, 2003), where peritoneum is usually very thin and loosely attached to Gerota's fossa. More over even with optimal surgical technique, these defects may occur, especially in thin patients whose mesentery contains little fat.

The timing of presentation for intestinal obstruction from internal bowel herniation is usually delayed, 1 week to 2months after their initial uneventful recovery from surgery (Regan *et al.*, 2003; Jimi *et al.*, 2007). This is distinct from other causes of intestinal obstruction like bowel injury or ileus, in which the patient remain unwell since the initial surgery (Wong *et al.*, 2008). Our patient also presented 3 months after surgery.

Preoperative diagnosis of intestinal obstruction due to internal herniation is usually difficult to be made by clinical signs and symptoms. Plain radiographs as well as contrast enhanced CT many sometime suggest upper small gut obstruction by massing of jejunum in left renal fossa (Blachar *et al.*, 2001). Contrast enhanced gastrointestinal studies such as enteroclysis, enterography and abdominal computed tomography plays an important role in the diagnosis of various types of internal hernias. Multi detector computed tomography (MDCT) with 3D reformations had added advantages over conventional imaging in the identification of the site, level and cause of small bowel obstruction (Murali *et al.*, 2014).

In pathogenesis the primary problem is a breach in mesentery allowing bowel to herniate into potential retroperitoneal space created by left nephrectomy and further at this location on left side ligament of treitz is the pivot point for sliding of proximal jejunum towards left parieto-colic fossa. This is further added by early ambulation of patient which puts mesentery under stress and allowing gravity to act on small bowel

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(Kumar *et al.*, 2012). Though, large internal hernia are less likely to cause strangulation, as they have a wide neck, but adhesions around the defect can reduce neck size, leading to this complication (Jimi *et al.*, 2007). In our case a fibrous band arising from left lateral peritoneum was found compressing the distal jejunal loop affecting the viability of loop. Similarly other authors (Kumar *et al.*, 2012) are also in agreement that adhesions are the usual cause of obstruction in these cases.

Management of most of these cases has been exploration through either a laparotomy or laparoscopy. If the entrapped bowel is viable and not gangrenous, it can be usually reduced. If herniated bowel is nonviable, than resection and end to end anastomosis needs to be done as was done in our case. However mesenteric or mesocolic rent should always be sutured subsequently.

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