

# Subacute Intestinal Obstruction Due to Paratransplant Hernia Following Living-Related Renal Transplantation: A Case Report

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## ABSTRACT

Subacute intestinal obstruction secondary to para-transplant hernia is a very uncommon postoperative complication. Its occurrence after living-related renal transplantation (LRRT) is very rare but a potentially serious complication. This case report describes the presentation, diagnosis, and management of a 46-year diabetic, hypertensive male who developed subacute intestinal obstruction due to a para-transplant herniation of a small bowel following a successful LRRT. Peritoneal defects during retroperitoneal transplantation should be closed to decrease the possibility of small bowel protrusion that could lead to obstruction and incarceration.

**Key Words:** Subacute intestinal obstruction, Para-transplant hernia, Living-related renal transplantation, Exploratory laparotomy.

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## INTRODUCTION

Para-transplant hernia associated with renal transplant was first reported by Kyriakides *et al.* in 1978 as bowel entrapment through a peritoneal defect overlying the transplanted allograft.<sup>1</sup> A total of nine cases of para-transplant hernias have been reported in the literature so far. All the cases were managed by exploratory laparotomy.<sup>2</sup> Surgeries such as renal transplants, that are retroperitoneal, should avoid such complications, as the intraperitoneal space is not entered. However, while dissection and exposing the iliac vessels to make renal bed for the graft, the creation of small defects in the peritoneum is not uncommon. These defects are closed primarily thus, decreasing the risk of complications. However, theoretically, there remains a risk of intra-abdominal contents herniating through the peritoneum, potentially leading to obstruction and incarceration. Herein, the authors share this experience of a para-transplant hernia after a renal transplant leading to subacute intestinal obstruction.

## CASE REPORT

A 46-year man, a case of end-stage renal disease (ESRD) secondary to hypertension and diabetes, underwent living-related renal transplantation (LRRT) on 28 February 2024.

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The surgery was uneventful and postoperative recovery was satisfactory. The patient was discharged on the 5<sup>th</sup> postoperative day.

The patient presented after three weeks with a three-day history of pain in the abdomen, absolute constipation, and 2 to 3 episodes of bilious vomiting per day. The patient's x-ray abdomen in an erect position revealed air-fluid levels.

On examination, the abdomen was distended and tender to touch. The bowel sounds were sluggish on auscultation. Laboratory investigations showed white blood cell (WBC) count of 10,000/ml, haemoglobin of 8.6 g/dl, sodium of 128 mEq/L, potassium of 5.4 mEq/L, C-reactive protein (CRP) of 72 mg/L, creatinine of 2.3 mg/dl, and urea of 57 mg/dl.

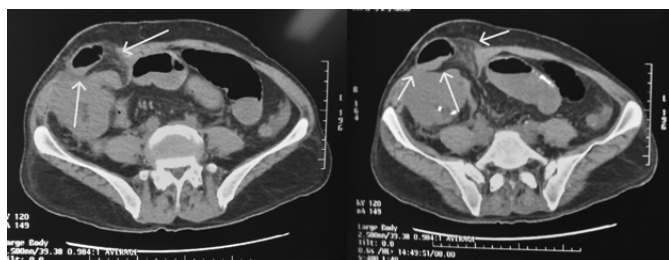
A provisional diagnosis of sub-acute intestinal obstruction was made. The patient was kept nil per oral. The nasogastric (NG) tube was passed and conservative management was initiated but no improvement was noted in the patient's condition.

CT scan of the abdomen revealed small bowel herniation through anterior abdominal wall muscles with a distended small bowel (Figure 1).

On the 4<sup>th</sup> day of admission, an exploratory laparotomy was performed. A segment of the ileum was seen protruding through a small rent in the peritoneum in the right iliac fossa and it was dilated. The transplanted kidney was also identified. The ileal loop was reduced into the peritoneum and the rent in the peritoneum was repaired with vicryl 2-0. A drain was placed.

On the second postoperative day, the patient was allowed oral intake and tolerated it well. He also passed flatus. Drain output

was 200 mL of serous fluid. All laboratory results were within normal limits, and the patient was discharged on the fourth postoperative day.



**Figure 1:** CT scan of abdomen showing a distended small bowel loop protruding through the abdominal fascial layer (white arrows).

## DISCUSSION

Internal hernias account for less than 1% of the total intestinal hernias. The common complication associated with a liver transplant is a para-duodenal hernia.<sup>3,4</sup> Para-transplant hernia was first described by Kyriakides *et al.* in 1978.<sup>1</sup> All three cases presented following a kidney transplant with bowel obstruction. All the cases ultimately were explored by laparotomy after an initial trial of conservative management. Peritoneal defects were closed in all cases. One needed resection of the omentum and the other one underwent bowel resection. Three cases of para-transplant hernia have also been reported by Sanchez *et al.*<sup>5</sup> These also presented with bowel obstruction, and the diagnosis was confirmed with a CT scan of the abdomen. The peritoneal defects were closed primarily in two cases whereas, one patient needed small bowel resection. Gao *et al.* reported three cases of para-transplant hernias.<sup>2</sup> One patient presented with pain in the abdomen, nausea, distension, and vomiting. One of the patients was managed conservatively for several days followed by exploratory laparotomy and small bowel resection. The patient died of multiple organ failure one week after surgery.

All the cases that have been reported so far presented within the first few weeks of transplantation and the standard approach has been exploratory laparotomy for patients with bowel obstruction.

The chances of wound complications including incisional hernia and surgical site infection increase significantly if re-exploration is done through the recent transplant incision, which may need mesh repair or vacuum-assisted closure therapy.<sup>6,7</sup> Thus, exploratory laparotomy by midline incision is the preferred choice. In our

case, timely diagnosis with a CT scan and prompt intervention were the key to a successful result.

## PATIENT'S CONSENT:

Informed consent was obtained from the patient for the publication of this case report and accompanying images.

## COMPETING INTEREST:

The authors declared no conflict of interest.

## AUTHORS' CONTRIBUTION:

UUK: Conception, design, data acquisition, and drafting.

MI, SF, AM: Analysis and article revision.

AU: Conception, design, article revision, and reviewing.

All authors approved the final version of the manuscript to be published.

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