Strangulated Small Bowel Obstruction After Renal Transplant With No History of Laparotomy: Case Report

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Abstract

Strangulated small bowel obstruction is a complication after abdominal surgery, which is rare in renal transplant patients. A 61-year-old man with a strangulated small bowel obstruction underwent renal transplant surgery 7 years before the current admission. He was admitted to our hospital for abdominal pain, nausea, and abdominal distention. An abdominal computed tomography and an ultrasound examination showed intestinal expansion and fluid collection without ascites.

His disease was diagnosed as a small bowel obstruction and conservative treatment was begun. However, because of increasing abdominal pain and the collection of ascites, he underwent an emergency laparotomy and was diagnosed as having a strangulated small bowel obstruction. A fibrous cord had formed between the peritoneum (beside the transplanted kidney) and the root of the sigmoid mesocolon, strangulating the looped ileum and causing bleeding necrosis and hemorrhagic ascites collection. The cord and the necrotic ileum were resected, followed by an end-to-end anastomosis. He was discharged 17 days after the surgery in good condition.

This is the first reported case of a person having a strangulated small bowel obstruction by a fibrous cord, who did not have a history of laparotomy after renal transplant. A strangulated small bowel obstruction after a renal transplant in a patient with no history of a laparotomy is a rare, but possible postoperative complications should be considered when making a differential diagnosis.

Key words: Small bowel obstruction, Renal transplant, Fibrous cord formation

Introduction

A strangulated small bowel obstruction (SBO) is a critical complication with a high mortality rate.1 Strangulated SBO occurs when a closed loop of the intestine forms as a result of strangulation by a fibrous cord, torsion of the bowel, or formation of an internal hernia.2-4 Adhesion formation after laparotomy is the major cause of SBO; however, renal transplant is usually performed via a retroperitoneal approach, which is associated with a lower risk of adhesion.5 Therefore, although gastrointestinal complications are prevalent adverse events in renal transplant recipients, development of a strangulated SBO by a fibrous cord with no history of laparotomy in a renal transplant recipient has not been reported in the literature.6,7

Case Report

A 61-year-old man developed a strangulated SBO 7 years after he had received a deceased-donor renal transplant. The patient had chronic renal failure due to focal glomerulosclerosis, and he had undergone a deceased-donor renal transplant to the left iliac fossa via a retroperitoneal approach at 54 years of age. After the deceased-donor renal transplant, his renal function was stable, and his only medical history had been a hospitalization for conservative treatment of prostatomegaly at 57 years of age.

His immunosuppressant medications were composed of mycophenolate mofetil, methylpred-
nisolone, and tacrolimus. He was admitted to our hospital with acute severe pain in the lower left abdomen, nausea, and abdominal distention. An abdominal ultrasonography examination revealed dilatation of the intestines with fluid collection, but there was no evidence of ascites collection. An abdominal computed tomography scan revealed dilatation of the ileum, with fluid and gas collection, and dilatation of the upper and transverse colon with intestinal contents; however, there was no evidence of mechanical obstruction or ascites collection. The results of laboratory testing showed an elevated white blood cell count of 12 300/μL. A physical examination revealed tenderness in the left lower quadrant of the abdomen, but no muscular defense was observed. The patient’s SBO was diagnosed, and conservative therapy was begun with fasting and an infusion of Ringer’s solution at 250 mL/hour. Six hours later, his symptoms worsened and an ultrasonography examination revealed ascites collection.

An emergency laparotomy was performed, during which the patient’s strangulated SBO was diagnosed. A fibrous cord had formed between the peritoneum of the iliac fossa (where the kidney was transplanted) and the peritoneum of the root of the sigmoid mesocolon (Figure 1A). A long looped section of the ileum was strangulated by the cord, which resulted in bleeding necrosis and hemorrhagic ascites collection; however, the sigmoid colon showed no abnormalities (Figure 1B). After the cord was dissected, 60 cm of the ileum was resected, after which, the patient received an end-to-end, layer-to-layer anastomosis. Although the patient developed postoperative hypotension requiring a continuous infusion of dopamine chloride until postoperative day 6, his renal function remained stable without an increase in the serum creatinine concentration. The patient was discharged 17 days after the transplant in good condition with normal laboratory parameters.

Discussion

Gastrointestinal complications are common in transplanted patients and are associated with high morbidity and mortality. An SBO is a rare complication in renal transplant recipients. Reported causes include tumors, encapsulating peritoneal sclerosis, infection, and internal hernias, but fibrous cord formation has not been described. Fibrous cord formation as a possible cause of SBO is rare in patients with no history of laparotomy. While the mechanisms of fibrous cord formation remain obscure, the current fibrous cord may have formed secondary to the renal transplant because one side of the fibrous cord had formed at the peritoneum, beside the transplanted kidney. Postoperative inflammation after the renal transplant may have caused the fibrous cord formation, because no perforation or impairment of the peritoneum was seen during the deceased-donor renal transplant.

This is the first case report of a strangulated SBO by a fibrous cord with no history of laparotomy after renal transplant. This report emphasizes that the formation of a strangulated SBO after renal transplant with no history of laparotomy is rare, but a possible
postoperative complication that should be considered when making a differential diagnosis. Renal transplant recipients receiving immunosuppressive medications may develop aggressive progression of infection after the formation of a strangulated SBO. Therefore, a high index of suspicion and prompt diagnosis are essential for the prognosis of similar cases. If bowel strangulation is suspected, an immediate operative intervention with bowel resection is indicated.

References