Case Report: Enterocutaneous Fistula Following Radical Prostatectomy

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Case Presentation

This 66-year-old male developed an enterocutaneous fistula following robotic assisted laparoscopic converted to open radical prostatectomy for prostate cancer.

The patient was diagnosed with prostate cancer in January 2016. He underwent a robotic converted to open radical prostatectomy with bilateral extended lymphadenectomy, extensive division of adhesions and two small bowel resections. Of note he had undergone a previous colectomy and ilorectal anastomosis in the distant past for an unclear problem outside the United States (Cuba). Surgical pathology revealed protatic adenocarcinoma, Gleason score 7.0/6 LNs.

His post-operative course after the prostatectomy was complicated by an ileus on POD #5, with the development of abdominal distention, nausea and vomiting. On POD #10 he returned to OR for an exploratory laparotomy, with findings of a pelvic abscess and associated small bowel enterotomy. The small bowel was repaired, the pelvic abscess drained, and repair was performed of an injury to the superior mesenteric vein. Temporary abdominal closure was required due to patient being coagulopathic and unstable. On POD #13 he returned to OR for abdominal wall closure with vicryl mesh. He developed wound discharge and returned to the OR on POD #19 return for exploratory laparotomy, excision of mesh and peritoneal lavage. Purulent material and bowel contents were found under the mesh. The mesh was entirely removed and dressings were applied. Urine leakage
also noted, requiring bilateral stent placement. Post-operative cystogram revealed a small leak at vesico-urethral anastomosis.

Subsequently he developed an enterocutaneous fistula with high output (Figure 1 and 2). This was managed with a pouching system. On POD #74 a dual chamber pacemaker inserted due to symptomatic bradycardia. On POD #94 the patient was discharged home on TPN with multiple loops of small bowel visible in midline.

After this admission he developed biventricular cardiac failure with combined systolic and diastolic dysfunction, cardiomyopathy, severe MR and moderate AR. The etiology of his heart failure was likely secondary to a chronic low volume state due to the high output fistula. He required multiple admissions for heart failure, requiring diuresis. He developed major depressive disorder and was treated with Zoloft. In September 2016 he developed a Hickman line infection which led to a further deterioration in his cardiac function.

In December 2016, he was sent to the Cleveland Clinic Foundation for opinion regarding surgical treatment of the enterocutaneous fistula. Upon evaluation of his cardiac status, it was deemed that he was at extremely high risk of death from the extensive operation that would be required. At that time he was managing the fistula with pouching requiring changes 2-3 per week, and was TPN dependent, running 12 hourly overnight. He was experiencing an extremely poor quality of life and was willing to accept high risk surgical treatment. At this stage he had a large open granulating wound with 4 exposed small bowel fistula and extreme retraction of his rectus muscles laterally.

In January 2017, he underwent a laparotomy with extensive lysis of adhesions, resection of small bowel, with hand sewn anastomosis (x2), resection of ileosigmoid anastomosis with hand sewn neo-ileosigmoid anastomosis (x1), repair of fistula in 7 segments of bowel, flexible sigmoidscopy and proximal loop jejunostomy. The abdominal wall was partly closed, with a central portion that did not approximate left open. The skin was pulled over the abdomen at the completion and buttressed in place with the skin tied over dental rolls (Figure 3). A jejunostomy was constructed upstream from the repair and was placed in the right upper quadrant.

He was managed in ICU post operatively. He required 2 units of packed red blood cells in the immediate perioperative period. Total parenteral nutrition was resumed. The nasogastric tube was removed POD #7, diet slowly advanced. He was discharged home on POD #21. Post operatively the wound healed well (Figure 4 and 5). The patient was readmitted for jejunostomy reversal on POD #80 (Figure 6).

This case highlights the consequences of major surgical complications that can arise following elective surgery, and also describes the complex surgical techniques that are required in treating these complications.