Superior Mesenteric Artery Syndrome After Restorative Proctocolectomy With Ileal Pouch-Anal Anastomosis: A Case Report

J Haddow, S Sangal, P Agarwal

Citation

Abstract
Purpose: Superior mesenteric artery syndrome (SMAS) is a rare complication following restorative proctocolectomy with only eight previous reports. We report the case of a 16-year-old girl known to have familial adenomatous polyposis who underwent a restorative proctocolectomy with an ileal pouch-anal anastomosis.

Methods: The features of the case were studied followed by a review of the current literature.

Results: After an uneventful first postoperative week, the patient developed SMAS, characterised by voluminous bilious vomiting. Laparotomy revealed compression of the duodenum by the overlying mesenteric root containing the superior mesenteric artery. Unexpected dense peri-mesenteric and intraperitoneal fibrosis was also encountered.

Conclusion: Previous reports suggested the aetiology is directly related to the accentuated angle between the superior mesenteric artery and the aorta, which is created at the time of surgery. Our case suggests that it may actually be events in the postoperative period such as fibrosis of the mesentery that are responsible. When surgical intervention is required, we advocate duodenojejunostomy as the preferred solution.

INTRODUCTION
Compression of the duodenum by the superior mesenteric artery is a rare complication following restorative proctocolectomy. We report an interesting case in point, consider the possible aetiological factors, and discuss the management of the condition.

CASE REPORT
A 16-year-old girl known to have familial adenomatous polyposis underwent a restorative proctocolectomy with anastomosis of a J-shaped ileal pouch to the anal canal and fashioning of a covering loop ileostomy. The small bowel mesentery was mobilised close to its root and the ileocolic artery was divided, facilitating an anastomosis free from any tension. The initial post-operative course saw a timely reinstatement of her normal diet with a satisfactory stoma function. On the eighth day, she developed significant fresh rectal bleeding, which although required a blood transfusion, was self-limiting. The anastomosis felt intact on digital rectal examination.

On the tenth day, she complained of significant pain in her left iliac fossa and had voluminous bilious vomiting. The ileostomy continued to function normally and there were no other signs suggestive of bowel obstruction. Plain abdominal radiography was normal. A computed tomography scan demonstrated a distended stomach and duodenum to its third part (see figure 1). Total parenteral nutrition was started and she was managed expectantly.
Superior Mesenteric Artery Syndrome After Restorative Proctocolectomy With Ileal Pouch-Anal Anastomosis: A Case Report

Figure 1
Figure 1: Computed tomography 3D reconstruction showing oral contrast arrested in the third part of the duodenum with proximal dilation of the stomach and duodenum.

On the sixteenth day, after no clinical improvement and continued vomiting, a contrast study was performed which demonstrated a complete obstruction of the duodenum at its third part (see figure 2). Laparotomy performed on the same day revealed the duodenum obstructed at its third part by the overlying leaf of the mobilised mesentery containing the superior mesenteric artery. Unexpected dense adhesions involving the root of the mesentery and throughout the peritoneum were also found.

Figure 2
Figure 2: Contrast study showing complete obstruction of the duodenum at its third part.

A duodenojejunostomy was performed to bypass the obstruction. A steady and uneventful recovery followed where oral intake commenced after a week and discharge occurred after two weeks.

DISCUSSION

Restorative proctocolectomy with ileal pouch-anal anastomosis is widely practiced in cases of familial adenomatous polyposis. Early complications include pelvic sepsis, anastomotic leakage, wound infection, haemorrhage and ileostomy dysfunction.

Superior mesenteric artery syndrome (SMAS), whereby the duodenum is compressed against the aorta by the overlying mesentery, is a rare, early complication following restorative proctocolectomy. There have only been eight other reported cases [1][2][3][4][5][6][7]. It has been more readily described as a consequence of acute weight loss, spinal surgery, or neurological injury [8].

Current theory suggests the aetiology is directly related to the accentuated angle between the superior mesenteric artery
Superior mesenteric artery syndrome is a rare complication of restorative proctocolectomy. Our case suggests that events in the postoperative period such as fibrosis may be implicated in its pathogenesis. When surgical intervention is required, we advocate duodenojunostomy as the preferred solution.

CONCLUSION

Superior mesenteric artery syndrome is a rare complication of restorative proctocolectomy. Our case suggests that events in the postoperative period such as fibrosis may be implicated in its pathogenesis. When surgical intervention is required, we advocate duodenojunostomy as the preferred solution.

CORRESPONDENCE TO

Mr James B Haddow 2 Trellis Drive, Basingstoke RG24 8YU T: +44 7788 723535 F: +44 1256 816540 E: james.haddow@mac.com

References

Author Information

James B. Haddow, MRCS
Senior House Officer

Sam Sangal, MRCS
Specialist Registrar

Pradeep K. Agarwal, FRCS
Colorectal Surgeon