Descending Colon Obstruction Caused by a Parietocolic Band : A Case Report

POTCHAVIT APHINIVES, M.D.*,
AKE PUKKEM, M.D.*,
VAJARABHONGSA BHUDHISAWASDI, M.D., FRCSEd.*

Abstract

A 54-year-old male who had no history of previous surgery presented with chronic intermittent constipation. A barium enema showed a 2-cm stenotic lesion at the junction between splenic flexure and descending colon. A colonoscopy revealed extra-luminal compression without mucosal lesion. Laparotomy revealed a parietocolic band compressing the proximal part of the descending colon. The band was lysed. The patient's symptom has improved since the procedure.

Key word : Colon Obstruction, Parietocolic Band

APHINIVES P, PUKKEM A, BHUDHISAWASDI V
J Med Assoc Thai 2002; 85: 1042-1045

The most common cause of colonic obstruction is a tumor[1]. Large bowel obstruction secondary to adhesion and congenital band is very rare in both adults and children. Most commonly, post-operative adhesion is the leading cause of colonic adhesive obstruction. However, adhesive bands are seen in the absence of surgery in patients with abnormal fixation of the colon. Anomalous congenital bands have been reported as an uncommon etiology of adhesive obstruction[2-5]. The authors present a rare case of the descending colon obstructed by a parietocolic band.

CASE REPORT

A 54-year-old male presented with chronic intermittent colonic obstruction. There was no history of abdominal or pelvic surgery. The abdomen was soft with normal bowel sounds and no masses

* Department of Surgery, Faculty of Medicine, Khon Kaen University, Khon Kaen 40002, Thailand.

were palpable. On rectal examination, there were brown feces, no rectal shelf and slightly enlarged prostate gland. The initial roentgenograms of the abdomen did not show any specific finding. A barium enema examination demonstrated a 2-cm stenotic lesion at the junction between the splenic flexure and descending colon (Fig. 1). There was normal colonic mucosa without intrinsic or extrinsic lesion of the remaining colonic course. A colonoscopy revealed extra-luminal compression without mucosal lesion at the proximal part of the descending colon. At surgery, a membranous band across the proximal part of the descending colon was found (Fig. 2). This caused moderate extrinsic compression of the underlying descending colon. No necrotic or ischemic changes of the descending colon and no evidence of intra-peritoneal inflammation were found. After the band was lysed, the descending colon returned to the normal caliber, with normal bowel peristalsis. The patient had an uneventful recovery. The patient's symptom has improved gradually since the procedure. A small degree of constipation still remained during the first six months. Laxatives were often used to relieve this problem. After the seventh month, the patient did not need laxatives anymore.

DISCUSSION

During laparotomy in this patient, one membranous band was found to be the cause of the obstruction. The obstructive mechanism was bowel compression by the band. The etiology of this band was obscure. The absence of abdominal or pelvic surgery excluded post-operative adhesions. The lack of evidence of intra-peritoneal inflammation suggests that this anomalous band was of congenital origin.

From the stomach to the rectum, the alimentary canal is suspended from the abdominal wall by the dorsal mesentery. Intestinal obstruction resulting from an anomalous congenital band of mesenteric origin is uncommonly encountered in surgical practice. Akgur et al reported anomalous congenital bands were located between the ascending colon and terminal ileum in 50 per cent of patients, ligament of Treitz and terminal ileum in 25 per cent, right lobe of the liver and terminal ileum in 12.5 per cent and right lobe of the liver and ascending colon in 12.5 per cent[4]. The obstructive mechanisms were compression of the bowel by band in 62.5 per cent of the patients and entrapment of an intestinal loop between the band and mesentery in 37.5 per cent[4]. Intestinal obstruction caused by congenital mesenteric bands is

Fig. 1. **Barium enema demonstrating a 2-cm stenotic lesion at the junction between splenic flexure and descending colon (arrow).**

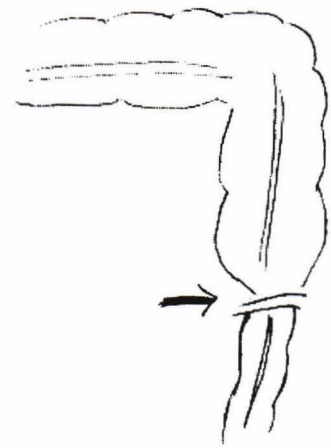

Fig. 2. **A membranous band crossed over the proximal part of descending colon (arrow).**

most commonly located in the terminal ileum and rarely in the ascending colon[2-4]. The authors believe the membranous band found in this case was the parietocolic band. McWhorter first described the parietocolic band in 1936[5]. In his report, the parietocolic band caused chronic intermittent obstruction of the ascending colon. The present report is the first case of parietocolic band of descending colon.

Post-operative adhesions occur after almost every abdominal surgery and are the leading cause of intestinal obstruction, accounting for more than 40 per cent of all cases and 60-70 per cent of those involving the small bowel[6]. In the absence of either surgery or abnormal fixation of the colon, adhesive obstruction may be secondary to inflammation of the epiploic appendage[7]. In these patients, a post-inflammatory epiploic appendage that has become adherent to the abdominal wall or another intra-abdominal structure either constricts the colon directly or forms a band entrapping the small bowel. The sigmoid colon is the most common site for a diseased epiploic appendage, accounting for 50 per cent of patients. Except for those patients in whom a barium enema disclosing evidence of extrinsic pressure over a narrow zone may be suggestive, it is not possible to make a pre-operative diagnosis of a diseased epiploic appendage as the cause of obstruction. Surgical intervention is mandatory in these patients for definitive diagnosis and for treatment.

Other unusual entities causing adhesive colonic obstruction include remnants of embryological structures such as the vitello-umbilical cord[8] and mesourachus[9]. A vitello-umbilical cord connects the tip of Meckel's diverticulum to the abdominal wall at the umbilicus, obstructing the middle portion of the ascending colon[8]. The mesourachus was bound by adhesions to the small bowel mesentery and resulted in severe obstruction of the descending colon, simulating the volvulus[9]. Anatomic and histopathologic studies of the bands distinguish between embryogenic remnants and aberrant mesenteric bands.

On barium enema, adhesions cause a sharp, localized circumferential narrowing of the large bowel. Occasionally, an area of circular muscular contraction may suggest this appearance. There are some areas of narrowness or focal contraction in the colon that are inconstantly seen radiographically. These contraction rings or colonic valves rarely persist during an entire barium enema, while compression from an adhesion does[10].

Patients with compression from congenital bands present with symptoms and signs indicative of intestinal obstruction. Adult patients present with a chronic intermittent obstruction indicating the lesion is not so severe as to cause problems during childhood. The long duration of obstruction may cause some degree of motility abnormality. Even if the obstruction is corrected, some degree of constipation will still remain and should be supported by laxatives for a while. Finally, the patient can cope with diet therapy and will not need laxatives anymore.

(Received for publication on April 16, 2002)

REFERENCES

1. Nivatvongs S. Acute colonic obstruction. In: Gordon PH, Nivatvongs S, ed. Colon, rectum and anus. Missouri: QMP, 1992: 982-4.
2. McWhorter GL. Chronic intermittent obstruction of ascending colon by parietocolic bands or membranes. Surg Clin North Am 1936; 16: 101-11.
3. Twersky J, Himmelfarb E. Right colonic adhesions. Radiology 1976; 120: 37-40.
4. Akgur FM, Tanyel C, Buyukpamukcu N, Hicsonmez A. Anomalous congenital bands causing intestinal obstruction in children. J Pediatr Surg 1992; 27: 471-3.
5. Lin DS, Wang NL, Huang FY, Shih SL. Sigmoid adhesion caused by a congenital mesocolic band. J Gastroenterol 1999; 34: 626-8.
6. Ellis H. The clinical significance of adhesions: Focus on intestinal obstruction. Eur J Surg Suppl 1997; 577: 5-9.
7. Lynn TE, Dockerty MB, Waugh JM. A clinicopathologic study of epiploic appendages. Surg Gynecol Obstet 1956; 103: 423-33.
8. Akmine M, Araki Y, Chijiiwa Y, Shimizu S, Shimura H, Nawata H. A case of Meckel's diverticulum complicated by stenosis of the colon. Am J Gastroenterol 1997; 92: 2114-6.
9. Dammert W, Currarino G. Mesourachus and colon obstruction. J Pediatr Surg 1983; 18: 308-10.
10. Thomas BM. The colon. In: Sutton D, ed. A textbook of radiology and imaging. 4th Ed. London: Churchill Livingstone, 1987: 904-6.

ลำไส้ใหญ่ส่วนลงอุดตันจากพาไรโตโคลิค แบนด์ : รายงานผู้ป่วย

พจน์ชวิทย์ อภินิเวศ, พ.บ.,*
เอก ปักเข็ม, พ.บ., วัชรพงศ์ พุทธิสวัสดิ์, พ.บ., FRCSEd.**

รายงานผู้ป่วยชาย อายุ 54 ปี ไม่เคยมีประวัติการผ่าตัดมาก่อน มาโรงพยาบาลด้วยอาการท้องผูกเรื้อรัง ได้รับการตรวจ barium enema พบรอยตีบที่บริเวณรอยต่อระหว่างลำไส้ใหญ่ส่วนโค้งใต้ม้าม และลำไส้ใหญ่ส่วนลง การตรวจด้วยกล้องส่องลำไส้ใหญ่พบรอยตีบที่เกิดจากการกดจากภายนอกลำไส้ โดยไม่มีรอยโรคที่เยื่อบุผิวในลำไส้ใหญ่ เมื่อทำการผ่าตัด พบ parietocolic band ทอดข้ามบริเวณต้นของลำไส้ใหญ่ส่วนลง ได้ทำการตัด band นี้ออก อาการของผู้ป่วยหายขาดตั้งแต่หลังผ่าตัดเป็นต้นมา

คำสำคัญ : ลำไส้ใหญ่อุดตัน, พาไรโตโคลิค แบนด์

พจน์ชวิทย์ อภินิเวศ, เอก ปักเข็ม, วัชรพงศ์ พุทธิสวัสดิ์
จดหมายเหตุทางแพทย์ ฯ 2545; 85: 1042-1045

* ภาควิชาศัลยศาสตร์, คณะแพทยศาสตร์ มหาวิทยาลัยขอนแก่น, ขอนแก่น 40002