

Ball Valve syndrome caused by a colon polyp. Case report (with video)

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Abstract

Intestinal obstruction is a potentially lethal pathology, and its treatment is usually surgical. The following is the case of a patient with abdominal pain and recurrent intestinal obstruction, in whom a large pediculated polyp that caused partial obstruction by Ball valve effect was observed during a colonoscopy.

Keywords

Polyp, Ball Valve, Bowel obstruction, Polypectomy.

INTRODUCTION

Ball valve syndrome was first described in 1946 by Hobbs and Cohen (1). Since then, it has been recognized as a rare but serious cause of recurrent abdominal pain (2). It mostly affects the upper digestive tract (3) and involves, in order of frequency, the duodenum and the pylorus due to prolapsing lesions (4). Its etiology is variable and may be related to benign polyps, tumors, and subepithelial lesions, such as large lipomas (5). Although colonic involvement has been reported, it is considered very rare (6). This is, to the best of our knowledge, the first Ball Valve case reported in Colombia.

CLINICAL CASE

42-year-old patient with multiple hospital admissions due to a 3-month history of abdominal pain, vomiting, weight loss, and altered bowel habits that caused episodes of alternating constipation and diarrhea. During his last admissions to the emergency department, he was diagnosed with intestinal obstruction according to the information reported in the patient's medical record. However, the patient had a rapid response to medical management, and biochemical tests results were normal, but a nonspecific ileus was identified in a non-contrast abdominal radiography (X-ray). In turn, a computed tomography (CT) scan of the abdomen

was performed, showing an unspecific thickening of the sigmoid colon. Given the symptoms persistence, the general surgery service decided to hospitalize the patient and schedule a diagnostic laparoscopy.

During his hospital stay, the patient presented an exacerbation of the symptoms, which was then worsened by hematochezia. For this reason, a total colonoscopy was requested. In the colonoscopy a large 40 mm pedunculated polyp was observed with a long pedicle of approximately 30 mm in the sigmoid colon, showing a prolapse caused by peristalsis that generated an obstruction of the colonic lumen (**Figures 1-4**). The polyp's head was eroded, which was a possible cause of hematochezia.



Figure 1. Large pedunculated colon polyp.



Figure 2. Polyp of the colon that occludes the entire colonic lumen.

Then, performing an endoscopic polypectomy was decided. In addition, because of the size of the pedicle, a hemostatic loop (endoloop) was inserted. The polypectomy loop was then used, and the polyp was resected (**Video 1**).



Video 1. Ball valve syndrome in the colon.
<https://youtu.be/UsTxhTlJtUQ>

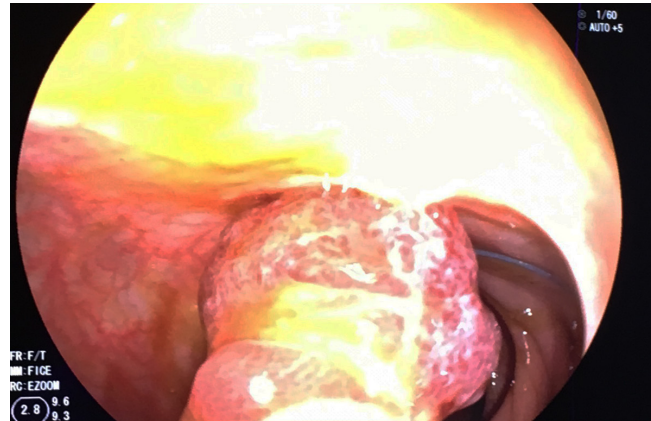


Figure 3. Passage of the hemostatic loop (endoloop) prior to polypectomy.



Figure 4. Recovery of the resected colon polyp.

Consequently, the patient's condition had a favorable progress, symptoms resolved, and the individual remained asymptomatic throughout a 5-month follow-up. An adenomatous polyp was identified in the pathology report.

DISCUSSION

Ball valve syndrome is a mechanical complication of large endoluminal lesions (7). They can cause pseudo-obstruction due to intermittent prolapses facilitated by peristalsis, which temporarily occupy the lumen (8). Symptoms will depend on the location of the lesion.

Since it is considered a dynamic phenomenon, symptoms are usually self-limiting (9), which is why this condition also tends to become chronic (4) due to significant nutritional repercussions, unexplained weight loss and symptomatic manifestations that can easily be mistaken for a neoplastic disease (10). This scenario implies the performance of multiple studies and interventions (in some cases unnecessary), as well as unacceptable repercussions on the patient's quality of life (11).

Endoscopic treatment is widely recommended; however, depending on the nature of the lesion, complementary surgical management may be required (2).

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