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Ball Valve Syndrome is caused by Colon Polyp

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Abstract

BACKGROUND: Intestinal obstruction caused by ball valve syndrome, is a potentially lethal pathology. This case report will show ball valve syndrome in the large intestine (mechanical obstruction) and endoscopic treatment.

CASE PRESENTATION: Our patient presented with abdominal pain and with intestinal obstruction-ileus. After colonoscopic examination was noticed, a large precancerous pedunculated polyp obstructed of large intestine due to ball valve effect. Mechanical obstruction was removed with endoscopic polypectomy.

CONCLUSION: Endoscopic polypectomy must first be performed and if does not succeed, then indicated surgical interventions.

Introduction

Colorectal cancer (CRC) is the third leading cause cancer-related death worldwide [1]. CRCs originate from the initially benign colon adenomas that subsequently undergo an adenoma-carcinoma transition sequence. Polypectomy interrupts this sequence and reduces the incidence of CRC [1], [2], [3], [4]. The appearance of CRC can also be effectively prevented by detecting and excising and exciting adenomas, which are defined as >10 mm, displaying high-grade dysplasia (HGD), and/or 20% villous [5]. The 5-year rate of recurrence for colonic adenoma following polypectomy range between 29 and 58% [4], [6], and the previous studies have suggested that adenoma traits at index colonoscopy are closely related to recurrence. Specifically, location, size, histological type, presence of atypia, male gender, and the number of adenomas detected at index colonoscopy are known risk factors for adenoma recurrence [7], [8], [9], [10].

Ball valve syndrome was first described in 1946 by Hobbs and Cohen [11]. This is, to our knowledge, the first ball valve case reported in Kosovo.

Clinical Case and Discussion

There was a 68-year-old woman, non-smoking, overweight, with family of cancerous polyps, admitted due to 3-month history of intermittent abdominal pain, vomiting, weight loss, altered bowel habits, constipation, and diarrhea. During clinical examination, the abdomen was distended, and palpatory pain was more in the left inguinal region, with active bowel sounds; no rigidity, and rebound tenderness. Laboratory analyses were as follows: Hg – 100 g/L, RBC – 6.5, WBC 11.5, platelets 142, GLU – 6 mmol/l, urea 6 mmol/l, creatinine S – 81 mmol/l, ALT 46 UI/, Chol – 74 mmol/l, CRP – 31 mg/l, and prothrombin time – 11 s.

A non-specific ileus was identified by non-contrast abdominal radiography (X-ray) (Figure 1).

During their hospital stay, the patient presented with hematochezia and was indicated colonoscopic

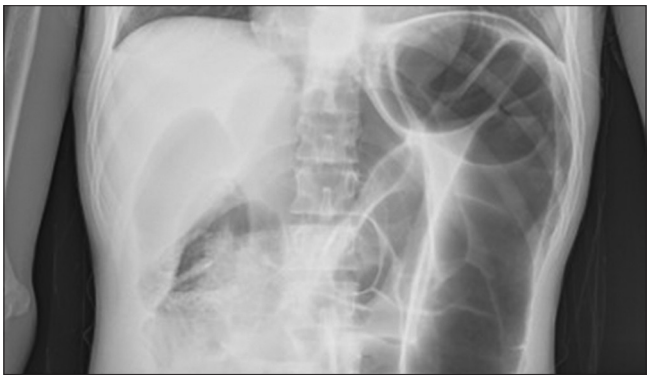

Figure 1: Abdominal X-ray showed dilated large intestine-ileus

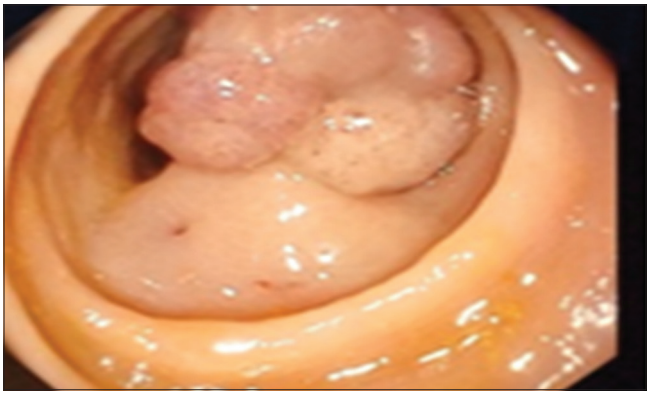

Figure 2: Endoscopic view large pedunculated polyp that has pedunculated occluded the colonic lumen

examination. In the colonoscopy identified, a large 35 mm pedunculated polyp with a pedicle of approximately 20 mm in the sigmoid colon showing a prolapse caused by peristalsis that obstructed the colonic lumen (Figure 2).

After good prior colon cleaning and normal laboratory value in the aspect of hemostasis, was injected adrenaline 1:10,000 in the four quadrants, during colonoscopy, with the polypectomy snare, the polyp was electroresected without complications.

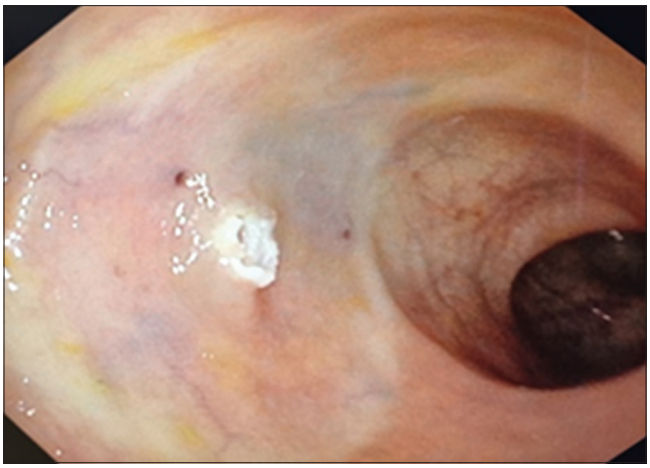

Figure 3: Post-polypectomy endoscopic view

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 with HGD was identified in the histopathologic report (Figure 5).

Ball valve syndrome is a rare mechanical complication of large endoluminal lesions [11].

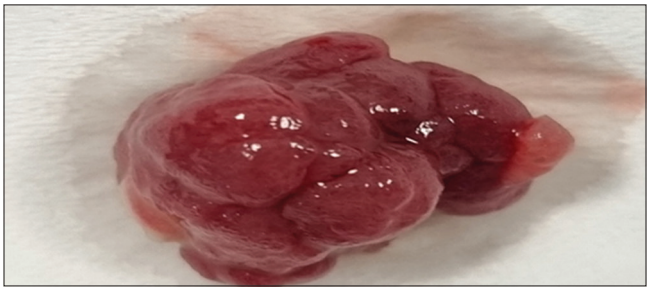

Figure 4: Macroscopic view of removed polyp (about 3.5 cm)

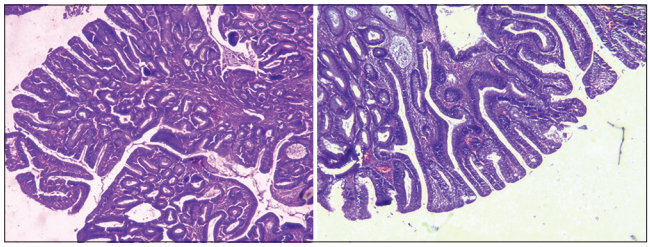

Figure 5: The histopathologic view for high-grade dysplasia of removed polyp

They can cause pseudo-obstruction due to intermittent prolapses facilitated by peristalsis, which temporarily occupy the lumen [12]. Therefore, it is crucial to diagnose the etiology of colon obstruction by history, physical examination, and imaging [13].

Colonic polyps can be treated with endoscopic resection. Histological examination of excisional biopsy specimens determines the curability of treatment and the need for additional surgical resection [14].

The European guidelines recommend more aggressive surveillance for 1 year for high-risk polyps (≥20 mm) [15].

A similar case with ball valve colonic obstruction was reported by Gómez *et al*. [16].

Conclusion

The colonoscopic examination is recommended, due to recurrent colonic outlet obstruction. Our case report/story was one successfully endoscopic polypectomy of ball valve polypus. Endoscopic polypectomy must first be performed and if does not succeed, then indicated surgical interventions.

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