



A rare colonoscopic finding: Inverted appendix

Nadir bir kolonoskopik bulgu: İverte apendiks

• Bünyamin SARITAŞ, • Mustafa MUSLU, • Mustafa HARI, • Şehmus ÖLMEZ

Department of Gastroenterology, Health Sciences University, Adana City Training and Research Hospital, Adana, Turkey

ABSTRACT • Inverted appendix is a rare finding during colonoscopy. Correct diagnosis of inverted appendix is important to avoid unnecessary endoscopic interventions such as polypectomy. Thus, in all polypoid lesions around appendix orifice inverted appendix should be in differential diagnosis. Here we report a rare case of inverted appendix during colonoscopy.

Key words: Inverted appendix, polyp, cecum

ÖZET • İverte apendiks, kolonoskopi sırasında nadir görülen bir bulgudur. Polipektomi gibi gereksiz endoskopik girişimlerden kaçınmak için uygun tanının yapılması önemlidir. Bu nedenle apendiks orifisinde polipoid lezyonların ayırıcı tanısında başlangıçta inverted apendiks düşünülmelidir. Burada kolonoskopi sırasında inverted apendiks tanısı koyduğumuz bir vakayı sunuyoruz.

Anahtar kelimeler: İverte apendiks, polip, çekum

To the Editor;

Inverted appendix (IA) or appendiceal intussusception occurs when the appendix is pulled into itself or into the cecum (1). It is a very rare finding on colonoscopy (2). Since the colonoscopic appearance may look like polyp. The diagnosis of IA is dilemma for gastroenterologist (3). It is very important to make the correct diagnosis of IA in colonoscopic examination to avoid unnecessary endoscopic interventions such as biopsy, polypectomy or surgery which may lead to complications such as perforation, peritonitis in these patients (2).

Thirty seven years-old male patient admitted to our hospital to investigate iron deficiency anemia. He had dyspeptic complaints. He had no other disease history and no history of gastrointestinal bleeding. His physical examination was unremarkable. On laboratory examination revealed; ferritin 8.3 ng/ml, hemoglobin: 13 g/dL, other laboratory parame-

ters were normal. Upper gastrointestinal endoscopy revealed pangastritis and erosive bulbitis. On colonoscopic examination, there was a tubular-polypoid lesion with a diameter of two centimeters, soft with the touch of biopsy forceps with normal surface mucosa. The lesion was growing with air aspiration and getting smaller with air insufflation. We thought IA as final diagnosis (Figure 1). The patient was advised to follow up. The patient gave written consent regarding this article.

Patients with IA are often asymptomatic. Patients may present with abdominal pain, vomiting, constipation, or diarrhea (4). This endoscopic finding can often cause diagnostic confusion, as it may be mistaken for a cecal polyp. It may be seen polypoid like lesions, prolonged lesions, nodular lesions, or as central dimples, finger-like polypoid-looking projections into the lumen of the cecum during co-

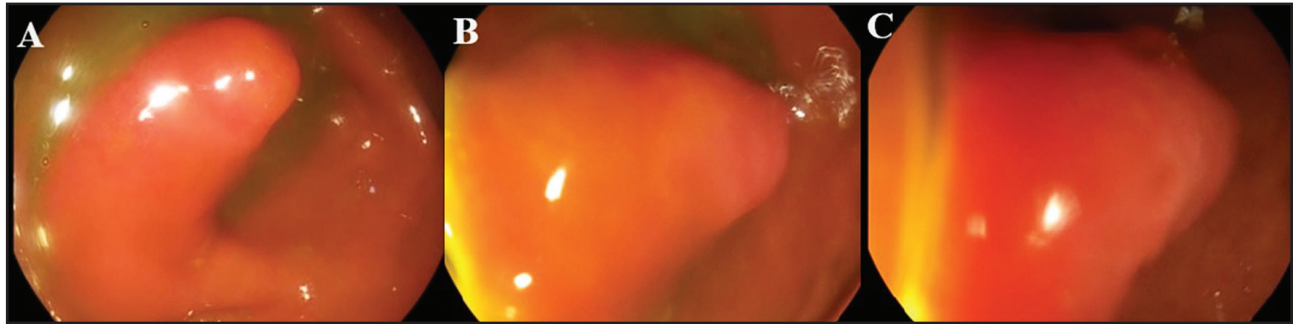


Figure 1 Endoscopic view of the inverted appendix resembling a polypoid lesion a diameter of approximately two centimeters with normal overlying mucosa, arising at the expected appendiceal orifice location (A), the lesion was growing with air aspiration (B and C).

lonoscopy. This lesion is often referred as a polypoid lesion during colonoscopy (3,5-7). However, the intussusceptions may reduce on insufflation of air during colonoscopy, resulting in a halo-like erythematous region surrounding the appendiceal lumen. The endoscopic view of our patient resembles a polypoid lesion with central dimples. In our patient, the polypoid lesion was growing with air aspiration, and the lesion was appearing soft and mobile with the touch of biopsy forceps. So, we thought the final diagnosis of IA. We think that imaging methods such as computed tomography (CT) should not be routinely used in the diagnosis of this lesion, thus we did not obtain CT images.

There are controversial results of complication (peritonitis, perforation etc.) rates after polypec-

tomy or biopsy (1,4,8-10). Biopsy is unnecessary in patients with IA (1). Although, biopsy specimens showed non-specific histological findings (1), there are some patients who have undergone biopsies or polypectomy (1). We did not obtain biopsy in this patient.

In conclusion, it is important to make an accurate diagnosis of the IA to avoid unnecessary biopsy and polypectomy, which can lead to severe complications such as peritonitis, bleeding, and perforation. In all patients with polyp in cecum, IA must be in differential diagnosis.

Conflict of Interest: All authors declare no conflict of interest and no financial support regarding this article.

REFERENCES

1. Birkness J, Lam-Himlin D, Byrnes K, Wood L, Voltaggio L. The inverted appendix - a potentially problematic diagnosis: clinicopathologic analysis of 21 cases. *Histopathology*. 2019;74(6):853-60.
2. Tavakkoli H, Sadrkabir SM, Mahzouni P. Colonoscopic diagnosis of appendiceal intussusception in a patient with intermittent abdominal pain: a case report. *World J Gastroenterol*. 2007;13(31):4274-7.
3. Johnson EK, Arcila ME, Steele SR. Appendiceal inversion: a diagnostic and therapeutic dilemma. *JSL*. 2009;13(1):92-5.
4. Tran C, Sakioka J, Nguyen E, Beutler BD, Hsu J. An inverted appendix found on routine colonoscopy: A case report with discussion of imaging findings. *Radiol Case Rep*. 2019;14(8):952-5.
5. Salehzadeh A, Scala A, Simson JN. Appendiceal intussusception mistaken for a polyp at colonoscopy: case report and review of literature. *Ann R Coll Surg Engl*. 2010;92(6):W46-8.
6. Seddik H, Rabhi M. Two cases of appendiceal intussusception: a rare diagnostic pitfall in colonoscopy. *Diagn Ther Endosc*. 2011;2011:198984.

7. Sousa M, Cotter J, Leão P. McSwain type V appendix intussusception. *BMJ Case Rep.* 2017;2017:bcr2017219634.
8. Fazio RA, Wickremesinghe PC, Arsura EL, Rando J. Endoscopic removal of an intussuscepted appendix mimicking a polyp—an endoscopic hazard. *Am J Gastroenterol.* 1982;77(8):556-8.
9. Enander LK, Gustavsson S. Colonoscopic appendectomy. Report of two cases. *Acta Chir Scand.* 1979;145(8):575-6.
10. Saleem A, Navarro P, Munson JL, Hall J. Endometriosis of the appendix: Report of three cases. *Int J Surg Case Rep.* 2011;2(2):16-9.