

Large Pedunculated Polyp Diagnosed as Inverted Colonic Diverticula

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ABSTRACT

We present a unique case of an inverted diverticulum mimicking a large adenomatous pedunculated polyp. Inverted colonic diverticula (ICD) are typically a few millimeters in size and may resemble a polyp. Our finding was unusual based on its size, location, and appearance. Incorrect management of ICD can lead to serious complications, therefore, endoscopists should be aware of this occurrence and approach suspicious lesions with caution.

INTRODUCTION

A diverticulum is an outpouching of mucosa and submucosa through the muscularis propria.¹ These sac-like protrusions arise at weak points along the colonic wall where the vasa recta traverse the circular muscle layer of the colon.² The phenomenon of inverted colonic diverticula (ICD) occurs in only 0.7% of the population.³ With fewer than 20 cases reported in the literature, it is important for endoscopists to be aware of these atypical lesions.⁴ Prior to this report, there have only been 2 case reports describing an ICD presenting as a large pedunculated polyp.^{4,5} Because ICD often resemble polyps, recognizing this pathology is paramount to reduce the risk of dangerous complications.^{6,7} There has been one reported case of a perforation after biopsy of an inverted diverticulum; however, due to the overall limited reports of ICD in the literature, the number of related events is unknown.^{6,7}

CASE PRESENTATION

A healthy 50-year-old man presented for his first screening colonoscopy. His past medical history was noncontributory, and the patient reported normal bowel habits without constipation or diarrhea. Endoscopic inspection revealed a long 2.0-cm stalk with a 0.9-cm polypoid head in the transverse colon (Figure 1). Believed to be an adenomatous polyp with a firm head by inspection, the polyp was removed with snare cautery using a Roth net due to the polyp's large size. A smaller 4-mm flat polyp was also removed from the sigmoid colon with cold forceps. There were several diverticula scattered throughout the entire colon. The colon was otherwise normal. The patient tolerated the procedure without any pain or bleeding.

Histology showed polypoid prolapsing mucosa folds consistent with a diverticular disease-associated or ICD polyp (Figure 2). Endoscopic visualization confirmed that the polyp head was firm, not soft and empty as other reports indicate diverticulosis-associated polyps may appear.⁶

DISCUSSION

ICD may appear polypoid and even present as pedunculated polyps. It is important for endoscopists to distinguish between ICD and adenomatous polyps to prevent complications that can arise with biopsy of ICD. Although

ACG Case Rep J 2017;4:e96. doi:10.14309/crj.2017.96. Published online: August 16, 2017.

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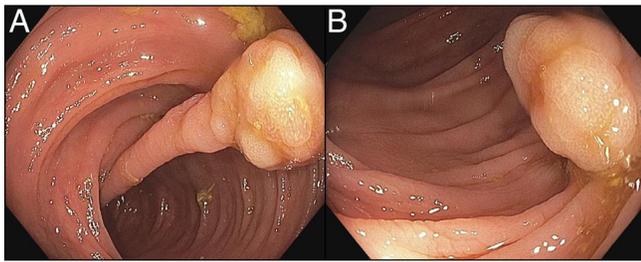


Figure 1. High-definition endoscopy of the transverse pedunculated polyp showing (A) the long stalk and (B) a magnified view of the head of the polyp with adenomatous appearance.

polypoid ICD is rarely reported in the literature, it may be misdiagnosed as polyps and may unintentionally contribute to cases of post-polypectomy perforation.⁸ While cold snare polypectomy has been shown to be safe and effective in polyps up to 1.0 cm in size, snare cautery may be safer for suspected ICD lesions.⁹ In our patient, there was no evidence of perforation likely due to the use of cautery, which sealed the mucosa closed. If there is suspicion of ICD after polyp removal, a resolution clip or over-the-scope clip could close the defect and prevent complications.

The differential diagnosis of a pedunculated colonic lesion is broad, including an adenomatous pedunculated polyp, a muco-submucosal elongated polyp, an inflammatory polyp, a filiform polyp associated with inflammatory bowel disease, autoamputation of a pedunculated polyp, ICD, and colonic intussusception of an adenoma. There can be significant overlap between inflammatory polyps and prolapse polyps, but the smooth muscle extending between glands is fairly iconic of prolapse polyps and is not found in other entities.

Generally, the ICD mucosal pattern on a lesion is similar to surrounding mucosa. However, in our case, the endoscopic appearance of the polyp head was not similar to the appearance of the stalk. Hypothetically, this could have been due to vascular congestion, trauma of the polyp head, or the

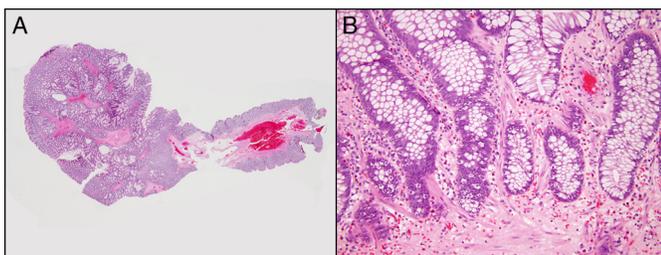


Figure 2. Histopathology of the lesion confirming inverted colonic diverticula. (A) Lobulation and fibrous septa. (B) Focal epithelial denudation, hyperplastic crypt architecture with branching crypts, a lamina propria with prominent fibromuscular proliferation and smooth muscle projections between individual glands, a polymorphic inflammatory infiltrate, dilated capillaries, and hypertrophy and upward extension of the muscularis mucosae.

presence of inflammatory changes (e.g., crypt branching on polyp head not seen on the stalk). Histologically, the latter seemed to fit best as there was clear crypt architectural abnormalities seen on the head but not seen on the stalk or base.

The larger the lesion, the harder it may be to differentiate a polyp from an ICD.⁴ Recent techniques in the literature have focused on identifying characteristic features of an ICD to aid endoscopists in the diagnosis. The radiating pillow sign consisting of a central indentation after continual probing with closed biopsy forceps has been successful.^{9,10} The pillow sign or radiating folds are essential in differentiating an ICD from a lipoma, which will indent but not radiate due to the absence of invagination.¹⁰ Additionally, the application of air insufflation and a manual attempt to revert the lesion has shown promise.^{6,7} The water jet deformation sign has demonstrated some success in producing an indentation or eversion of the diverticulum's thin wall, but this technique is unreliable for larger ICD.^{9,11} Notably, a negative finding from these maneuvers doesn't rule out ICD due to varying morphology and locations of presentation.¹¹ ICDs that resemble pedunculated polyps lack specific diagnostic signs and typically are discovered through closed biopsy sampling.^{4,5}

While reports in the literature have contributed to the small but growing collection of novel approaches to identify and treat suspicious polypoid lesions, it is unrealistic to perform these techniques for every polyp. Therefore, we encourage close inspection and gentle probing of the polyp base in patients with surrounding diverticulosis to determine if the lesion is a true polyp or an ICD.

DISCLOSURES

Author contributions: A. Canakis wrote the case report and is the article guarantor. M. Hopkins provided the pathology data and histology images, and he edited the manuscript. A. Parian edited the manuscript.

Financial disclosure: None to report.

Informed consent was obtained for this case report.

Received November 3, 2016; Accepted June 23, 2017

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