

CASE REPORT

Pseudoinvasion in an Adenomatous Polyp of the Colon Mimicking Invasive Colon Cancer

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Pseudoinvasion or pseudocarcinomatous invasion in an adenomatous polyp of the colon can be unfamiliar to an endoscopist. Pseudoinvasion in an adenomatous polyp represents prolapse of the adenomatous epithelium into its stalk. In most cases its morphology does not differ from of general adenomatous polyps, but in some cases it can morphologically mimic a malignant polyp with submucosal invasion due to mass-like lesioning of its stalk. This makes it difficult for endoscopists to differentiate pseudoinvasion in an adenoma from an invasive carcinoma by conventional endoscopy; instead, endoscopic ultrasonography can provide useful information for differentiating these conditions. We report on an 82-year-old man who presented with a large pedunculated polyp with a thick stalk in the sigmoid colon, which mimicked a submucosal invasive carcinoma. The patient was diagnosed with pseudoinvasion in an adenomatous polyp after segmental resection of the sigmoid colon. (**Gut and Liver 2009;3:130-133**)

Key Words: Pseudoinvasion; Adenomatous polyps; Malignant polyp; EUS

INTRODUCTION

Benign entities associated with mucosal prolapse that may mimic invasive adenocarcinoma of colon are less common and may be an unfamiliar lesion to endoscopists. Among benign lesions, pseudoinvasion in an adenomatous polyp represents prolapse of the adenomatous epithelium into its stalk.¹ Most pseudoinvasion in an adenomatous polyp is diagnosed pathologically after endoscopic polypectomy of colonic adenomas, especially pedunculated

polyps.² However, mass-like pseudoinvasion of the stalk in an adenomatous polyp, which is composed of large mucus-filled cyst, is relatively rare.³ In this type of lesion, although EUS may provide useful information, it is still difficult to distinguish a benign polyp with pseudoinvasion from a malignant polyp with submucosal invasion by endoscopy; therefore, endoscopic removal is not recommended.^{4,5}

We report an unusual case of a very large pedunculated polyp with thickened stalk that mimicked a malignant polyp with submucosal invasion.

CASE REPORT

An 82-year-old man was referred to our clinic because of a sigmoid mass suspicious of a malignancy. He had a medical history of hypertension and asthma. He had been suffering from constipation. At colonoscopy there were multiple colon polyps from the ascending colon to the sigmoid colon. Endoscopic polypectomies were performed. In the sigmoid colon, there was a large (2.5 cm in diameter) pedunculated polyp (Fig. 1A) with a thick, bulging stalk (Fig. 1B). When pushed down with biopsy forcep, the consistency of the mass was solid and movable (Fig. 1C).

In abdominal CT, there was a 3 cm sized intraluminal polypoid mass in the sigmoid colon without any evidence of pericolic infiltration or significant lymphadenopathy.

Because of the thick, bulging stalk, EUS was performed to rule out malignant submucosal invasion in the stalk. Endosonographically, the bulging stalk was consisted of a hypoechoic structure with small hyperechoic areas in the submucosa which was thought to represent blood or mu-

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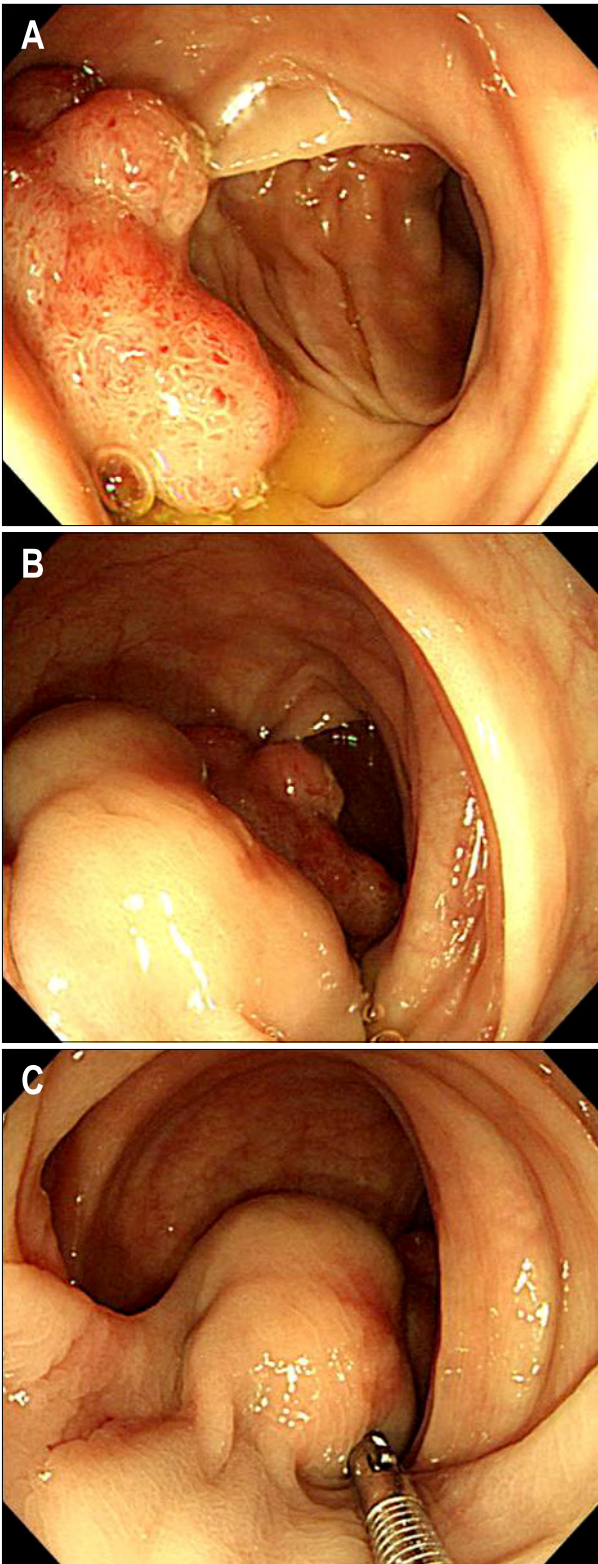


Fig. 1. Colonoscopy findings. A large (~2.5 cm) pedunculated polyp evident in the sigmoid colon (A) had a thick, bulging stalk (B) that was both solid and movable (C).

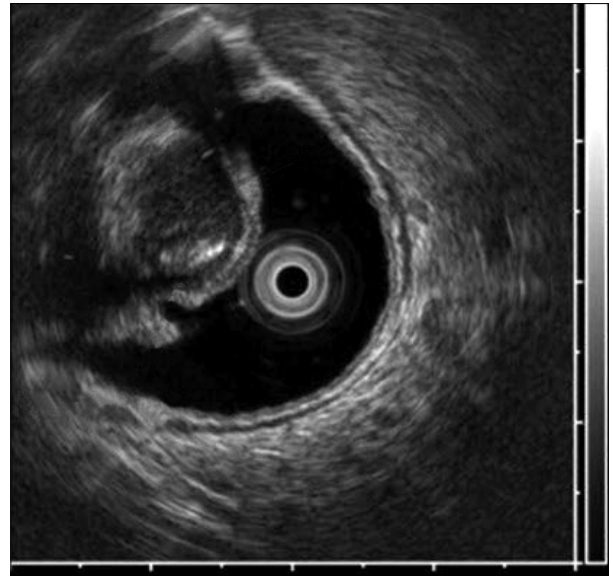


Fig. 2. Endoscopic ultrasonography findings. The bulging stalk was cystic with a hypoechoic structure and small hyperechoic areas in the submucosa.

cin in a cystic space (Fig. 2). This finding was somewhat different from a malignant submucosal invasion. However, segmental resection of the sigmoid colon was performed because it was difficult to exclude malignancy, especially invasive mucinous carcinoma by using endosonographical findings alone.

Gross examination revealed an intraluminal pedunculated polyp with bulbously thickened stalk, measuring 3.0×2.5×1.5 cm (Fig. 3A). On coronal section, a round, firm, submucosal, cystic lesion, measuring 2.5×1.5×1.5 cm was also noted in its stalk (Fig. 3B). Microscopically upper portion of the polyp revealed a villous adenoma with moderate epithelial atypia. It also revealed a submucosal large cystic lesion filled with abundant mucin in its stalk. The cyst was surrounded by fibrous granulation tissue and partially separated by irregular fibrous septa. Despite of careful examination of cyst, no lining epithelial cell was present. There were patchy inflammatory cell infiltration and hemosiderin deposition mainly in its fibrous wall and interlacing septa. Between adenoma and cystic lesion, there was focal aggregation of adenomatous glands showing luminal dilatation. Some of them were filled with mucin and showed focal denudation of lining epithelium associated with inflammatory infiltrations (Fig. 4).

The patient was finally diagnosed with pseudoinvasion in adenomatous polyp after segmental resection of the sigmoid colon.

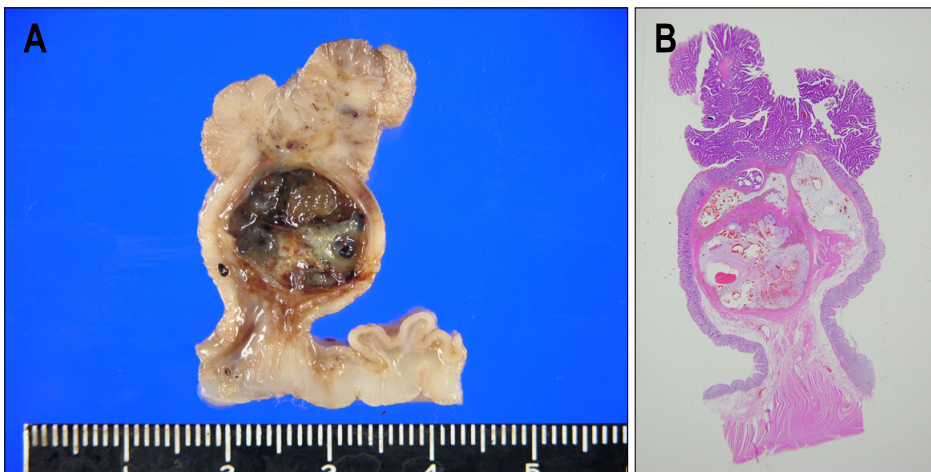


Fig. 3. Gross findings and whole-mount view. (A) A coronal section showing a protruding polyp (3.0×2.5×1.5 cm) associated with a round submucosal cystic lesion (2.5×1.5×1.5 cm). (B) A round, firm, submucosal cystic lesion was also evident in the stalk of the adenomatous polyp.

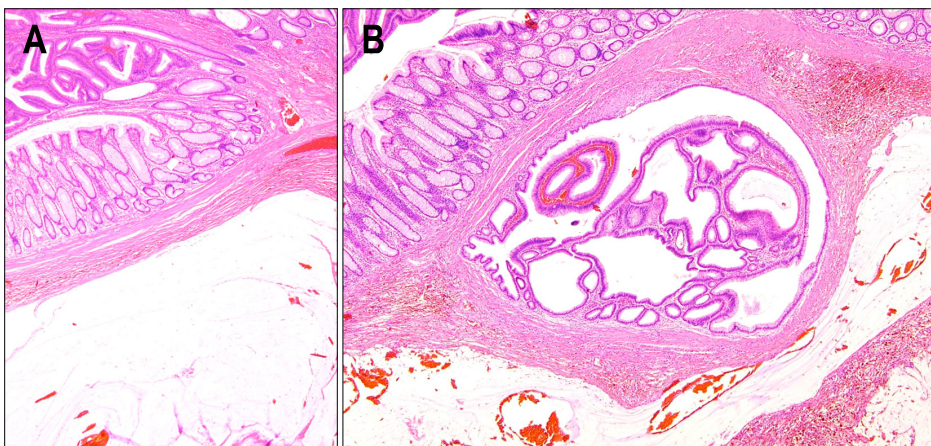


Fig. 4. Microscopic examination. (A) Villous adenoma (upper portion) and a mucin-filled retention cyst without a lining epithelium (lower portion) were evident. (B) Focal aggregations of adenomatous glands with luminal dilatation were evident on fibrous stroma between the adenoma and retention cyst (H&E ×40).

DISCUSSION

As one type of mucinous lesion of the colon and rectum, pseudoinvasion or pseudo-carcinomatous invasion represents prolapse of adenomatous glands into its stalk.^{1,6,7} It is known that most pseudoinvasion in adenomatous polyps occurs in pedunculated polyps located in the sigmoid colon.^{2,6,8} In 1973, the ‘pseudoinvasion’ was first term to describe these lesions.⁶ Pseudoinvasion in adenomatous polyps is commonly reported in the literature.^{2,9} Past studies employed histopathologic analysis of polyps retrieved from patients who underwent colonoscopic polypectomies. Although several reports identified cystic changes in the stalk of the colonic adenoma, the cyst size was small.^{2,8} Very large cyst confirmed by surgical operation like our case is rare.³

The most likely mechanisms that displace glands into the submucosa of the stalk are repeated twisting of the stalk, ischemia, or prior biopsy. These glands may become dilated with mucin, even rupturing into the stalk, mimicking an invasive carcinoma that can arise inside an

adenoma.^{1,2,6}

Distinguishing a colonic adenomatous polyp with pseudoinvasion into its stalk from invasive carcinoma arising within the adenomatous polyp is an important problem irrespective of lesion size, especially in light of current treatment modalities.¹ Currently, there are no definite endoscopic or clinical methods to differentiate between the two lesions; diagnosis depends on pathologic findings.⁹ In pseudoinvasion, the displaced glands are cytologically similar to the overlying adenoma and are often admixed with nonadenomatous glands. The glands of pseudoinvasion are rounded, and are surrounded by a rim of normal lamina propria. In addition, desmoplastic responses are absent, and hemosiderin is usually present in the lamina propria. Finally, the adenomatous epithelium typically remains at the periphery of the mucinous pool instead of floating within it. These features are in contrast with those of an invasive mucinous adenocarcinoma.^{1,2,6-9}

In spite of the many characteristics unique to pseudoinvasion, various pathologic methods are employed because it still remains difficult for clinician to differentiate

between manifestations of pseudoinvasion and micro-invasive tumors.^{8,9}

From the view point of recent development of endoscopic technology, EUS may be helpful to discriminate between pseudoinvasion and malignant submucosal invasion because it can elucidate cystic changes, which are prominent features of pseudoinvasion. Further research on this problem is called for and encouraged.

In conclusion, our case of a large pedunculated polyp exemplifies the difficulty inherent in distinguishing between pseudoinvasion and invasive carcinoma, even with endoscopic and morphologic examination. However, EUS has been shown to help in differentiating these manifestations. Accordingly, it is necessary for clinicians to be aware of pseudoinvasion in adenomatous polyps and to recognize its histopathologic characteristics. In order to confirm the practical usefulness of EUS, further studies are needed. Also, there is a real and current need for development of new endoscopic modalities, techniques and equipment to aid in distinguishing these lesions. The recognition and differentiation of these lesions may prevent unnecessary surgical treatment and false reports.

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