Single Case

Endoscopic Resection of a Pedunculated Cavernous Hemangioma of the Sigmoid Colon: A Case Report

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Keywords

Cavernous hemangioma · Clipping · Colon · Pedunculated type · Polypectomy

Abstract

Hemangiomas are common benign tumors that usually occur on the head and neck in children. However, colonic hemangiomas are rare in clinical practice. Approximately 80% of colonic hemangiomas are of the cavernous type, and morphologically, $\geq 80\%$ of colonic hemangiomas are sessile and semi-pedunculated. Notably, pedunculated colonic hemangiomas are rare. A 69-year-old woman presented with hematochezia and underwent colonoscopy, which revealed a soft pedunculated submucosal tumor (SMT) measuring 1.5 cm in diameter, in the sigmoid colon. The surface of the SMT resembled the surrounding normal colonic mucosa with regard to color and appearance, with multiple red patches. Narrow-band imaging revealed a few telangiectasias on the surface of the SMT. The lesion could not be definitively diagnosed based on endoscopic findings. Therefore, for more accurate diagnosis, the SMT was removed by snare polypectomy with electrocautery after clipping the basal portion of the tumor stalk for prophylactic hemostasis. Histopathological examination of the specimen revealed a cavernous hemangioma with a negative resection margin. We report a case of a pedunculated cavernous hemangioma of the sigmoid colon removed by snare polypectomy with electrocautery after clipping the basal portion of the tumor stalk for prophylactic hemostasis.

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Published by S. Karger AG, Basel

Introduction

Hemangiomas are common benign tumors that usually occur on the head and neck in children [1]. Colonic hemangiomas are rarely observed in clinical practice, although hemangiomas can originate at any site throughout the gastrointestinal tract [2]. These vascular malformations are clinically important owing to the risk of massive bleeding associated with these lesions. Approximately 17% of colonic hemangiomas cause complete or partial intestinal obstruction secondary to significant luminal narrowing, intussusception, or volvulus [3, 4]. Reportedly, preoperative histopathological diagnosis is challenging because of hemorrhage associated with manipulation during biopsy. Therefore, diagnosis is usually confirmed by macroscopic evaluation of lesions during endoscopy [2]. Several histological and clinical types of hemangioma are described in the literature; however, the cavernous and capillary subtypes are the most common. Notably, 61 and 23% of colonic hemangiomas are sessile and semi-pedunculated, respectively [5], and pedunculated colonic hemangiomas are rare. Endoscopic resection techniques such as endoscopic mucosal resection [6], endoscopic submucosal dissection [7], and endoscopic polypectomy [5, 8] have recently been reported for the management of gastrointestinal hemangiomas.

We report a case of a pedunculated cavernous hemangioma of the sigmoid colon removed by snare polypectomy with electrocautery after clipping the basal portion of the tumor stalk for prophylactic hemostasis.

Case Report

A 69-year-old woman presented with hematochezia and underwent colonoscopy, which revealed a soft pedunculated submucosal tumor (SMT) measuring 1.5 cm in diameter, in the sigmoid colon (Fig. 1a). The surface of the SMT resembled the surrounding normal colonic mucosa with regard to color and appearance, with multiple red patches (Fig. 1a). Narrow-band imaging revealed a few telangiectasias on the surface of the SMT (Fig. 1b); however, additional characteristics of the SMT could not be determined. The lesion could not be definitively diagnosed based on the endoscopic findings. Therefore, the SMT was removed by snare polypectomy with electrocautery after clipping the basal portion of the tumor stalk for prophylactic hemostasis, for more accurate diagnosis (Fig. 1c, d). Histopathological examination of the specimen revealed that the SMT was covered by normal colonic mucosa (Fig. 2a, b) and showed numerous dilated blood vessels in the mucosa and submucosa (Fig. 2a, b). The vascular epithelium of the dilated vessels did not reveal any malignant changes. Edematous stroma was observed in the submucosa. The SMT was diagnosed as a cavernous hemangioma (Fig. 2a, b) with a negative resection margin.

Discussion

Hemangiomas are common soft tissue tumors (7% of all benign tumors) and constitute the most common tumors that occur during infancy and childhood [9]. Most hemangiomas are superficial lesions with a predilection for the head and neck region; however, they can occasionally originate in the gastrointestinal tract [9]. Colonic hemangiomas are benign lesions originating from the submucosal vascular plexus secondary to embryonic sequestration of the mesodermal tissue [3, 10]. Gastrointestinal hemangiomas occur more commonly in the small intestine or stomach than in the large intestine. Most colonic hemangiomas are located in the rectum and sigmoid colon [11]. No universally accepted theory can explain the etiopathogene-

sis and pathophysiology of hemangiomas or all characteristics of these lesions, such as the predilection for the female sex, typical occurrence after birth, spontaneous involution, abnormal tissue architecture, and association with developmental field disturbances. Hemangiomas perhaps represent the final common expression of several pathophysiological mechanisms that occur alone or in combination [12, 13]. The World Health Organization has classified hemangiomas into the capillary, cavernous, arteriovenous, venous, intramuscular, and synovial subtypes [14]. Approximately 80% of colonic hemangiomas are cavernous hemangiomas [15], and capillary hemangiomas account for less than 10% of these colonic lesions [10]. Cavernous hemangiomas consist of large blood-filled spaces or sinuses lined by single or multiple layers of endothelial cells [11]. Cavernous hemangiomas are accompanied by bleeding (60–90%), anemia (43%), obstruction (17%), and occasional platelet sequestration [15], whereas capillary hemangiomas are usually solitary and asymptomatic lesions. Notably, 61% and 23% of colonic hemangiomas are sessile and semi-pedunculated, respectively [5]. However, pedunculated colonic hemangiomas are rare. Previous studies have reported a polypoid colonic hemangioma removed by endoscopic mucosal resection [6] and a pedunculated colonic hemangioma removed by endoscopic submucosal dissection [7]. To our knowledge, 2 previous reports have described endoscopic polypectomy for removal of colonic hemangiomas [5, 8]; however, these reports could not be identified after a PubMed (National Library of Medicine) search. Reportedly, one of these was published in the Japanese literature [5]. A PubMed database search did not yield any reports describing a pedunculated colonic hemangioma removed by complete endoscopic snare polypectomy after clipping the basal portion of the tumor stalk.

Snare polypectomy with electrocautery after clipping the basal portion of the tumor stalk is a useful technique for prophylactic hemostasis.

Statement of Ethics

The authors have no ethical conflicts to disclose. Informed consent was obtained from the patient.

Disclosure Statement

The authors declare no conflict of interest.

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Fig. 1. Endoscopic image showing an SMT measuring 1.5 cm in the sigmoid colon. The lesion is covered by normal colonic mucosa with multiple small red patches (a). Endoscopic images of narrow-band imaging showing an SMT with a few telangiectasias on the surface (b). Clipping of the basal portion of the tumor stalk of the SMT performed to prevent post-polypectomy bleeding (c). The SMT is removed by snare polypectomy with electrocautery (d). SMT, submucosal tumor.

Fig. 2. Histopathological examination of the resected SMT specimen. The SMT is covered by normal colonic mucosa. Numerous dilated blood vessels are visualized in the mucosa and the submucosa. The vascular epithelium of the dilated vessels shows no malignant changes. Edematous stroma is observed in the submucosa. The lesion shows a negative resection margin. Magnification: $\times 100$ (a) and $\times 200$ (b). SMT, submucosal tumor.