

# Ultrasound Color Pattern of Colonic Hamartomatous Polyps

CME Credits

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## Abstract

Colonic hamartomatous polyps are clinically benign tumors. Colonic hamartomas are polypoid lesions that are rare in adults and most commonly encountered in infants and children. We report an unusual case of giant colonic hamartomatous polyps that were found incidentally during a medical workup for acute lower gastrointestinal bleeding in a 26-year-old woman. We present the color Doppler ultrasound, computed tomography scan, and endoscopic pattern of colonic hamartomatous polyps.

**Keywords:** Colonic hamartomatous polyps, color Doppler sonograms, ultrasound color pattern

## INTRODUCTION

Hamartomas are tumor-like growth composed of mature tissues that are normally present at the site in which they develop, causing local malformations. Hamartomatous polyps of the colon are rare benign tumors in adults, and diagnostic colonic hamartomatous polyps with ultrasound images have rarely been reported. Here, we present an unusual case of large lobulated colonic hamartomatous polyps of a 26-year-old woman who presented with bloody stool. Color Doppler ultrasonography shows a 6 cm × 4 cm homogeneous, hypoechoic to isoechoic colonic mass with increased vascularity on color Doppler sonograms.

## CASE REPORT

The patient was an asymptomatic 26-year-old woman. The physical examination, including skin and mucosal pigmentation assessment and blood test had no unusual finding, except for a hemoglobin level of 11.2 g/dL. She needed medical help because of the sudden onset of bloody stool for 2 days. She did not complain of diarrhea or abdominal pain. There was no history of inflammatory bowel disease, skin disease, colonic cancer, or genital cancer. She had no family history of inflammatory bowel disease or colonic cancer. Sonographic

examination of the patient's abdomen was using GE Logiq 9 equipment (General Electric, USA) with a linear 7–12 MHz robe and showed multiple heterogeneous echogenicity solid masses with the largest one measuring a 6 cm × 4 cm at the sigmoid colon. The mass was without calcification, and the tumor margin was clear and smooth with color Doppler ultrasound showing multiple circular blood flow signals within the mass [Figure 1]. An abdominal computed tomography scan with the administration of a contrast material revealed a low-density mass [Figure 2, arrow] at the sigmoid colon and no malignancy evidence in other organs. The patient also underwent colonoscopy, which revealed lobulated reddish sessile polyps, ranging from 4 to 6 cm in size in the sigmoid colon [Figure 3]. The largest mass size was about 6 cm with an ulcerative surface, which may be the cause of the patient's bloody stool. The initial endoscopic impression of this mass cannot rule out the possibility of malignancy. The left hemicolectomy was performed since the ulcerative mass was causing bleeding, and multiple synchronous colonic cancers cannot be excluded by colonoscopy examination. The operation specimen consisted of a 26-cm colonic tissue. The largest polyp size was about 6 cm × 3 cm, with four other

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smaller polyps with a size of about 4 cm × 2 cm located at the sigmoid portion of the specimen. The pathologic report showed that the smooth muscle bands, thicker in the center of the polyp and thinner over the periphery, were the normal goblet cells. All polyps were presented with no signs of atypical cells [Figure 4]. With these results, the patient was diagnosed with hamartomatous polyps.

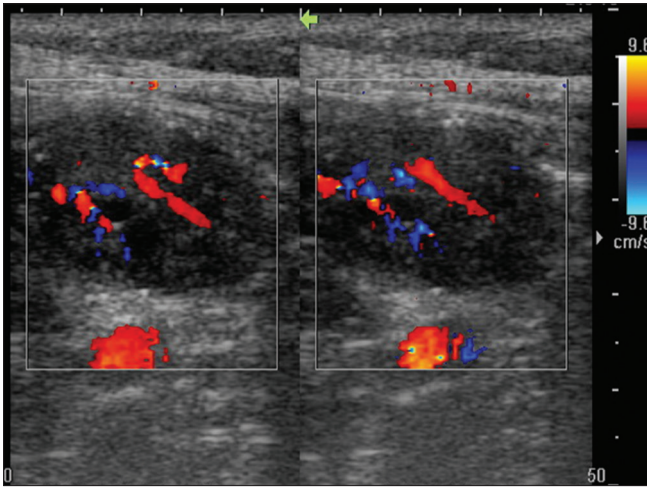
## DISCUSSION

Colonic hamartomatous polyps are nonneoplastic lesions composed of localized, disorganized overgrowths of normal mature tissues. These polyps are usually less than 4 cm in size, and there have been few reports of larger colonic polyps before.<sup>[1,2]</sup> A PubMed search from 1980 to present using hamartoma, colonic polyp, and giant hamartoma as keywords was performed. Excluding hereditary and familial polyposis syndromes, only a few relevant articles were found.

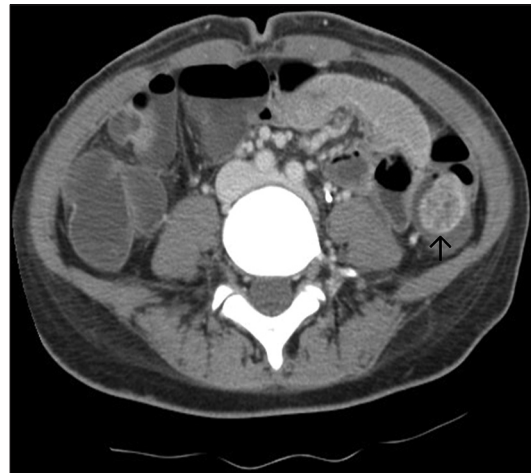
Furthermore, multiple giant hamartomatous polyps of the colon that are not associated with hereditary or familial polyposis

syndromes are rarely encountered in adults. Hamartomatous polyps of the colon can be large in size and may simulate a malignant lesion, like in our case. The colonoscopic appearance of hamartomatous polyps was indistinguishable from adenomatous polyps, especially a large-sized polyp that simulates the malignant colonic polyp. An endoscopist must thus carefully evaluate these lesions for histologic examination. Endoscopic or surgical removal is necessary, especially for these polyps that have a villous growth pattern in colonoscopic appearance.<sup>[3,4]</sup>

Ultrasonography is rarely used to diagnose colorectal lesions in adults. According to Wei *et al.*,<sup>[5]</sup> the sensitivity and specificity of ultrasonography in comparison with colonoscopy for the detection of colorectal polyps in children are 98% and 100%, respectively. These colonic hamartomatous polyps appear as spherical hypoechoic nodules with peduncle within the bowel lumen in transabdominal ultrasound. Color Doppler ultrasound has hypervascular areas and can easily visualize the blood flow with branching pattern within these polyps and peduncle. The



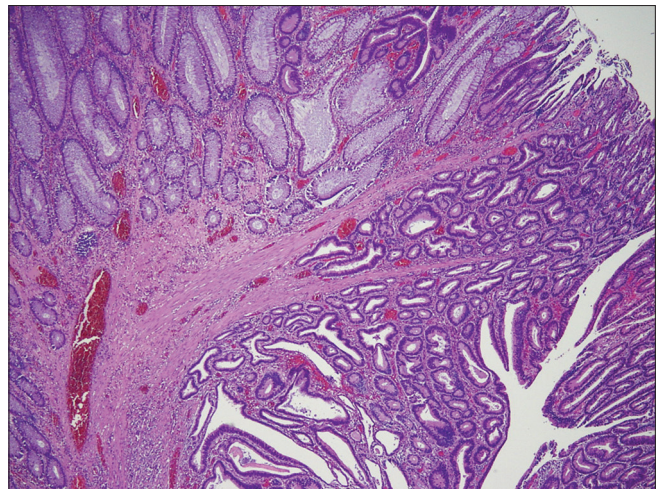
**Figure 1:** Sonographic examination showing a 6 cm × 4 cm heterogeneous-echoic pattern of solid mass of the sigmoid



**Figure 2:** Abdominal CT scan with a contrast material revealing a relatively high-density mass of sigmoid colon. CT: Computed tomography



**Figure 3:** Colonoscopy showing multiple lobulated sessile polyps in the sigmoid colon



**Figure 4:** Pathology showing smooth muscle bands, thicker in the center of polyp and thinner over the periphery, within were the normal goblet cells

ultrasound pattern of colonic adenomatous lesions will present as irregular, larger, and thicker vessels without branching pattern.<sup>[6,7]</sup> In the present case, color Doppler ultrasound shows blood vessel with branching pattern in the hypoechoic mass. However, it can be a helpful tool for differential diagnosis of colonic adenocarcinoma about vessel patterns. These findings are not present in colonic adenocarcinoma. The endoscopic biopsies may not be definitive in the diagnosis of colonic hamartomatous polyps because of their larger size and villous appearance, and complete resection with endoscopy or surgery may be required for a definite diagnosis.

Ultrasonography can be a valid, accurate, and safe technique for examining unknown malignant or benign colorectal polyps. For this case, we resected the lesions because of larger and multiple polypoid tumors and final diagnosed colonic hamartomatous polyps.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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### Conflicts of interest

There are no conflicts of interest.

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