Clinical spotlight

Unusual rectal submucosal tumor in melanosis coli

Yang-Yuan Chen a,*, Cheng-Kuo Chen a, Cheng-Yuan Peng a, William Tzu Liang Chen b, Pei-Yi Chu c

a Department of Gastroenterology, China Medical University Hospital, China Medical University, Taichung, Taiwan
b Department of Colorectal Surgery, China Medical University Hospital, China Medical University, Taichung, Taiwan
c Department of Surgical Pathology, Changhua Christian Hospital, Changhua, Taiwan

A 60-year-old female patient was referred for polypectomy of multiple colonic flat adenomatous polyps. She suffered no abdominal pain or decreased stool caliber, and tested negative for stool occult blood. Her medical history revealed that she had been taking a laxative for 20 years as a treatment for constipation. The patient denied any systemic disease or taking any medication except for the laxative. Colonoscopy revealed multiple whitish flat polyps in melanosis coli throughout the entire colon, the largest of which was approximately 1.5 cm over the ascending colon (Fig. 1). A submucosal nodule, approximately 5 mm in size (Fig. 2), with multiple black dots on its surface was revealed when the scope was withdrawn to the rectum. Endoscopic ultrasound revealed a tumor originating in the second layer of the rectal wall, which was approximately 5 mm in size (Fig. 3).

A polypectomy of the rectal submucosal tumor was performed (Fig. 4). The mucosa was abnormally dark brown to black, grossly consistent with the presence of melanosis coli. Histopathologic evaluation with hematoxylin and eosin (H&E) staining (Fig. 5) showed that pigment-laden macrophages consistent with melanosis coli were present in the lamina propria and that tumor cells were arranged in trabecular and glandular patterns, characterized by scanty cytoplasm, round nuclei, and fine chromatin, with rare mitotic figures. Immunohistochemical staining results were positive for markers of synaptophysin, chromogranin A (Fig. 6), and neuron-specific enolase. Rectal carcinoid in melanosis coli was identified.

The overall incidence of carcinoid tumors is difficult to determine because many are asymptomatic. They are discovered incidentally during routine colonoscopy and are usually less than 13 mm in size. Small rectal carcinoids are rarely malignant, and endoscopic resection is curative. The prevalence of rectal carcinoid is on the rise, particularly in the United States, where its age-adjusted incidence has increased by 800 to 1000% in the last 35 years [1]. The prevalence of rectal carcinoid in adults, as revealed by colonoscopy, is 0.05 to 0.07% [2].

Melanosis coli refers to an abnormal brown or black pigmentation of colonic mucosa caused by the presence of lipofuscin produced by the breakdown of apoptotic colonic epithelial cells in macrophages within the lamina propria. Melanosis coli is usually related to chronic use of laxative agents. Endoscopic observation reveals blackening over the...
Endoscopic ultrasound shows a tumor, approximately 5 mm in size, originating in the second layer of the rectal wall.

Colonoscopic image showing whitish flat polyps in melanosis coli of the ascending colon.

Colonoscopic image revealing a submucosal nodule with multiple black dots in the rectum.

Postpolypectomy of the rectal submucosal tumor.

Hematoxylin and eosin staining shows that melanosis coli is present in the lamina propria, with tumor cells arranged in trabecular and glandular patterns characterized by scanty cytoplasm, round nuclei, and fine chromatin.

Synaptophysin staining shows positive findings.
entire colonic mucosa [3]. Epithelial neoplasms in melanosis coli are easily observed because of their whitish color against a black background, as in the present case.

Rectal carcinoid usually presents a yellowish color change in the submucosal tumor, but this color change is often covered by black colonic mucosa. Submucosal tumor will be distal to mucosa, revealing multiple black dots in a diffuse black background under the endoscopic observation, as in this case. In conclusion, caution must be exercised in detecting submucosal tumor in melanosis coli.

REFERENCES