Granular cell tumor of colon: Report of a case and review of literature

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Abstract
Granular cell tumor (GCT) is uncommon in the colon and rectum. Here we report a case of GCT in the transverse colon. A 48-year-old male patient underwent a screening colonoscopy. A yellowish sessile lesion, about 4 mm in diameter, was found in the transverse colon. An endoscopic snare resection was performed without complication. Histological examination revealed the tumor consisted of plump neoplastic cells with abundant granular eosinophilic cytoplasm containing acidophilic periodic acid Schiff-positive, diastase-resistant granules. Immunohistochemical analysis showed the tumor cells expressed S-100 protein and neuron-specific enolase. Thus, the resected tumor was diagnosed as a GCT. Since GCTs are usually benign, endoscopic resection constitutes an easy and safe treatment. Colonoscopists should consider the possibility of GCT in the differential diagnosis of submucosal tumors of the colon.

INTRODUCTION
Granular cell tumor (GCT) is relatively rare soft tissue tumor that can be located anywhere in the body. It commonly occurs in oral cavities and subcutaneous tissues, but is uncommon in the colon and rectum[1,2]. In the gastrointestinal tract, the most common site for GCT is the esophagus, followed by the duodenum, anus and stomach[3,4]. This usually benign tumor appears as a submucosal nodule, measuring less than 2 cm in diameter, and is often found incidentally during colorectal examinations[5-6]. Here we report a case of a 48-year-old man diagnosed with a GCT arising in the transverse colon and treated by endoscopic resection.

CASE REPORT
A 48-year-old man was admitted for a screening colonoscopy. He had been healthy without specific complaints, family or past medical history. At the time of colonoscopy, a yellowish, hemispheric nodule 4 mm in diameter, was found in the transverse colon. It was a firm nodule covered by intact mucosa (Figure 1). The patient underwent an endoscopic snare resection, was observed for 30 min, and then discharged. There was no immediate or delayed complication.

Figure 1 A hemispheric, yellowish submucosal tumor with intact mucosa, about 4 mm in diameter in transverse colon revealed by endoscopy.

Histological examination of the resected tissue revealed a submucosal tumor composed of solid masses of plump histiocyte-like tumor cells with abundant granular eosinophilic cytoplasm containing acidophilic periodic acid Schiff (PAS)-positive, diastase-resistant granules (Figure 2). Immunohistochemical analysis showed the tumor cells...
expressed S-100 protein and neuron-specific enolase (NSE) (Figure 3), but were negative for desmin and cytokeratin. The resected tumor was diagnosed as a GCT occurring in the transverse colon.

Figure 3 Diffuse and strong expression of S-100 protein in tumor shown by immunohistochemical examination (Original magnification: ×100).

DISCUSSION

GCT, first described by Abrikossoff in 1926[7], may arise virtually anywhere in the body, but was seldomly found in the gastrointestinal tract[1-3]. In most cases, gastrointestinal GCTs were found incidentally during endoscopy, and appeared as small, round submucosal nodules covered by normal mucosa[1,5-8,10]. GCTs have also been detected in the muscle layer of the gastrointestinal tract and in subserosal areas, although such findings were uncommon[8,9,11].

Endo et al.[10] reported 33 cases of colorectal GCT in Japan, and Rossi et al.[11] reported 55 patients diagnosed with GCTs of the colon. To date, 7 cases of colonic GCT have been reported in Korean literature (Table 1). This excludes two cases of perianal GCT which may have arisen from perianal skin rather than anal mucosa. Except for one rectal case, all 6 colonic GCTs reported in Korea were located in the proximal colon - ascending colon, transverse colon and cecum including the appendix. The male-to-female ratio was 1:1.3 and the mean age was 41.0±6.5 years (range 31-49 years). Bowel resection was the most appropriate choice of treatment for colonic GCT[2,8,10,24].

The tumor was removed by endoscopic resection and subsequent polypectomy during screening colonoscopy. In conclusion, we report a case of GCT in the transverse colon. The patient was discharged without complication. GCTs of the colon can be found incidentally during colonoscopy, and endoscopic removal of the tumor is the safest and most feasible treatment. Colonoscopists should consider the possibility of GCT in the differential diagnosis of submucosal tumors of the colon.

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