Granular Cell Tumors of the Gastrointestinal tract

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Abstract:

Three cases of gastrointestinal granular cell tumor are presented, with photographs and video of endoscopy, EUS and endoscopic removal.

Methods:

Direct video capture to DVD with image manipulation using Adobe Photoshop 8.0 and Adobe Premiere 1.5

Report:

Granular cell tumors (GCT) are relatively uncommon neoplasms that may occur at many sites, but most commonly in the skin, tongue or soft tissues. Approximately 5% of GCT occur in the gastrointestinal tract, with predilection for the esophagus.

Endoscopically, the tumors tend to present as yellow subepithelial masses. Due to the similarity in endoscopic appearance, we suspect granular cell tumors may often be mistaken for lipomas and are perhaps more common than the reported literature suggests.

Malignant degeneration is possible for these lesions, although it reportedly happens in only 1 in 30 cases. It is likely that there is a publication bias towards reports of malignancy in this condition and the chance of malignant degeneration is actually much lower. Some authors have advocated a conservative approach to these lesions, and with current technology and endoscopic mucosal resection techniques, lesions can be safely removed without evidence recurrence.

The tumors are often solitary, but synchronous presentations have been reported.

We now report 3 cases of granular cell tumor with one each in the esophagus, stomach and colon. The esophageal lesion shown in this report is either an example of a metachronous tumor, or a synchronous tumor that was not identified during the patients previous evaluations. Video and photographic images are provided. All patients provided informed consent for their procedures.

Case 1: A 49 yr old female had a granular cell tumor removed endoscopically from the proximal esophagus (18 cm from the incisors) 3 years prior to presentation. Surveillance endoscopy at two different institutions showed no evidence of recurrence. She was referred in for continued surveillance endoscopy of her previous resection site.
The patient had previously undergone balloon dilations and a Heller myotomy for achalasia. Her only symptoms were related dysphagia felt to be due to her esophageal dysmotility.

At the time of endoscopy, no proximal abnormalities were seen (Video 1). However, in the distal esophagus, just above the GE junction, a small yellow nodule was identified (Figure 1a). It was unclear if this lesion had previously been present as it had not been remarked upon in outside endoscopy reports. A cold biopsy was taken, which returned granular cell tumor. The patient return after two months for scheduled endoscopic resection. EUS (not shown) suggested a 2-3 mm superficial lesion. An endoscopic resection was accomplished using a Duette band ligator method as shown in video 1. The histology suggested complete removal as shown in figure 1b, and margins were uninvolved by tumor.

Case 2: A 34 yr old female had chronic reflux symptoms and underwent endoscopy. She was otherwise healthy. A 1 cm hard yellow nodule was identified in the proximal stomach with the endoscope in the retroflex position (Video 2). Biopsy revealed granular cell tumor. The patient returned for EUS evaluation and endoscopic removal. By EUS, the lesion was 1.1 cm and slightly bigger than an EMR banding cap. It appeared to be hypoechoic or isoechoic, in continuity with echo layer 2 (mucosal) and above the muscularis propria (Video 2). Saline lift was performed with hot snare of the lesion. The lesion was partially transected so band ligation mucosectomy was performed of the base. Endoscopically the resection appeared to be complete. However, since the lesion was transected, clear margins of resection could not be positively identified. The patient continues to be under surveillance.
Case 3: A healthy 51 yr old male presented for routine age appropriate screening colonoscopy. His family history was unremarkable. The exam was significant for multiple colon polyps and included a yellow nodule in the cecum (figure 3). The yellow lesion was removed by snare polypectomy, and the other polyps were removed by combinations of snare and cold biopsy methods. Biopsies revealed the cecal lesion to be a 1 cm polyoid granular cell tumor. There were at least six additional tubular adenomas as well as several sessile serrated adenomas through out the colon. Excision of the yellow nodule seemed complete at the time of endoscopy and the margins were clear of tumor. Surveillance colonoscopy performed at 6 months showed no evidence of recurrence.

Discussion:

Gastrointestinal granular cell tumors are generally benign lesions found incidentally during endoscopy. As our report and the previous literature demonstrate, they can occur throughout the gastrointestinal tract.1-5

Due to the low incidence of malignancy, current management may include endoscopic ultrasound and endoscopic removal if lesions are small in size (< 2 cm) and do not obviously involve the muscularis propria.5 The yellow appearance during endoscopy might be mistaken for a lipoma, although they tend to be firm during biopsy.

Although these lesions usually do not cause problems, aggressive behavior has been reported6. The features associated with malignancy included local recurrence, rapid growth to a size greater than 4 cm, tumor necrosis, increased cellularity, cytologic atypia, and mitotic activity of greater than two mitoses per high-power field6.

This brief report demonstrates the endoscopic features that may occur with granular cell tumors and highlights methods employed in assessment and removal of these lesions. EUS may show features which suggest whether a yellow subepithelial lesion is a hyperechoic lipoma (Figure 4) or an isoechoic/hypoechoic lesion of a more concerning nature lesion as shown in video 2. In addition, EUS is useful for assessment the lesion’s suitability for endoscopic removal. In general, expectant management can be performed after endoscopic resection if the histology is bland although one needs to be aware that both synchronous and metachronous presentations may occur, particularly in the esophagus and stomach4.

References:


