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ORIGINAL ARTICLE

Clinical and endoscopic features of gastric pyogenic granuloma

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KEYWORDS
Endoscopy;
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Summary *Background:* Pyogenic granuloma (PG) is a polypoid form of capillary hemangioma. This study aimed to analyze the clinical and endoscopic features of gastric PG.
Methods: We retrospectively reviewed nine patients with gastric PGs who were evaluated by esophagogastroduodenoscopy and diagnosed by pathological study at the Chang Gung Medical Center (Taoyuan, Taiwan) between 2000 and 2009. Demographic data, clinical presentations, endoscopic findings, treatment, and outcome were collected and analyzed.
Results: The median age of the study patients was 62 years (range, 40—73 years) with a female preponderance. The most common symptom at presentation was overt gastrointestinal bleeding, followed by anemia and epigastralgia. Two patients were asymptomatic at diagnosis. The most common underlying diseases were liver cirrhosis [5 (56%) patients] and hypertension [5 (56%) patients]. Five (56%) cases of gastric PGs originated at the site of prior ulcer lesions. Most gastric PGs were solitary [7 (78%) patients] and located in the antrum [8 (89%) patients]. The gastric PGs typically appeared morphologically as smooth protruding hyperemic lesions with adherent white or yellow deposits. One patient received an endoscopic mucosal resection with complete excision of the lesion. Another patient received surgical intervention. Four gastric PG lesions were stationary or regressed with conservative management.
Conclusion: Overt gastrointestinal bleeding was the most common clinical presentation in patients with gastric PG. Gastric ulcers were the most common precursors of PG with the antrum being the most frequent site involved. Gastric PGs were characteristically protruding hyperemic lesions with adherent exudates. Conservative treatment may be considered for

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asymptomatic PG patients with major comorbidities. Endoscopic resection may be offered to patients with symptoms.

Introduction

Pyogenic granuloma (PG) is an inflammatory vascular lesion that is generally a red polypoid mass of apparent granulation tissue that bleeds easily [1]. The name PG is misleading because it is not infectious, it does not form pus, and it is not granulomatous. It is actually a polypoid form of capillary hemangioma [2], which explains its tendency to bleed. The most commonly affected sites are the extremities and the oral cavity. Pyogenic granuloma is extremely rare in the alimentary tract, except in the oral cavity [3]. To date, only five case reports of gastric PG have been published [3—7]. The aim of the study is to evaluate the clinical presentations, endoscopic findings, treatment, and outcomes of gastric PG in our case series.

Methods

A retrospective chart review study was conducted that targeted patients diagnosed with gastric PG at the Chang Gung Medical Center (Taoyuan, Taiwan). We identified nine patients who were diagnosed as having gastric PG between January 2000 and September 2009.

Pyogenic granuloma was diagnosed based on the histological identification of a lobular arrangement of multiple capillaries lined by endothelial cells, and edematous stroma with inflammatory cell infiltration and fibroblast proliferation in routine hematoxylin and eosin (HE)-stained sections of formalin-fixed, paraffin-embedded materials (Fig. 1) [4,7—9]. The specimens in all patients were acquired by biopsy forceps from areas of polypoid lesions or ulcers.

The clinical parameters were collected from the medical records and included age, sex, initial presentation, underlying disease, medications, prior lesions at the same site, *Helicobacter pylori* (HP) infection, treatment, and outcome. The endoscopic characteristics of gastric PG were collected such as the indications for endoscopy, and the location, size, number and gross appearance of lesions. Six of the nine patients underwent follow-up esophagogastroduodenoscopy (EGD). Data on the follow-up duration, the findings, and changes in the lesion size were recorded.

Results

The median age of the study patients was 62 years (range, 40—73 years). Six patients were women and three patients were men. The initial presentations included gastrointestinal (GI) bleeding in four patients; anemia in two patients; and epigastralgia in one patients. Two patients had no symptoms at diagnosis. Among the nine patients, five (55.56%) patients had liver cirrhosis, which included two patients with hepatitis B virus infection, two patients with hepatitis C virus infection, and one patient with primary biliary cirrhosis. Five (55.56%) patients had hypertension, three (33.33%) patients had diabetes mellitus, and two (22.22%) patients had hepatocellular carcinoma. With regard to the medication history, seven (77.78%) patients had used proton pump inhibitors (PPIs) prior to the diagnosis of PG and four (44.44%) patients had used nonsteroidal anti-inflammatory drugs (NSAIDs). Prior lesions at the PG site were gastric ulcer (GU) in five (55.56%) patients and subepithelial lesion in two patients. Endoscopic ultrasonography was performed on one subepithelial lesion,

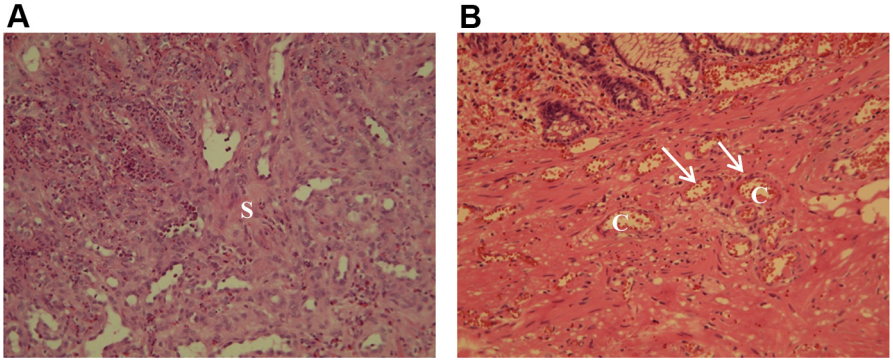

Figure 1 (A) Edematous collagenous stroma (*s*) with mixed inflammatory cell infiltration and fibroblast proliferation form the granulation tissue. The infiltrate is typically predominantly neutrophilic near the ulcerated surface of the lesion and chronic inflammatory mononucleated cells are scattered in the deeper zones. (B) The lobular arrangement of capillaries (*c*), which are lined by a single layer of flattened or round endothelial cells (arrows) (hematoxylin and eosin stain; magnification, medium power).