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## CLINICAL CASE REPORTS

# Pyogenic Granuloma of the Ampulla of Vater



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### KEYWORDS

Pyogenic granuloma;  
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bleeding;  
Endoclip;  
Video

### Abstract

**Background:** Pyogenic granuloma (PG), also called lobular capillary hemangioma, is a benign vascular proliferation in skin or oral mucosa after local trauma or irritation. PG is rarely reported in the gastrointestinal (GI) tract.

**Patient and methods:** A sixty-three-year-old woman presented with recurrent melena and anemia. 1 cm Erythematous semi-pedunculated polypoid lesion was seen on the ampulla of Vater. The mucosal patterns were not suggestive of adenoma or that of an invasive lesion. The polypoid lesion was completely removed en bloc using an endoscopic snare with coagulation current. Immediate post-polypectomy pulsatile bleeding developed and hemostasis was achieved with endoclip application without pre-injection.

**Results:** Pathology showed ampullary PG. To date, the patient has not developed further GI bleeding and her anemia resolved.

**Conclusions:** To the best of our knowledge, this is the first reported case of ampullary PG. In the medical literature, less than two dozen cases of PG are reported in the esophagus, stomach, small bowel, and colon. These patients usually present with gross or occult GI bleeding and anemia. GI PG can be curatively treated with endoscopic polypectomy or surgical resection.

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## Video Related to this Article

Video related to this article can be found online at <http://dx.doi.org/10.1016/j.vjgien.2013.02.001>.

### 1. Case report

- A sixty-three-year-old woman was referred for recurrent melena and anemia. A “duodenal nodule” was found on outside upper endoscopy. The colonoscopy was unimpressive.

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- The patient denied prior hepatobiliary diseases and history of endoscopic retrograde cholangiopancreatography.
- Endoscopic biopsy of this nodule was performed and the pathological diagnosis was inconclusive.
- Endoclip application was reported to stop the immediate biopsy related bleeding.

### 1.1. Endoscopic findings and interventions

- Endoscopic findings:
  - 1 cm erythematous, friable, semi-pedunculated polypoid lesion was seen on the ampulla of Vater, about 5 mm above the pancreatic/biliary opening.
  - The mucosal patterns were not suggestive of adenoma or that of an invasive lesion.
- Endoscopic interventions:
  - The polypoid lesion was completely removed en bloc using an endoscopic snare with coagulation current (25 W).
  - Immediate post-polypectomy pulsatile bleeding developed.
  - Hemostasis was achieved with endoclip application without pre-injection.
- *Pathology*: 1 cm polypoid capillary hemangioma filled with a dense neutrophilic infiltrate which are consistent with pyogenic granuloma (PG).
- *Outcome*: the patient did not develop any post-procedural complications including pancreatitis.
- To date, the patient has not developed further gastrointestinal (GI) bleeding and her anemia gradually resolved.
- To the best of our knowledge, this is the first reported case of PG involving the ampulla of Vater.

## 2. Materials

- Duodenoscope (Olympus TJF-Q180V, Olympus America, Center Valley, PA).
- Endoclips (Instinct<sup>®</sup> clips, Cook Medical, Winston-Salem, NC, USA).

## 3. Endoscopic procedure

- Endoscopic findings:
  - GI PG generally appears as a solitary, erythematous, and polypoid lesion involving the mucosa and submucosa.
  - The mucosal patterns are not suggestive of adenoma or that of an invasive lesion.
  - GI PG is friable with easy contact bleeding. Surface erosion may present.
- Endoscopic interventions:
  - GI PG can be curatively treated with endoscopic polypectomy or surgical resection.
  - We advocate en bloc polypectomy using an endoscopic snare with coagulation current.
  - There is a higher risk of immediate post-polypectomy bleeding due to vascular nature of PG.
  - Hemostasis can be achieved with endoclip application

and/or thermal coagulation, with or without pre-injection.

## 4. Discussion

Pyogenic granuloma (PG), also called lobular capillary hemangioma, is a benign vascular proliferation in skin or oral mucosa after local trauma or irritation [1,2]. Histopathologically, PG is defined as dense vascular proliferation or capillary hemangioma with a neutrophilic infiltrate in the stroma. PG is thought to be a reactive lesion resulting from tissue injury, followed by an impaired wound healing response with vascular growth [1]. PGs are mostly reported in pediatric populations and in young adult women. Cutaneous PGs are generally treated with surgical excision, cryotherapy, and cauterization [2].

PG is rarely reported in the GI tract [3-21]. In the medical literature, less than two dozen cases of PG are reported in the esophagus [4-6], stomach [7-10], small bowel [11-17], and colon [18-21]. Most reported patients have been of middle to late age. These GI lesions are generally solitary and range from 5 mm to 3 cm in size. GI PG appears erythematous and friable with easy contact bleeding. The patients usually present with gross or occult GI bleeding and anemia. GI PG can be curatively treated with endoscopic polypectomy or surgical resection. In a recent review, all treated patients with GI PG were free of symptoms and there have been no documented recurrences or malignant transformations [15].

In this case, after lifting the ampullary PG with an endoscopic catheter, the ampullary opening was located about 5 mm below the PG. Cautions were exercised to avoid positioning the endoscopic snare during polypectomy and applying endoclips during hemostasis not too close to the biliary opening. Due to the relative distance of the lesion from the pancreatic/biliary openings, we did not proceed with an endoscopic retrograde cholangiopancreatography with prophylactic pancreatic stent placement.

## 5. Scripted voiceover

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### Voiceover Text

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A 63 years old woman was referred for recurrent melena and anemia. A “duodenal nodule” was found on outside upper endoscopy. The colonoscopy was unimpressive. Endoscopic biopsy of this nodule was performed and the pathological diagnosis was inconclusive. Endoclip application was reported to stop the immediate biopsy related bleeding. During upper endoscopy with a gastroscope, an erythematous and friable nodule is seen within the medial wall of the second portion of the duodenum. On upper endoscopy with a duodenoscope, we are seeing an 1cm erythematous, friable and semi-pedunculated polypoid lesion on the ampulla of Vater. The mucosal patterns are not suggestive of adenoma or that of an invasive lesion. Easy contact bleeding is observed. The patient denied prior hepatobiliary diseases and ERCP.

## Voiceover Text

We decided to remove the polypoid lesion en bloc using an endoscopic snare with coagulation current (25 Watts). Gentle traction is applied to ensure the biliary opening is not involved during polypectomy.

Immediate post-polypectomy pulsatile bleeding developed. Since the bleeding spot is clearly visualized, we decided to achieve hemostasis with endoclip application without pre-injection.

Due to the close proximity to the biliary opening, we aim for more distal application of endoclip on the ampulla.

However, the first endoclip was applied a little lower to the target bleeding spot.

For the second endoclip, we aim higher and closer to the ampulla.

A third endoclip is applied more proximal to the second endoclip. Hemostasis achieved.

The removed lesion is retrieved.

Histopathologically, a polypoid capillary hemangioma is filled with a dense neutrophil infiltrate. These findings are consistent with pyogenic granuloma.

PG is thought to be a reactive lesion resulting from tissue injury, followed by an impaired wound healing response with vascular growth.

Up to date, the patient did not develop further gastrointestinal bleeding and her anemia gradually resolved.

To the best of our knowledge, this is the first reported case of PG involving the ampulla of Vater.

In the medical literature, less than two dozen cases of PG have been reported in the esophagus, stomach, small bowel, and colon.

These patients usually present with gross or obscure GI bleeding and anemia.

Gastrointestinal PG generally appears as a solitary, erythematous, and polypoid lesion involving the mucosa and submucosa.

GI PG can be curatively treated with endoscopic polypectomy or surgical resection.

When feasible, we advocate en bloc polypectomy using an endoscopic snare with coagulation current.

There is a higher risk of immediate post-polypectomy bleeding due to vascular nature of PG.

After curative resection, there are no documented recurrences or malignant transformation.

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No funding was available for this study and manuscript.

## Conflict of interest

Shou Tang and Feriyl Bhaijee have nothing to declare and we have no conflict of interests.

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