



Jun Haeng Lee and Woo Chul Chung

Contents

17.1 Duodenal Diverticulum.....	339
17.2 Angiodysplasia.....	342
17.3 Duodenal Varix.....	343
17.4 Henoch-Schonlein Purpura.....	344
17.5 <i>Ascaris lumbricoides</i>	345
17.6 Marginal Ulcer.....	346
References.....	347

17.1 Duodenal Diverticulum

Duodenal diverticulum is a pouch of the duodenal wall. Extramural diverticulum, which is very similar to colonic diverticulum, is quite common up to 5% of the population and usually is located near the ampulla of Vater (Figs. 17.1 and 17.2) [1–3]. Extramural diverticulum may be single or multiple. Great majority of duodenal diverticula are asymptomatic. Some patients may experience nonspecific abdominal discomfort, which can be worse or brought on by eating and relieved by vomiting, belching, or assuming certain posture. Complications, such as jaundice, cholangitis, acute pancreatitis, ulceration (Fig. 17.3), bleeding (Fig. 17.4), and perforation, can be caused by obstruction or inflammation. Foreign body can be impacted in the diverticular sac causing nonspecific symptoms (Fig. 17.5). Second type of duodenal diverticulum is intramural diverticulum. It protrudes into the duodenal lumen so it looks like a mass with communicating hole.

J. H. Lee

Department of Medicine, Samsung Medical Center,
Sungkyunkwan University School of Medicine,
Seoul, South Korea

W. C. Chung (✉)

Department of Internal Medicine, St. Vincent's Hospital, College
of Medicine, The Catholic University of Korea,
Suwon, Gyeonggi-Do, South Korea
e-mail: jwchulkr@catholic.ac.kr

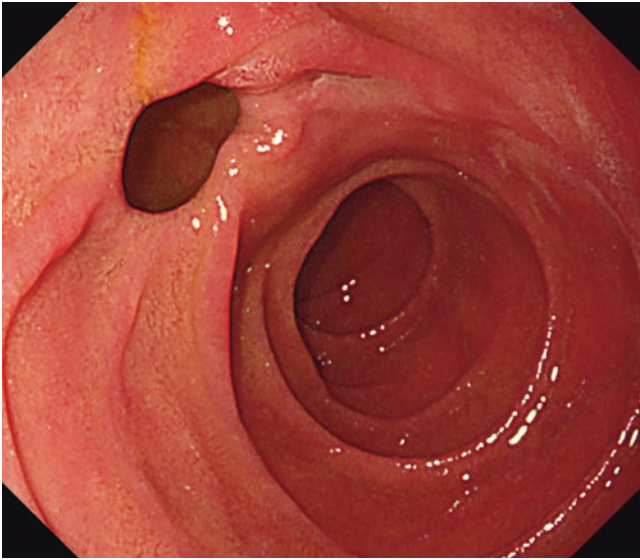


Fig. 17.1 Duodenal diverticulum. Extramural diverticulum usually is located near the ampulla of Vater

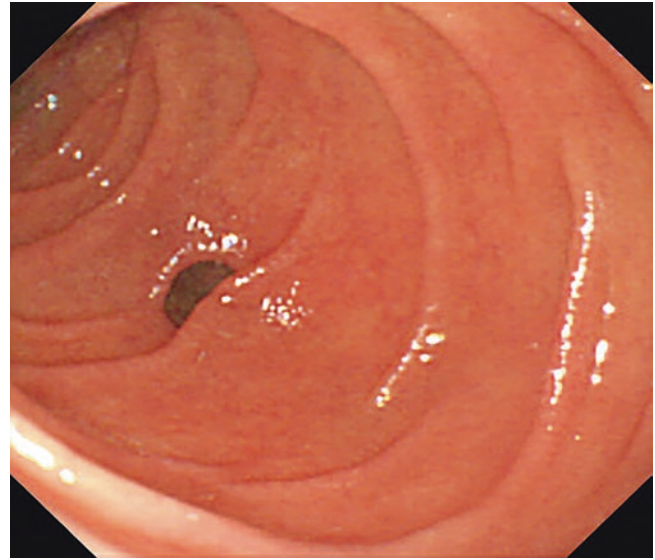


Fig. 17.2 Duodenal diverticulum. Occasionally, it is located at the anti-mesenteric border and is asymptomatic



Fig. 17.3 Ulceration of duodenal diverticulum. Ulceration within the diverticulum can be caused by obstruction or inflammation

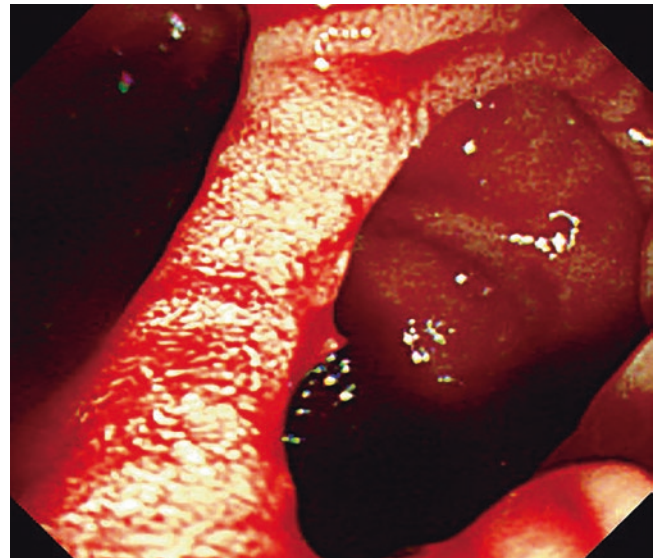


Fig. 17.4 Bleeding from duodenal diverticulum. There is a significant upper gastrointestinal bleeding from duodenal diverticulum

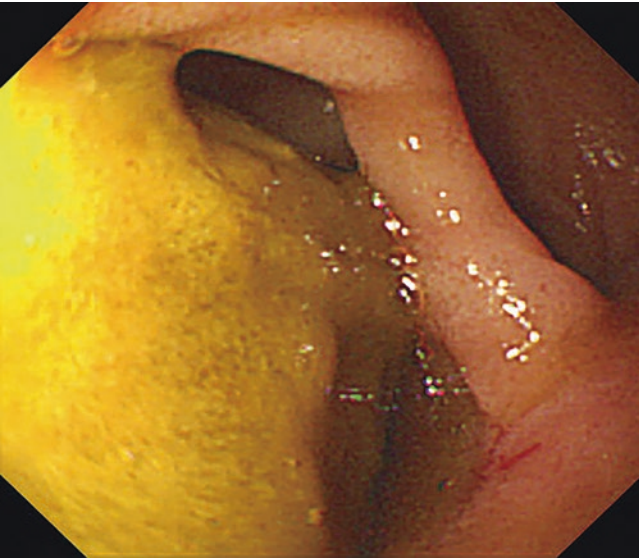


Fig. 17.5 Foreign body of duodenal diverticulum. Foreign body can be impacted in the diverticular sac

17.2 Angiodysplasia

Duodenal angiodysplasia is a collection of small arteries that have come to the surface (Fig. 17.6). It may cause recurrent and low-grade bleeding, although massive hemorrhage is also possible [4]. However, in most cases, angiodysplasia is found incidentally. In endoscopy, angiodysplasia is a 5–10 mm, cherry red, arborizing, ectatic vessel, sometimes radiating from a central vessel. It may have a surrounding halo. There are many treatment modalities for bleeding angiodysplasias. Ablation treatment using argon plasma coagulation apparatus is simple and effective (Fig. 17.7).



Fig. 17.6 Duodenal angiodysplasia. The vessels are ectatic and thin. Usually, it has a surrounding halo

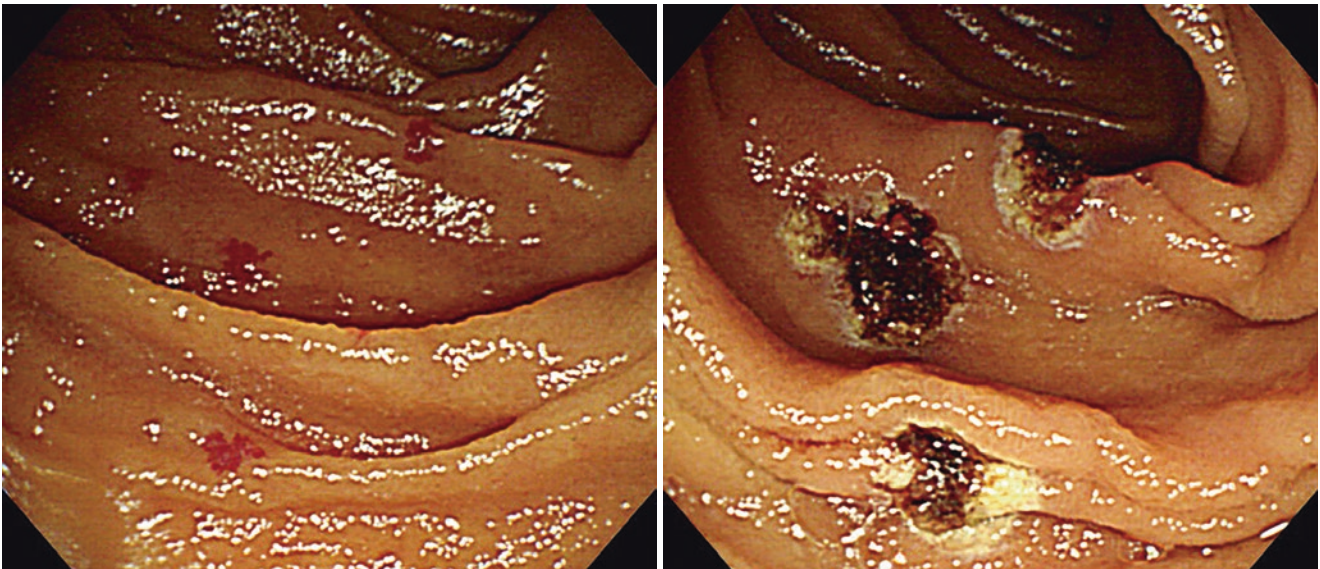


Fig. 17.7 Coagulation therapy of bleeding duodenal angiodysplasias. Ablation treatment using argon plasma coagulation is simple and effective in bleeding angiodysplasias. (*left*) Aberrant blood vessels were fre-

quently found in the duodenal mucosa, (*right*) Argon plasma coagulation applied on the prominent angiodysplasia suspected to cause bleeding

17.3 Duodenal Varix

Duodenal varix can develop in patients with portal hypertension and rarely cause bleeding. It is unlikely that most of duodenal varices are prominent as esophageal varices. Sometimes they cause a potentially serious consequence of portal hypertension and may result in massive bleeding (Fig. 17.8).

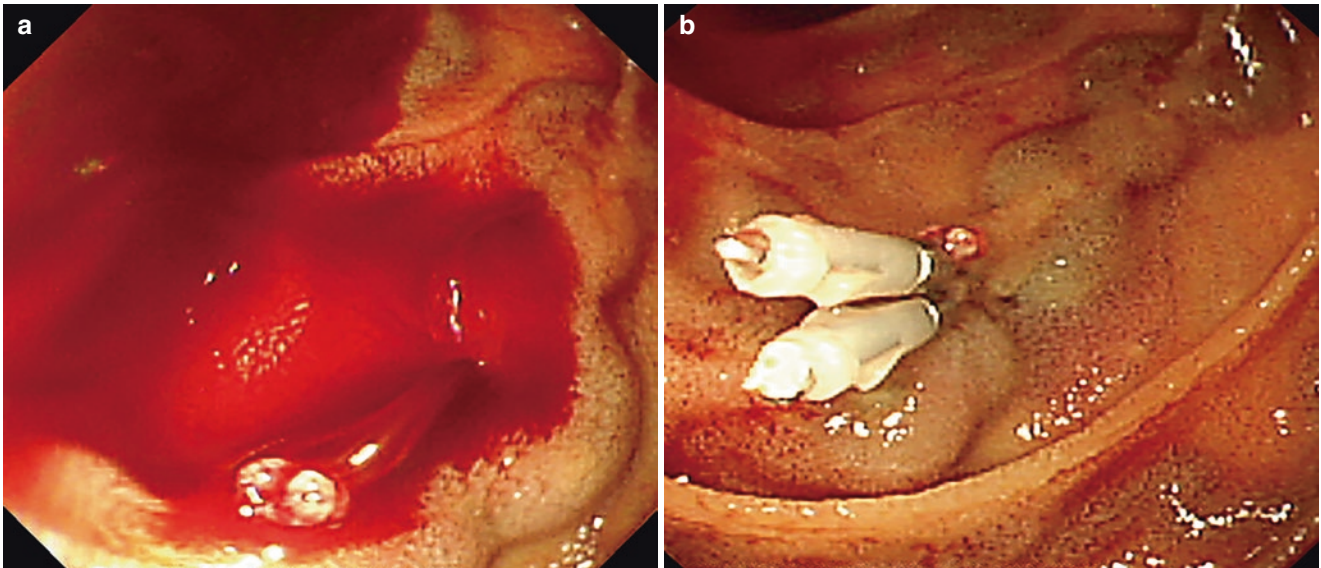


Fig. 17.8 Bleeding duodenal varix. (a) Endoscopy revealed markedly tortuous varices with pumping in the second portion of duodenum. (b) Duodenal variceal bleeding secondary to liver cirrhosis was successfully treated with using hemoclips

17.4 Henoch-Schonlein Purpura

Henoch-Schonlein purpura is a vasculitis syndrome. It most commonly affects children. The classic triad of symptoms are a palpable purpura, abdominal pain, and hematuria that typically begins after an upper respiratory infection.

Gastrointestinal symptoms include abdominal pain, vomiting, diarrhea, intestinal obstruction, and intussusception. In endoscopy, the bowel wall may be edematous, and there are multiple variable-sized erosive/ulcerative lesions with normal intervening mucosa (Fig. 17.9).

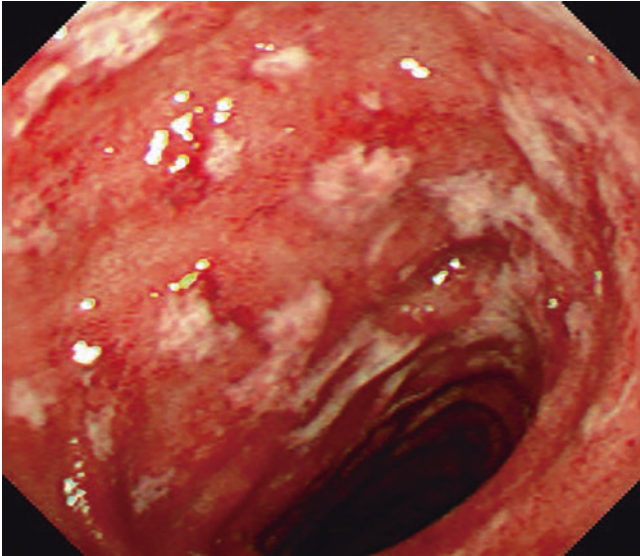


Fig. 17.9 The gastrointestinal manifestation in Henoch-Schonlein purpura. There are multiple variable-sized erosive/ulcerative lesions with normal intervening mucosa

17.5 *Ascaris lumbricoides*

Duodenal parasites are uncommon. *Ascaris lumbricoides* can be found in the bile duct or in the duodenal lumen. It is a 20–30 cm, grey to white, long, tubular worm, which can move very quickly. The endoscopist can remove the living worm with a biopsy force (Figs. 17.10 and 17.11).

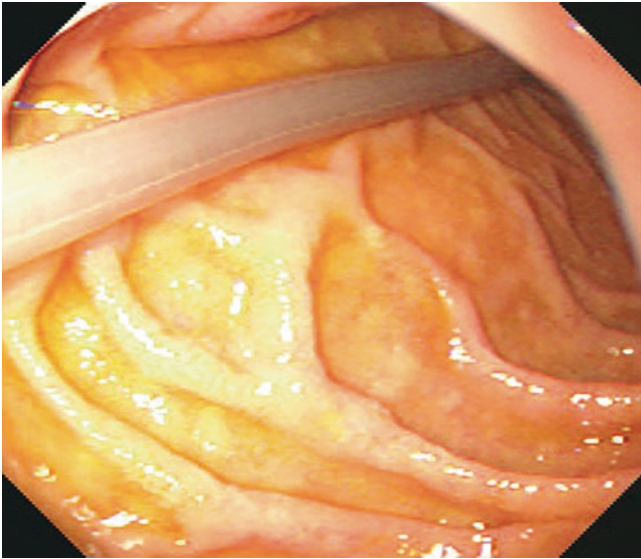


Fig. 17.10 Duodenal parasites (*Ascaris lumbricoides*). *Ascaris lumbricoides* can be found in the duodenal lumen



Fig. 17.11 Duodenal *Ascaris lumbricoides*. It is a 20–30 cm, grey to white, long, tubular worm

17.6 Marginal Ulcer

The frequency of performing gastrectomy has increased due to the frequent detection of early gastric cancer and increasing morbid obesity [5, 6]. In previous study, the incidence of marginal ulcer after partial gastrectomy was 8.6%, and a sig-

nificant number of patients (27.1%) had gastrectomy to treat peptic ulcer disease-associated complications. Half of these individuals experienced severe clinical conditions such as massive bleeding episodes or severe anemia (Figs. 17.12 and 17.13) [7].

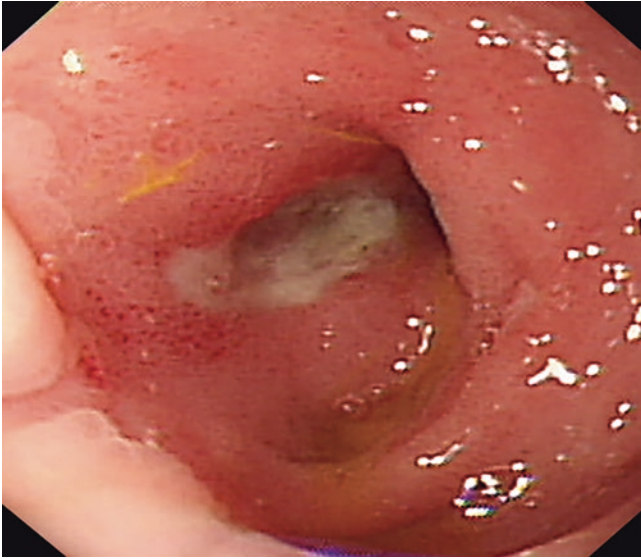


Fig. 17.12 Marginal ulcer. Ulceration at the gastrojejunal anastomosis is found in a patient with gastrectomy and Billroth I anastomosis

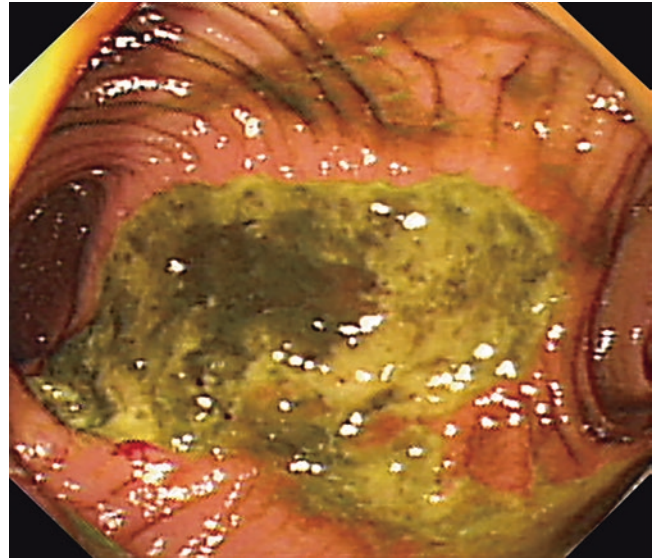


Fig. 17.13 Marginal ulcer. It develops at the margin of a gastrojejunostomy, primarily on the jejunal side. Most marginal ulcers respond to medical therapy, but sometimes complicated cases could happen

References

1. Lotveit T, Skar V, Osnes M. Juxtapapillary duodenal diverticula. *Endoscopy*. 1988;20(suppl 1):175–8.
2. Ferri L, Feldman L. Obstructing duodenal diverticula. *J Am Coll Surg*. 2002;195:888–9.
3. Shemesh E, Friedman E, Czerniak A, Bat L. The association of biliary and pancreatic anomalies with periampullary duodenal diverticula. Correlation with clinical presentations. *Arch Surg*. 1987;122:1055–7.
4. Allison D, Hemingway AP. Angiodysplasia: does old age begin at nineteen? *Lancet*. 1981;2:979–80.
5. Jeong O, Park YK. Clinicopathological features and surgical treatment of gastric cancer in South Korea: the results of 2009 nationwide survey on surgically treated gastric cancer patients. *J Gastric Cancer*. 2011;11:69–77.
6. Runkel N, Colombo-Benkmann M, Hüttl TP, Tigges H, Mann O, Sauerland S. Bariatric surgery. *Dtsch Arztebl Int*. 2011;108:341–6.
7. Chung WC, Jeon EJ, Lee KM, et al. Incidence and clinical features of endoscopic ulcers developing after gastrectomy. *World J Gastroenterol*. 2012;18:3260–6.