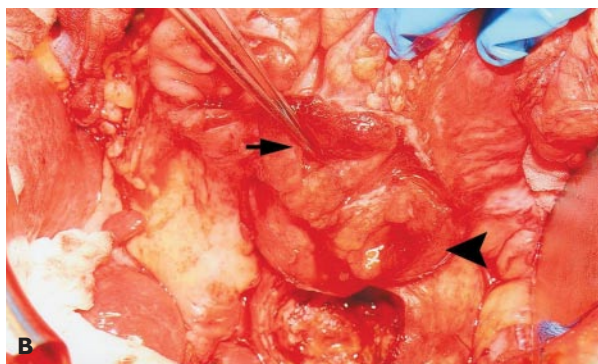


A Severe Complication of Endoscopic Retrograde Cholangiopancreatography

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A 75-year-old man presented to the clinic with complaints of emesis, malaise, epigastric pain, and a 10-lb weight loss. Two months earlier, the patient underwent endoscopic retrograde cholangiopancreatography (ERCP) with sphincterotomy for removal of a common duct stone followed by laparoscopic cholecystectomy. At the current presentation, he reported that proton pump inhibitors failed to alleviate his symptoms. Esophagogastroduodenoscopy revealed no abnormalities. Eight months after the index cholecystectomy, the patient presented again with persistent abdominal pain and a 25-lb weight loss. Laboratory values were significant for a white blood cell count of 15,000 cells/ μ L. Computed tomography revealed a 5 \times 4.5-cm complex air-fluid-contrast collection between the duodenum and right kidney (**Image A**). At exploration, a transected duodenum that folded into a double-barrel shotgun orientation was discovered (**Image B** [arrow and arrowhead indicate proximal and distal duodenal lumens, respectively]). The transected ends of the duodenum formed a cul-de-sac abscess, allowing enteric contents to pass from the afferent limb to the efferent limb. Roux-en-Y gastrojejunostomy, bypassing the duodenal transection, was performed.

Complications occur in up to 10% of ERCP procedures.¹ Duodenal perforations are rare, comprising up to 1% of ERCP-related complications, although duodenal perforation is 9 times more likely to occur during sphincterotomy.² Historically, perforations have been managed routinely with surgical exploration, but over the past 20 years there has been a shift toward a more

selective approach.⁴ Although some authors recommend selective, nonsurgical management of duodenal perforations with hydration, broad-spectrum antibiotics, and nasoduodenal drainage,^{3,4} this approach is associated with a high failure rate (50%) and unacceptable mortality (16%–18%).⁵ Stapfer and colleagues² have described a 4-tier classification scheme of duodenal injury. Perforations in the lateral duodenal wall (type I) are caused by the endoscope and require immediate surgery. Periapillary injuries (type II) and distal bile duct injuries (type III) are related to sphincterotomies or wire instrumentation, respectively, and lend themselves to nonsurgical management. The presence of retroperitoneal air only (type IV) is not a true perforation and does not require intervention. **HP**

REFERENCES

- Christensen M, Matzen P, Schulze S, et al. Complications of ERCP; a prospective study. *Gastrointest Endosc* 2004;60:721–31.
- Stapfer M, Selby RR, Stain SC, et al. Management of duodenal perforation after endoscopic retrograde cholangiopancreatography and sphincterotomy. *Ann Surg* 2000;232:191–8.
- Scarlett PY, Falk GL. The management of perforation of the duodenum following endoscopic sphincterotomy: a proposal for selective therapy. *Aust N Z J Surg* 1994;64:843–6.
- Booth FV, Doerr RJ, Khalafi RS, et al. Surgical management of complications of endoscopic sphincterotomy with precut papillotomy. *Am J Surg* 1990; 159:132–6.
- Elder JB. Surgical treatment of duodenal ulcer. *Postgrad Med J* 1998;64 (Suppl 1):54–9.

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