



FIGURE 345-10 Nonsteroidal anti-inflammatory drug (NSAID)-induced proximal ileal stricture diagnosed by double-balloon endoscopy. **A.** Ileal stricture causing obstructive symptoms. **B.** Balloon dilatation of the ileal stricture. **C.** Appearance of stricture after dilatation.

curative for certain dysplastic lesions and focal intramucosal carcinomas involving the esophagus, stomach, and colon. Several devices are also available for closure of EMR and ESD defects, as well as gastrointestinal fistulas and perforations. Endoscopic clips deployed through the working channel of an endoscope have been used for many years to treat bleeding lesions, but the development of more robust over-the-scope clips has facilitated endoscopic closure of gastrointestinal fistulas and perforations not previously amenable to endoscopic therapy (see Video 346e-6). Endoscopic suturing is also feasible, and the technique can be used to close perforations and large defects (Fig. 345-19, see Video 346e-7), anastomotic leaks, and fistulas. Other potential indications for endoscopic suturing include stent fixation to prevent its migration (Fig. 345-20), and endoscopic bariatric procedures. These technologies are likely to have an expanding role in patient care.

RISKS OF ENDOSCOPY

Medications used during conscious sedation may cause respiratory depression or allergic reactions. All endoscopic procedures carry some risk of bleeding and gastrointestinal perforation. The risk is small with diagnostic upper endoscopy and colonoscopy (<1:1000 procedures), but ranges from 0.5 to 5% when therapeutic procedures, such as EMR and ESD, control of hemorrhage, or stricture dilatation, are performed. Bleeding and perforation are rare adverse events with flexible sigmoidoscopy. The risk of adverse events for diagnostic EUS (without needle aspiration) is similar to that for diagnostic upper endoscopy.

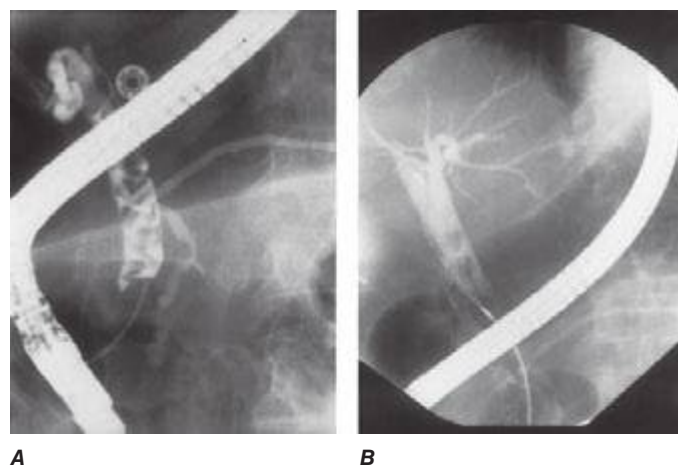


FIGURE 345-11 Endoscopic retrograde cholangiopancreatography (ERCP) for bile duct stones with cholangitis. **A.** Faceted bile duct stones are demonstrated in the common bile duct. **B.** After endoscopic sphincterotomy, the stones are extracted with a Dormia basket. A small abscess communicates with the left hepatic duct.

Infectious complications are uncommon with most endoscopic procedures. Some procedures carry a higher incidence of postprocedure bacteremia, and prophylactic antibiotics may be indicated (Table 345-1). Management of antithrombotic agents prior to endoscopic procedures should take into account the procedural risk of hemorrhage, the agent, and the patient condition, as summarized in Table 345-2.

ERCP carries additional risks. Pancreatitis occurs in about 5% of patients undergoing the procedure and in up to 30% of patients with sphincter of Oddi dysfunction. Young anicteric patients with normal ducts are at increased risk. Post-ERCP pancreatitis is usually mild and self-limited, but may result in prolonged hospitalization, surgery, diabetes, or death when severe. Bleeding occurs in 1% of endoscopic sphincterotomies. Ascending cholangitis, pseudocyst infection, retroperitoneal perforation, and abscess formation may occur as a result of ERCP.

Percutaneous gastrostomy tube placement during EGD is associated with a 10–15% incidence of adverse events, most often wound infections. Fasciitis, pneumonia, bleeding, buried bumper syndrome, and colonic injury may result from gastrostomy tube placement.

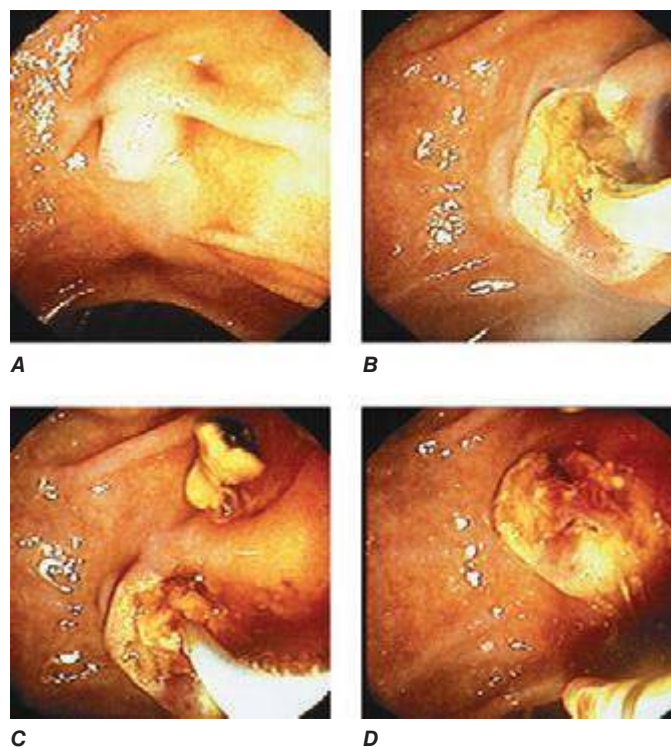


FIGURE 345-12 Endoscopic sphincterotomy. **A.** A normal-appearing ampulla of Vater. **B.** Sphincterotomy is performed with electrocautery. **C.** Bile duct stones are extracted with a balloon catheter. **D.** Final appearance of the sphincterotomy.