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A 54-year-old man presented to a local hospital with common bile duct (CBD) stones and obstructive jaundice. Accordingly, the patient underwent ERCP, endoscopic sphincterotomy followed by endoscopic papillary balloon dilation, and stone extraction. After the procedures, he had right upper quadrant abdominal pain. Contrast-enhanced CT of the abdomen revealed perforation of the CBD and bile leakage (**A**). Consequently, the patient was referred to the medical center for further treatment and immediately underwent percutaneous drainage for bile peritonitis. Next, ERCP showed residual CBD stones and prominent extravasation of contrast medium from the distal CBD (**B**). Therefore, stone extraction and biliary stent placement with a plastic stent (10F in diameter and 7 cm long) were performed (**C**). After conservative management, the patient was uneventfully discharged from the hospital 1 week later. Three months later, ERCP was repeated to remove the plastic stent and show that the

CBD perforation had resolved without bile leak. Meanwhile, a digital single-operator cholangioscope (SpyGlass DS, Boston Scientific Co, Natick, Mass, USA) was used to demonstrate a linear and healed mucosal scar, about 1 to 2 cm in length, on the perforation site of the distal CBD (**D**).

DISCLOSURE

Both authors disclosed no financial relationships.

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Commentary

The authors have presented a case of distal biliary perforation as a result of endoscopic sphincterotomy and papillary balloon dilation for choledocholithiasis. ERCP-related perforations can occur by 3 different means: luminal perforation from the tip or shaft of the endoscope, perforation at the site of sphincterotomy, or biliary perforation caused by a guide-wire or device.

Endoscopic management of sphincterotomy-related perforations is recommended, particularly if the defect is localized to the retroperitoneum. As demonstrated, stent therapy is preferred. Although no randomized trials have been performed comparing plastic versus metal biliary stents for biliary perforation, many may choose to place a fully covered metal biliary stent, theoretically sealing the defect from luminal and biliary fluid.

As all endoscopists know, a picture is worth a thousand words; as such, the authors obtained cholangioscopic documentation of complete perforation closure.

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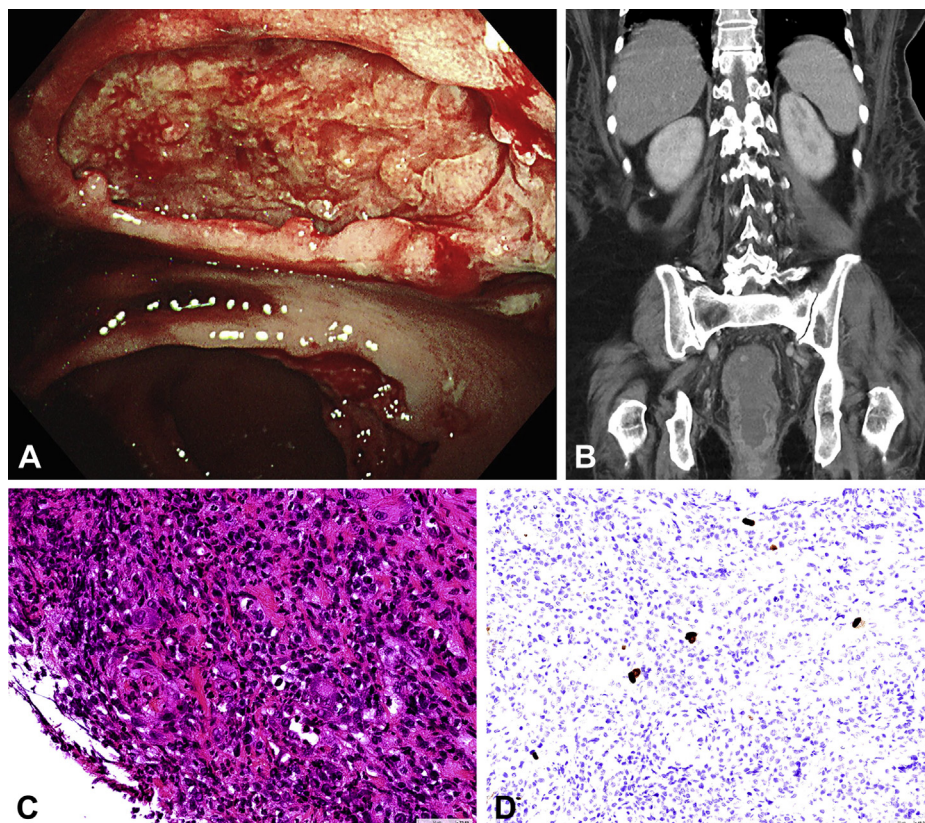
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Cytomegalovirus colitis combined with *Clostridium innocuum* as a cause of lower GI bleeding in a patient with COVID-19



A 67-year-old woman who presented with fever received a diagnosis of COVID-19 infection and was admitted to the medicine ward. She had a history of hypertension and diabetes. On day 4 of hospitalization, owing to progressive dyspnea and oxygen desaturation,

she received intubation and mechanical ventilator support. She received remdesivir, dexamethasone, empiric antibiotics, enoxaparin, and tocilizumab during her hospitalization. On day 24, the patient developed bloody stools, and her hemoglobin level decreased from 11.7 g/



dL to 9.2 g/dL. Because of persistent bleeding, she underwent colonoscopy, which revealed colitis and ulcer bleeding at the rectum (A). CT showed wall thickening of the lower part of the rectum (B). A pathologic study of the biopsy specimen showed enlarged nuclei and viral inclusions in both the cytoplasm and the nuclei (C). Immunohistochemical stain was positive for cytomegalovirus (CMV) antigen (D). The result of a blood CMV DNA polymerase chain reaction was positive, and the diagnosis of CMV infection was confirmed. In addition, there was growth of *Clostridium innocuum* in the stool culture. Her bleeding subsided after ganciclovir and metronidazole treatment, and she was extubated smoothly on day 38. Here we illustrate a COVID-19 patient who presented with lower GI bleeding caused by CMV coinfection and growth of *C innocuum* simultaneously. Endoscopy plays a crucial role in the treatment of patients with GI bleeding.

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Commentary

The healthier you are the healthier you stay; the sicker you are the sicker you get. This case reflects this axiom. This unfortunate patient experienced severe respiratory failure secondary to COVID-19 infection.

Colonoscopy revealed a dramatic "punched out" ulcer, highly suggestive of a viral colitis, and indeed the patient was found to have a CMV infection. She was also found to harbor *C innocuum*, which, despite its name, should not be confused with *C difficile*. *C innocuum* is an anaerobic gram-positive rod that is considered to be a variant of normal gut flora.

C innocuum usually behaves in a pathogenic manner in patients who are immunocompromised, as was clearly the case with this patient. *C innocuum* is often seen to cause illness in patients after organ transplantation, most commonly renal transplantation. Fortunately, this patient appears to have done well after aggressive therapy for her COVID-19 infection.

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Colorectal endometriosis with a large polypoid lesion



A 39-year-old woman was referred to our hospital because of a positive fecal occult blood test result. She had undergone uterine myomectomy 6 years earlier, and she had been treated with levothyroxine for hypothyroidism after thyroidectomy for Graves's disease. A physical examination revealed a left-sided abdominal mass without tenderness. A laboratory test showed that the levels of serum tumor markers were within normal range. A barium enema revealed a 4-cm protruding lesion in the descending colon (**A**). The lesion looked like a submucosal tumor with reddish mucosa and dilated vessels (**B**). Magnifying endoscopy with crystal violet staining showed 2 types of pit pattern: most was regular and rounded, whereas a small area had an enlarged and irregular pit pattern (**C**). Surgical histopathologic examination confirmed that the protruding lesion was composed of endometrial glands and stroma surrounded by smooth muscle bundles (**D**, H&E, orig. mag. $\times 40$). The results of testing for immunohistochemistry, estrogen receptor (ER), and progesterone receptor were positive. Therefore, we

diagnosed polypoid endometriosis. Retrospectively, a biopsy specimen from the lesion with irregular pits showed that a few glands were positive for ER (**E**, Immunohistochemistry for ER, orig. mag. $\times 200$). Colorectal endometriosis usually presents as eccentric wall thickening and surface nodularities, and diagnosis by endoscopic biopsy is difficult. Our case suggests that magnifying endoscopy is useful for diagnosis with target biopsy for intestinal endometriosis.

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Commentary

Crystal violet is an absorptive dye that can stain cells within the colonic mucosal glands, thereby highlighting pit patterns and surface architecture. Its use, in combination with other image-enhanced endoscopy (IEE), has been shown to be highly effective in differentiating colon polyp pathologic conditions. Specifically, with the development of endoscopic magnifica-