

Introduction

Ampullary cancers are rare and account for approximately 0.2% of gastrointestinal cancers.¹ These patients tend to have an improved prognosis as they typically present early and can often be diagnosed with imaging, leading to higher surgical resection rates than other pancreatobiliary malignancies. Early detection is crucial as surgical resection can be curative.¹

Case Report

A 59-year-old male with a history of hypertension and a prior cerebrovascular accident presented with 6 weeks of painless jaundice. He experienced itching, diarrhea, bloating, fatigue and 4–5-pound weight loss for the same duration of time. Initial labs showed a total bilirubin of 19.9, direct bilirubin of 14.7, alkaline phosphatase of 203, ALT of 112 and AST of 112. CT with IV contrast showed intra and extra-hepatic dilatation with the common bile duct greater than 20 mm. There was no evidence of biliary mass or pancreatic mass noted. Figure 4 demonstrates typical location of ampullary tumors.

The patient underwent CT scan of abdomen which showed mildly dilated CBD (Figure 1). ERCP where a large (5cm x 3cm) fungating ulcerated lesion was found (Figure 2). The mass was friable and appeared to extend into the biliary duct. Three 8 French by 9.5 cm plastic stents were placed into the common bile duct (Figure 3). Biopsies were obtained and the pathology resulted as adenocarcinoma.

Results



Figure 1: CT image with mildly dilated CBD

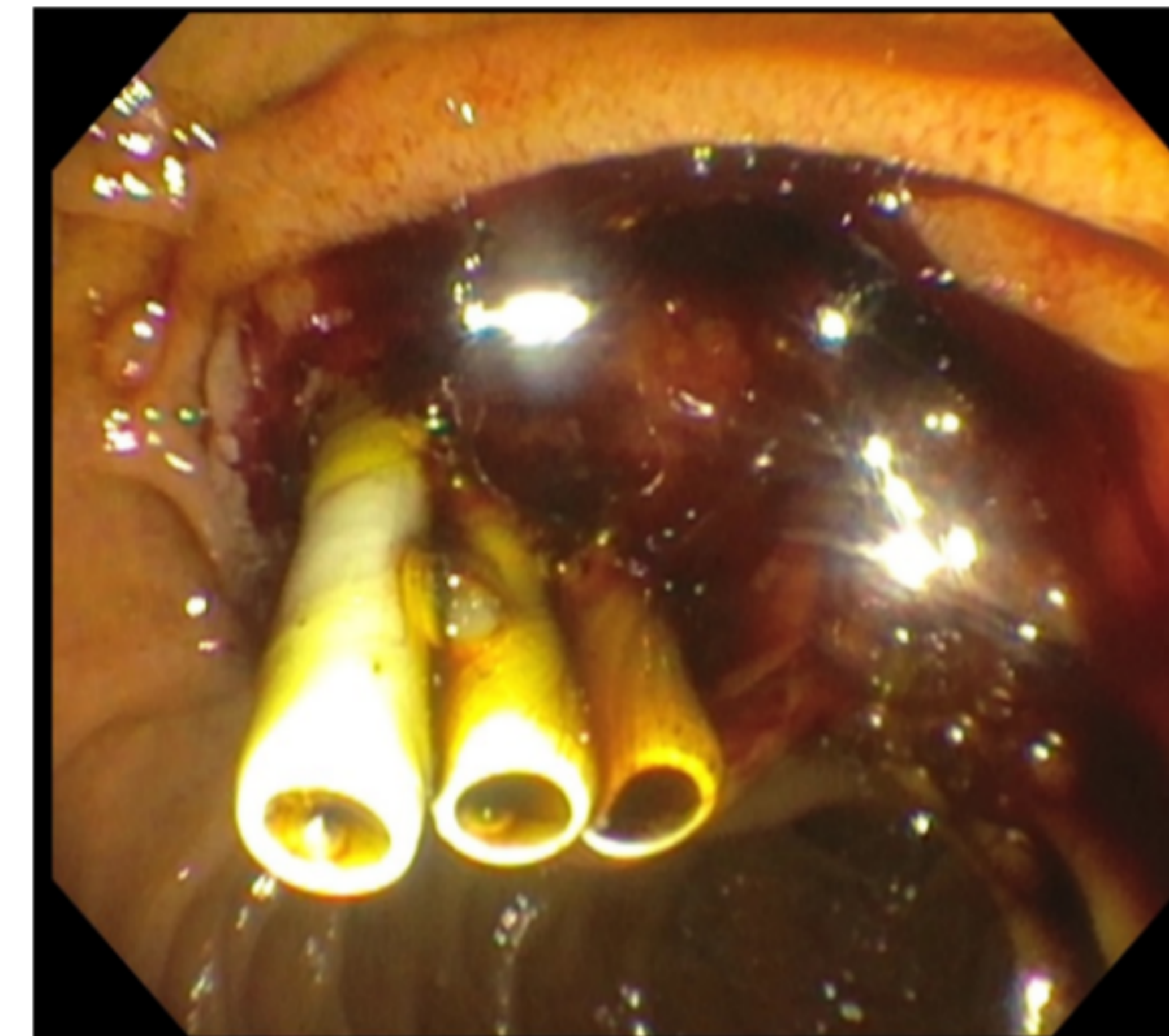


Figure 3: Three stents placed in common bile duct with biliary drainage

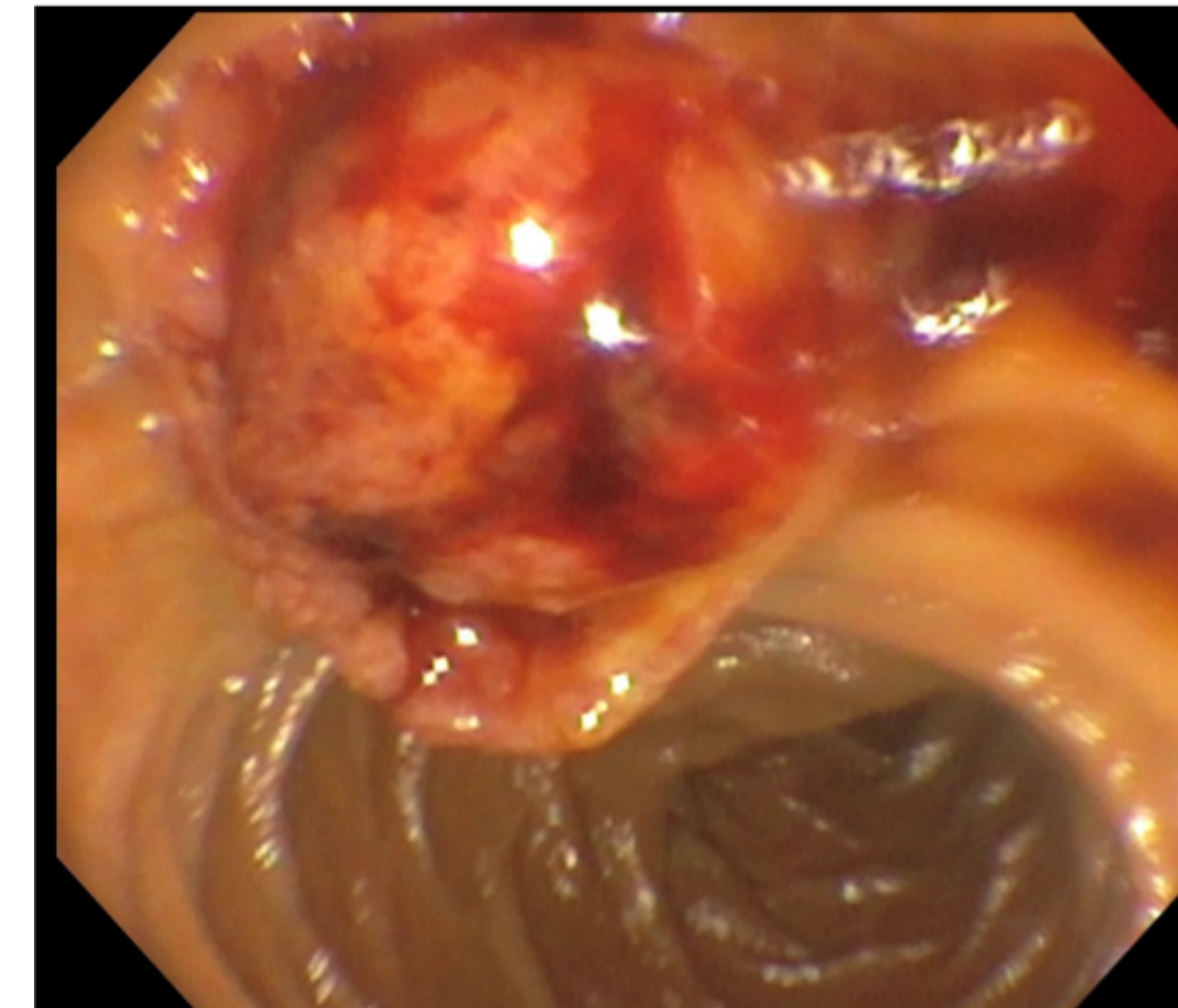


Figure 2: Fungating/friable ampullary mass seen through ERCP

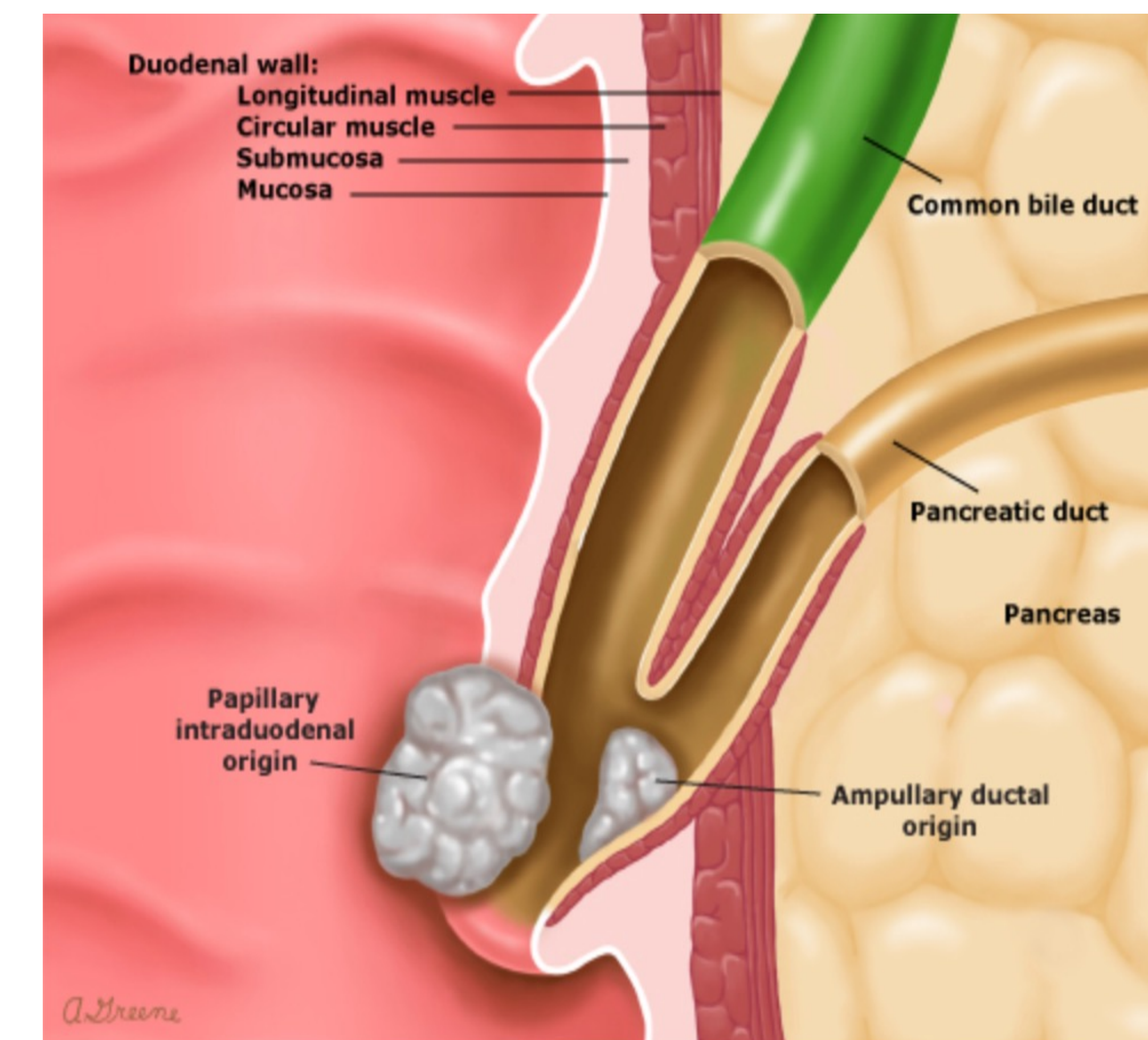


Figure 4: Location of ampullary tumors

Discussion

Ampullary adenocarcinoma is rare, with an incidence of 0.70 per 100,000 men and 0.45 per 100,000 women in the US.² These patients present with symptoms of biliary obstruction and radiographic imaging demonstrating the double duct sign. Often imaging also demonstrates a discrete nodular mass that produces a filling defect at the pancreaticobiliary junction.³ In some cases, despite the presence of ductal dilation, there is no evidence of an obstructing mass, even on endoscopic evaluation, and a diagnosis is made solely through biopsy.⁴

Our patient presented with symptoms of obstructive jaundice with CT evidence of biliary and pancreatic duct dilation without radiographic evidence of a mass. Only through ERCP were we able to identify the large mass, which was diagnosed as adenocarcinoma. This case did not follow the typical presentation, as a mass was not seen on imaging and could have delayed diagnosis and treatment. We recommend the addition of diffusion weighted imaging to the diagnostic algorithm as it has been shown to improve the detection rate when compared to conventional imaging.⁵

References

1. Ahn DH, Bekaii-Saab T. Ampullary cancer: an overview. *Am Soc Clin Oncol Educ Book*. 2014;112-115. doi:10.14694/EdBook_AM.2014.34.112
2. Goodman MT, Yamamoto J. Descriptive study of gallbladder, extrahepatic bile duct, and ampullary cancers in the United States, 1997-2002. *Cancer Causes Control*. 2007;18(4):415-422. doi:10.1007/s10552-006-0109-4
3. Kim JH, Kim MJ, Chung JJ, Lee WJ, Yoo HS, Lee JT. Differential diagnosis of periampullary carcinomas at MR imaging. *Radiographics*. 2002;22(6):1335-1352. doi:10.1148/rg.226025060
4. Nikolaidis P, Hammond NA, Day K, et al. Imaging features of benign and malignant ampullary and periampullary lesions. *Radiographics*. 2014;34(3):624-641. doi:10.1148/rg.343125191
5. Jang KM, Kim SH, Lee SJ, Park HJ, Choi D, Hwang J. Added value of diffusion-weighted MR imaging in the diagnosis of ampullary carcinoma. *Radiology*. 2013;266(2):491-501. doi:10.1148/radiol.12121106