

Introduction

Pancreatic Adenocarcinoma (PA) is one of the most common malignancies that carries high morbidity and mortality. PA very infrequently metastasizes to the colon because of its retroperitoneal anatomy. PA with metachronous metastasis to the colon is extremely rare and must be considered when colonic lesions are discovered.

Case Description

A 67-year-old white male with history of tobacco abuse presented with chief complaint of painless jaundice. Labs showed elevated CA 19-9. Computed Tomography (CT) & MRCP showed biliary and pancreatic ductal dilatation. An endoscopic ultrasound revealed a 2.8 cm pancreatic head mass. Pathology revealed PA. The patient elected to have a pancreaticoduodenectomy, which showed invasive adenocarcinoma, pancreaticobiliary type. The patient tolerated surgery well. He elected to forego adjuvant chemotherapy.

One year later, he presented with abdominal pain. A CT showed wall thickening of the right colon. CA 19-9 was again elevated. He underwent an exploratory laparotomy with right hemicolectomy for a right colon mass. Surgical pathology showed metastatic PA confirmed with Cytokeratin 7 (CK7) and CA 19-9. He recovered from surgery and received adjuvant chemotherapy with Gemcitabine.

6 months later he presented again with abdominal pain and constipation. A CT showed diffuse sigmoid colitis. He underwent exploratory laparotomy with resection of a sigmoid mass. Surgical pathology showed metastatic PA with CK7 and CA 19-9 expression. Chemotherapy was stopped and the patient was transitioned to hospice.

Discussion

PA is one of the most common and deadly cancers affecting both men and women. It ranks as the fourth most deadly cancer in the US. Early-stage PA is asymptomatic, and many patients are diagnosed with advanced disease. Common areas of metastasis include lymph nodes, liver, and peritoneum; with the lung, pleura, and bone less commonly involved.

However, the pancreas is located deep within the retroperitoneum and PA has the ability to infiltrate neurovasculature that supply the GI tract.

Cytokeratin 7 is a protein expressed in epithelial cells of the pancreas but not the colon. Therefore, its positivity was key to confirming a diagnosis of PA metastasis.

Since 1979, there have been ten case reports of PA with metastasis to the colon reported in the literature, three of which had metachronous colonic disease and the remaining having synchronous lesions. This is the first case of multiple metachronous colon lesions from PA.

Case	Year	Tumor Location	Presentation	Timing
Welch et al.	1979	Pancreatic tail to splenic flexure	Abdominal pain, weight loss, constipation	Synchronous
Tresadern	1981	Pancreatic head to transverse colon	Jaundice, abdominal pain, constipation, perforation	Synchronous
Slam et al.	2007	Pancreatic tail to splenic flexure	Abdominal pain, distention, nausea, perforation	Synchronous
Bellows et al.	2009	Unspecified pancreatic to ascending colon	Intermittent abdominal pain, weight loss	Synchronous
Griffin et al.	2012	Pancreatic tail to descending colon	Abdominal pain, distention, vomiting, weight loss	Synchronous
Ogu et al.	2012	Unspecified pancreatic to sigmoid colon	Constipation, intermittent abdominal pain	Metachronous; 2 years later
Inada et al.	2013	Pancreatic Head to ascending colon	Abdominal pain, distention	Metachronous; 7 years later
Kim et al.	2015	Pancreatic tail to cecum	Abdominal pain, distention	Metachronous; 2 years later
George et al.	2017	Pancreatic head to sigmoid colon	Abdominal pain, early satiety, weight loss	Synchronous
Nogueira et al.	2018	Pancreatic tail to sigmoid colon	Abdominal pain, perforation	Synchronous
Kelley et al.	2019	Pancreatic tail to sigmoid colon	Abdominal pain, constipation	Synchronous
Mansour et al (current case)	2022	Pancreatic head to ascending colon and sigmoid	Abdominal pain, constipation, nausea, vomiting	Metachronous; 1 year later (ascending), 1.5 years later (sigmoid)

Table 1: Summary of the literature regarding pancreatic cancer with metastasis to the colon.

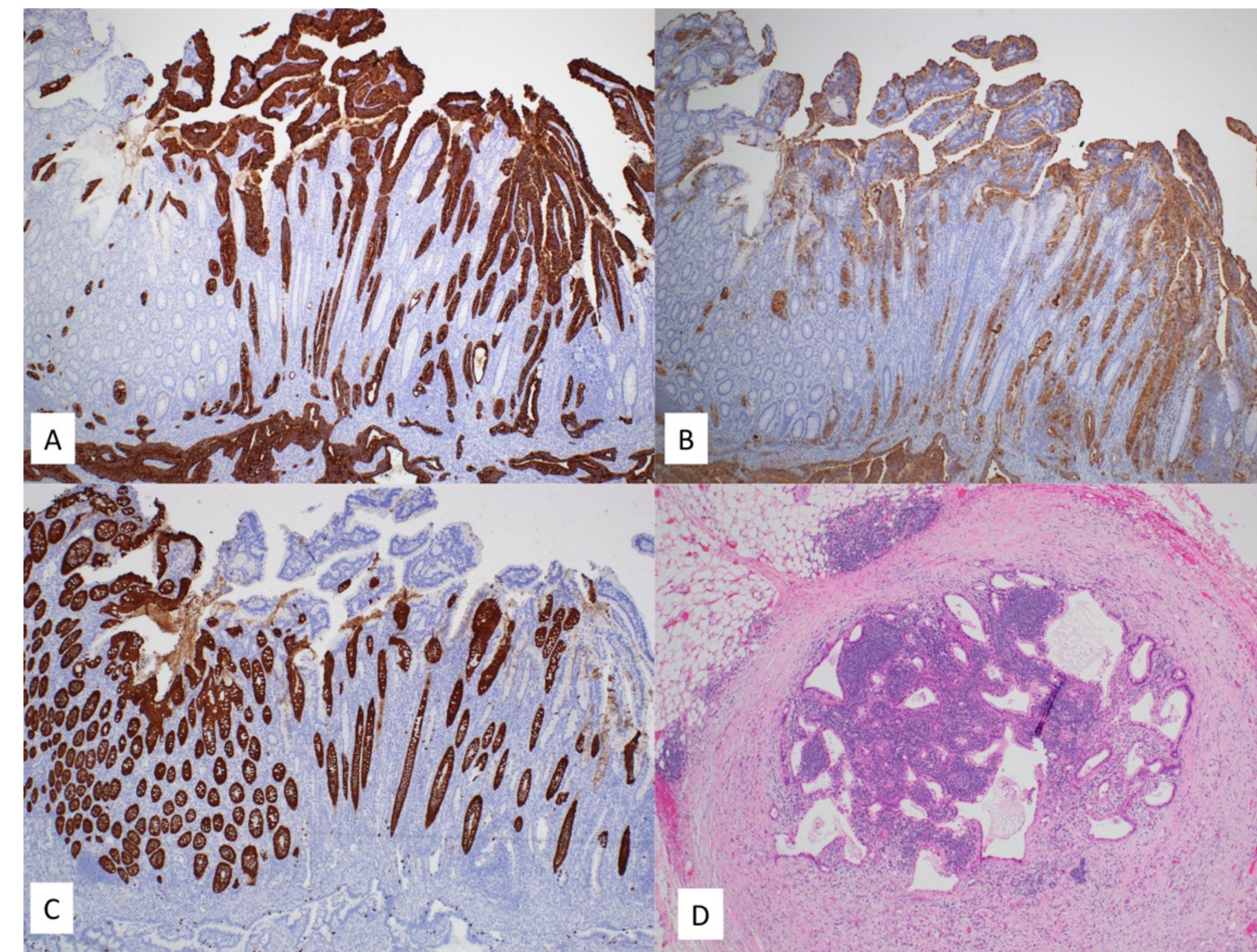


Figure 1: A) Cytokeratin 7 is expressed in the neoplastic cells. B) CA19-9 is expressed in the neoplastic cells. C) Villin is expressed in the background benign colonic mucosa. D) A lymph node with metastatic adenocarcinoma.

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