Pancreatic colloid carcinoma with background intraductal papillary mucinous neoplasm: A case report

Maren Downing, DO, MEng[1], Jessica Lu, MS[2], Arielle Worth, DO[1], Kwan Lau, MD[3]

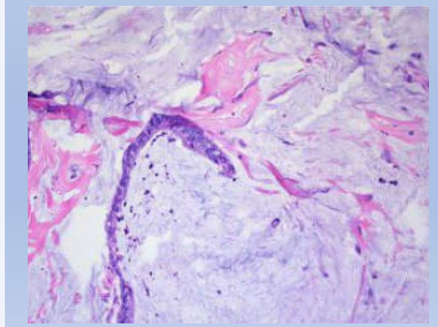
INTRODUCTION

Pancreatic colloid carcinoma, also known as mucinous noncystic carcinoma, is a type of invasive pancreatic ductal adenocarcinoma (PDA) that represents less than 1% of pancreatic tumors.[1,2] It can be commonly misdiagnosed as a mucinous cystadenocarcinoma.

There are two types of invasive PDA that arise in the setting of IPMN: tubular reflecting a pancreatobiliary type that is usually smaller at presentation; and colloid reflecting an intestinal type that can be up to 16cm in size at presentation.[3,4] Colloid carcinoma in the background of an IPMN has a superior prognosis to that of a standard pancreatic ductal adenocarcinoma with a 5-year survival rate of 40-60% instead of 10-25% which is due to its lower rate of advanced T stage, metastasis, and neurovascular invasion.[3] Due to its rarity, there is still a paucity of data regarding specifics for prognostic indicators or treatment recommendations and patient outcomes.

We present a case of colloid carcinoma originally suggestive of IPMN on preoperative imaging with a suspected poor prognosis.

PATHOLOGY



Postoperative histopathological imaging is shown here. The mass was determined to be a colloid carcinoma measuring 6.3cm in greatest dimension along with background IPMN and chronic pancreatitis at the margins, making the tumor staging pT3pN0. Nine lymph nodes were removed, all negative for metastasis.

CASE REPORT

The patient is a 63 year old male with a past medical history of hypertension and elevated prostate specific antigen (PSA) who initially presented to the hospital with abdominal pain localized to the epigastric region and jaundice. Significant symptoms included a one year history of pale stools and changes in his bowel habits with feelings of malaise for months unable to get appropriate workup due to insurance issues. His family history was significant for pancreatic cancer in his mother. Labs significant for a total bilirubin of 8.5, direct bilirubin 6.53, alkaline phosphatase 547, AST 257, ALT 625, with imaging concerning for malignancy. CEA was 3.2 and CA 19-9 157.

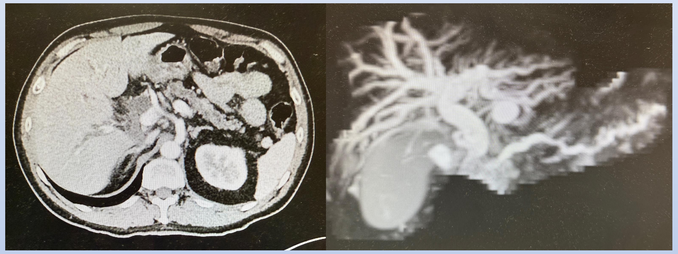


Figure: (a) CT abdomen and pelvis showing a low attenuating heterogeneous mass in the pancreatic head measuring 4.4 x 4.3 x 3.8 cm concerning for neoplasm with dilation of the pancreatic duct and both intra and extrahepatic biliary ducts. (b) MRCP showing a complex cystic-solid mass measuring 4.9x4x3.8 cm with mass effect on the CBD and pancreatic duct dilation to 4mm at its tail.

He underwent ERCP and EUS for biliary stent placement and biopsy. CBD brushings showed rare atypical cells in the background of mucin. On ERCP, a severe CBD stricture was seen with upstream biliary dilation and a patulous papilla with mucin extrusion. A biliary sphincterotomy and stricture dilation was performed with a fully covered metal stent placed. It was found that there was near abutment of SMV and portal vein and no involvement of the SMA.

After a multidisciplinary discussion, the patient was scheduled for a pancreaticoduodenectomy. Intraoperatively, multifocal ductal involvement was found with positive pancreatic margins on frozen section and thus a total pancreatectomy and splenectomy were performed. On most recent follow up, PET/CT showed no evidence of disease recurrence and he remains on surveillance.

DISCUSSION

Despite its malignant classification, the relatively favorable prognosis associated with resected pancreatic colloid carcinoma supports surgical management when feasible and this case supports that. There is no established adjuvant chemotherapy regimen for pancreatic colloid carcinoma due to the rarity of the disease. Timely and accurate diagnosis of colloid carcinoma can provide patients with a better initial prognosis, and guide management decisions, while also preventing any treatment delays or inappropriate referrals for hospice.[5] Due to its unique pathology and absence of large prospective studies, there are no formal guidelines for management or surveillance imaging.

While most pancreatic cancers receive adjuvant chemotherapy, our patient did not due to personal choice. This case highlights the need for greater understanding of pancreatic colloid carcinoma to better guide adjuvant therapy, surveillance, and goal directed care discussions.

REFERENCES

[1] Orcutt, S. T., Coppola, D., & Hodul, P. J. (2016). Colloid carcinoma of the pancreas: case report and review of the literature. *Case Reports in Pancreatic Cancer*, *2*(1), 40-45.
[2] Yasuoka, H., Kato, H., Asano, Y., Ito, M., Arakawa, S., Kawabe, N., ... & Horiguchi, A. (2022). Two cases of pancreatic colloid carcinoma with different pathogenesis: case report and review of the literature. *Clinical Journal of Gastroenterology*, *15*(3), 649-661.
[3] Poultsides, G. A., Reddy, S., Cameron, J. L., Hruban, R. H., Pawlik, T. M., Ahuja, N., ... & Wolfgang, C. L. (2010). Histopathologic basis for the favorable survival after resection of intraductal papillary mucinous neoplasm-associated invasive adenocarcinoma of the pancreas. *Annals of surgery*, *251*(3), 470-476.
[4] Gao, Y., Zhu, Y. Y., & Yuan, Z. (2015). Colloid (mucinous non-cystic) carcinoma of the pancreas: a case report. *Oncology letters*, *10*(5), 3195-3198.
[5] Zeh, R., Beal, E. W., Noonan, A., & Cloyd, J. M. (2023). From hospice to hope: colloid carcinoma of the pancreas. *The American Surgeon™*, *89*(4), 1104-1106.

AUTHORS

[1]Philadelphia College of Osteopathic Medicine, Philadelphia, PA
[2]Drexel University, College of Medicine, Philadelphia, PA
[3]AtlantiCare Regional Medical Center, Atlantic City, NJ