VIDEO CASE REPORT

High-risk main-duct intraductal papillary mucinous neoplasm successfully treated with EUS-guided chemoablation

Kayla M. Hartz, DO, Matthew E. B. Dixon, MD, John Levenick, MD, Matthew T. Moyer, MD, MS, FASGE

Pancreatic cancer is one of the most lethal malignancies, and at least 20% of these cancers stem from progression of mucinous-type pancreatic cysts.[1,2] Until recently, the only widely accepted options for managing mucinous pancreatic cysts were indefinite radiographic surveillance or invasive surgical resection, both with significant limitations.[3-5] EUS-guided chemoablation is a rapidly evolving technique, allowing 50% to 79% rates of complete ablation in appropriately selected patients.[3,6-8] Main duct intraductal papillary mucinous neoplasms (IPMNs) with high-risk features have been excluded from most ablation trials to date, and no reports of main-duct ablation can be found in a literature search.

A 67-year-old man with heart failure presented to our facility for assessment of a cystic mass lesion in the pancreas. EUS-FNA showed high-risk features, and cytopathology results were consistent with IPMN. Enhanced CT scan showed dilation of the main pancreatic duct as seen in Video 1 (available online at www.VideoGIE.org; and Fig. 1). The patient was considered a high-risk surgical candidate given his cardiovascular history. Because of the success and safety of alcohol-free EUS-guided chemoablation at our institution, this option was considered.

EUS showed that the IPMN was notable for a dilated main duct beginning in the mid-body and extending to the tail, with notable high-risk features of thick walls and mural nodules (Fig. 2). A 19-gauge FNA needle was introduced, and 10 mL of mucinous fluid was aspirated, whereupon the same amount of a gemcitabine-paclitaxel mixture was injected, filling the main duct to the original dimensions, shown in Video 1 (available online at www.VideoGIE.org). The patient tolerated the procedure well, except for mild pancreatitis that required inpatient observation before discharge. The patient was evaluated in the emergency department for an orthopedic trauma 2 months later. CT showed inflammatory changes in the body and tail of the pancreas, and the patient was given a course of oral antibiotics. A scheduled second ablation was performed

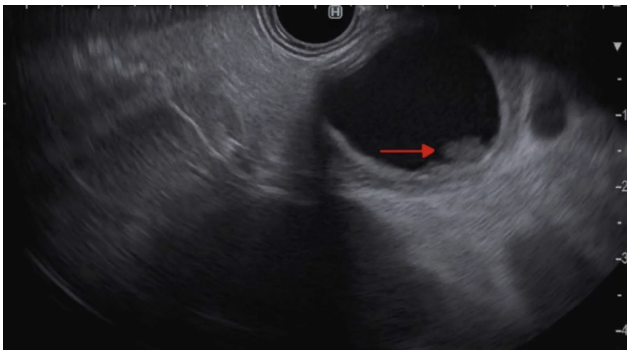

Figure 2. EUS shows that the intraductal papillary mucinous neoplasm extends from the mid-body to the tail; *red arrows* highlight marked dilation of over 1 cm with thick walls and several epithelial-type mural nodules present.

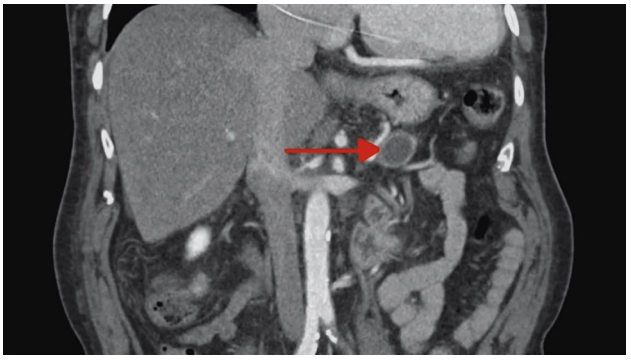

Figure 1. Initial enhanced CT scan showed dilation of the main pancreatic duct (*red arrows*) in the body and tail, measuring 18 mm in diameter without clear solid mass or pathologic lymphadenopathy.

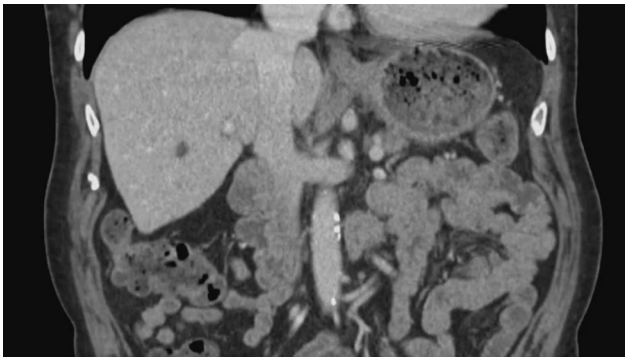

Figure 3. Follow-up enhanced CT scan 6 months after initial chemoablation showed excellent results from the ablation. No radiographic evidence of the intraductal papillary mucinous neoplasm was visible.

at 3 months but only showed inflammatory changes that could not be aspirated.

Follow-up CT scan 6 months after the initial chemoablation showed no radiographic evidence of the IPMN (Fig. 3). The patient has remained asymptomatic. Our long-term follow-up plan is repeat CT scans, basic laboratory workup, and tumor marker evaluation every 6 months for the first year. If signs of complete ablation remain stable, surveillance with CT scan and tumor markers will be done annually.

Main-duct IPMN has been a contraindication to alcohol-based ablation because of the potential of causing severe pancreatitis. The advent of alcohol-free ablation has demonstrated significantly increased safety, and this case is an example of successful EUS-guided chemoablation of a main duct IPMN with multiple high-risk features. Although no broad conclusion should be drawn from one case, this does suggest that alcohol-free chemoablation of main-duct IPMN may be considered in highly selective cases in which surgical risks are prohibitive.

DISCLOSURE

Dr Levenick is a consultant for ERBE. Dr Moyer is a consultant for Boston Scientific. All other authors disclosed no financial relationships. Dr Moyer's pancreatic chemoablation research is funded by the Dr. Anna F. Fakadej research fund as well as the NIH, neither of which were used in this case.

Abbreviation: IPMN, intraductal papillary mucinous neoplasm.

REFERENCES

1. American Cancer Society. Cancer facts & figures 2019. Atlanta: American Cancer Society; 2019.
2. Ryan DP, Hong TS, Bardeesy N. Pancreatic adenocarcinoma. N Engl J Med 2014;371:1039-49.
3. Canakis A, Law R, Baron T. An updated review on ablative treatment of pancreatic cyst lesions. Gastrointest Endosc 2020;91:520-6.
4. Amini N, Spolverato G, Kim Y, et al. Trends in hospital volume and failure to rescue for pancreatic surgery. J Gastrointest Sur 2015;19:1581-92.
5. Clancy TE. Surgery for pancreatic cancer. Hematol Oncol Clin North Am 2015;29:701-16.
6. Moyer MT, Sharzehi S, Mathew A, et al. The safety and efficacy of an alcohol-free pancreatic cyst ablation protocol. Gastroenterology 2017;153:1295-303.
7. Moyer MT, Maranki JL, DeWitt JM. EUS-guided pancreatic cyst ablation: a clinical and technical review. Curr Gastroenterol Rep 2019;21:19.
8. Cho MK, Choi JH, Seo DW. Endoscopic ultrasound-guided ablation therapy for pancreatic cysts. Endosc Ultrasound 2015;4:293.

Penn State Hershey Medical Center, Hershey, Pennsylvania.

https://doi.org/10.1016/j.vgie.2020.07.022