The spectrum of confocal endomicroscopy findings in a cystic neuroendocrine tumor of the pancreas

A 60-year-old man was found to have an incidental pancreatic cystic lesion during surveillance magnetic resonance imaging (MRI) for a known left renal lesion. Endoscopic ultrasound (EUS) revealed a cystic lesion (2.6 x 2.0 cm) with a single thick septum in the pancreatic tail (▶ Video 1). Needle-based confocal laser endomicroscopy (nCLE) of this lesion was performed with an AQ-Flex-19 miniprobe (Cellvizio; Mauna Kea Technologies Inc., Paris, France). This demonstrated nests of cells surrounded by fibrous septa and vascularity, suggestive of a cystic pancreatic neuroendocrine tumor (PNET) (▶ Fig. 1).

A pattern of vacuolization was also observed (▶ Fig. 2a; ▶ Video 1). Fine needle aspiration (FNA) with immunostaining of the sample obtained confirmed the diagnosis of a well-differentiated PNET. The presence of these globules has been described in PNETs and solid pseudopapillary tumors, with the descriptive appearance of cytoplasmic vacuolation [1, 2]. A similar pattern has been attributed to the presence of cytoplasmic lipid, which is more common in cystic NETs [3].

The EUS-nCLE findings so far described in cystic PNETs include a trabecular network of dark cells with surrounding fibrosis and vascularity [4, 5]. This case presents a unique recurring feature of vacuolization that correlated with a comparable histopathological pattern. This spectrum of nCLE image patterns for cystic NETs can further assist in the differentiation of pancreatic cystic lesions. Endoscopy_UCTN_Code_CCL_1AF_2AZ

Competing interests
None

The authors
Anjuli K. Luthra1, Christina A. Arnold2, Andrei V. Manilchuk3, Somashekar G. Krishna1
1 Division of Gastroenterology, Hepatology and Nutrition, Ohio State University Wexner Medical Center, Columbus, Ohio, USA
2 Department of Pathology, Ohio State University, Columbus, Ohio, USA
3 Division of General and Gastrointestinal Surgery, Ohio State University Wexner Medical Center, Columbus, Ohio, USA

Corresponding author
Somashekar G. Krishna, MD, MPH
395 W. 12th Avenue, 2nd floor, Division of Gastroenterology, Hepatology and Nutrition, Columbus, Ohio, USA
Fax: +1-614-293-8518
sgkrishna@gmail.com

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The pancreatic cystic lesion seen on: a endoscopic ultrasound needle-based confocal laser endomicroscopy showing a unique pattern of vacuolization intermixed with dark nests of cells; b hematoxylin and eosin staining of the resected specimen (magnification × 400) showing intracytoplasmic globules (arrows) within the cords of tumor cells. Salt-and-pepper type chromatin, characteristic of neuroendocrine neoplasms is also seen.

Appearance of the resected specimen: a on gross examination, showing a pancreatic tail mass consisting of collapsed cystic areas (asterisks) not in communication with the pancreatic duct (arrow); b on immunostaining with synaptophysin, showing diffuse reactivity of the tumor cells, supporting the diagnosis of a well-differentiated neuroendocrine tumor. Chromogranin was also reactive (not shown); Ki67 was 3% and zero mitoses were seen per 10 high-power fields, in keeping with a WHO grade 2 neuroendocrine tumor.

References


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