Endoscopic ultrasound-guided fine needle biopsy of pancreatic metastasis from Merkel cell carcinoma

Merkel cell carcinoma (MCC) is a rare and aggressive cutaneous neuroendocrine carcinoma. The incidence rate is approximately 0.3–0.6/100,000 per year [1, 2]. At initial presentation most patients with MCC (70%–80%) have localized disease, and only a few (1%–4%) have distant metastases [3]. Moreover, MCC rarely metastasizes to the pancreas, therefore this represents a challenge for the differential diagnosis of pancreatic masses [4].

A 73-year-old man reported epigastric pain and vomiting. The patient’s history included a diagnosis of an MCC, which had been removed from his left elbow 7 months before the onset of his upper gastrointestinal symptoms. His laboratory findings were unremarkable. An abdominal computed tomography (CT) scan showed a lesion infiltrating the common bile duct (CBD) and dilatation upstream of the lesion. This lesion, with irregular margins, appeared to be infiltrating the portal confluence.

The patient underwent an endoscopic ultrasound (EUS), which confirmed a 3-cm hypoechoic, heterogeneous, irregular mass with evidence of invasion of the portal confluence (● Fig. 2; ● Video 1). Three needle passes were performed with a 22-gauge ProCore needle (Cook Medical, Winston-Salem, North Carolina, USA) using a “fanning” technique followed by slow withdrawal of the stylet (● Video 2). Cytohistological evaluation of the samples revealed small blue, round-to-oval cells with stippled chromatin (● Fig. 3a). The cells were positive for CK20, synaptophysin, and chromogranin, and had a Ki-67 index of >60%, suggestive of pancreatic metastasis from MCC (● Fig. 3b).
In this specific case, the EUS features of the pancreatic metastasis from MMC mimicked a classic adenocarcinoma. Moreover, this neoplasm showed few specific cytologic features as the same small blue, round-to-oval cells can also be seen in lymphoma or small cell carcinoma [5]. Given that CK20 is a pathognomonic marker of MCC [4,5], obtaining an adequate tissue sample for immunohistochemical evaluation with the use of an EUS-guided histology needle was key for making the differential diagnosis. To the best of our knowledge, there are no other reports in the international literature of a pancreatic metastasis from MCC being diagnosed by EUS-FNB.

**Competing interests:** None