Primary pancreatic lymphoma: endoscopic ultrasound-guided Trucut biopsy to the rescue!

Fig. 1 Biphasic abdominal computed tomographic images revealed a poorly defined mass at the junction of the body and the head of the pancreas that measured 4.5 cm in diameter, and an incidental hepatic cyst.

A 64-year-old diabetic woman presented with a 1-week history of abdominal pain and cholestatic jaundice. Her laboratory tests showed: leukocyte count $7.2 \times 10^9/L$ (normal range $3.5 - 10.5 \times 10^9/L$), total bilirubin $10.5 \mu g/dL$ ($0.1 - 1.0 \mu g/dL$), aspartate aminotransferase (AST) 337 U/L ($12 - 31$ U/L), alanine aminotransferase (ALT) 624 U/L ($9 - 29$ U/L), alkaline phosphatase 724 U/L ($50 - 130$ U/L), lipase 24 U/L ($10 - 73$ U/L), CA 19-9 28 units/mL (< 55 units/mL) and IgG4 137 mg/dL ($8 - 140$ mg/dL). Abdominal computed tomography revealed a pancreatic head mass that was encasing the portal vein and common hepatic artery but sparing the superior mesenteric artery, with evidence of peripancreatic and portal lymphadenopathy; there was no evidence of hepatic or splenic involvement (► **Fig. 1**). Her chest radiograph was normal. Endoscopic ultrasound (EUS) revealed a 4.3-cm, echo-poor pancreatic head mass and a 1.4-cm (short axis) peripancreatic lymph node (► **Fig. 2, 3**). EUS-guided fine-needle aspiration (EUS-FNA) of the pancreatic head and of the peripancreatic lymph node was performed.

The patient was diagnosed with primary pancreatic lymphoma. EUS-FNA of the pancreatic mass revealed very unusual atypical large lymphocytes, an appearance suspicious of but not diagnostic for large B-cell lymphoma (► **Fig. 4**). A Trucut biopsy of a cytologically suspicious

Fig. 2 Linear endoscopic ultrasound revealed a solid, echo-poor mass involving the pancreatic head and body.

Fig. 3 Linear endoscopic ultrasound image of a large (1.4 cm) peripancreatic lymph node.

Fig. 4 A pancreatic fine-needle aspiration smear showing large, atypical, malignant lymphoid cells with scattered small lymphocytes (Papanicolaou stain, original magnification $\times 400$).

peripancreatic node confirmed the diagnosis (► **Fig. 5**). Immunoperoxidase studies of the Trucut biopsy tissue demonstrated large atypical lymphoid cells that were positive for CD45 and CD20 (► **Fig. 6**). The patient's bone marrow examination was normal.

Primary pancreatic lymphoma accounts for less than 1% of extranodal non-Hodg-

kin's lymphomas, of which 58% are of the large-cell type [1]. Diagnosis and subtyping can be achieved by EUS-FNA with adjuvant flow cytometry [2–4]. As EUS-FNA can fail to establish a definitive diagnosis of lymphoma, a Trucut biopsy can yield useful diagnostic and prognostic information, excluding carcinoma for example [5]. This case serves as a reminder that

Fig. 5 Histological examination of the Trucut biopsy of the lymph node showed sheets of non-cohesive, large neoplastic cells with necrosis (on the left of the image) (hematoxylin and eosin stain, original magnification × 400).

Fig. 6 Immunohistochemical staining showed the malignant cells to be positive for CD20 (original magnification × 400).

EUS Trucut biopsies can be useful as an adjunctive rescue technique when standard cytological techniques are inconclusive.

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