Pancreatic involvement in multiple myeloma (MM) is a rare event and can occur as a primary isolated form or as secondary manifestation of systemic disease. The endoscopic ultrasound (EUS) features of this entity have not been described.

A 64 year-old woman presenting with anemia, renal insufficiency, and multiple lytic bone lesions was diagnosed as having kappa light chain multiple myeloma. She was prescribed doxorubicin, dexamethasone, and thalidomide, and showed a good response. She then underwent autologous stem cell transplantation (ASCT) and stayed in remission for 9 months. Later, an abdominal ultrasound was performed for abnormal liver enzymes, and was suspicious for a pancreatic head mass. This was confirmed by abdominal computed tomography, which revealed a 35-mm pancreatic head mass (Fig. 1).

There was no evidence of biliary or pancreatic duct dilatation. CA 19.9 levels were normal. She was then referred to our institution for further evaluation. EUS with a linear echoendoscope (Olympus Medical Systems Corp., Tokyo, Japan) showed a 4-cm heterogeneous, overall hypoechoic pancreatic head mass. This lesion was in close proximity with the superior mesenteric vein just below the confluence, although the vascular adventitia appeared to be preserved (Fig. 2). The common bile duct was not dilated. EUS fine-needle aspiration (EUS-FNA) was carried out with a 22-gauge needle (Olympus Medical Systems Corp., Tokyo, Japan), with a total of three passes (Fig. 3).

The consistency of the mass was noted to be medium hard. FNA smears and cell-block sections showed a homogeneous plasma cell population with occasional multinucleated cells and discrete nuclear atypia. The cells were strongly immuno-reactive for CD38 and CD138 and negative for CD79a (Fig. 4).

Serum/urine electrophoresis and a myelogram did not show any evidence of relapse and the patient was referred for radiation therapy.

Extramedullary multiple myeloma (MM) involvement is not an uncommon presentation, occurring in 10%–15% of pa-
patients. To date, fewer than 30 cases of extramedullary plasmacytomas involving the pancreas have been reported [1], with an estimated prevalence rate of 2.3% based on autopsy studies [2]. Although the head of the pancreas is usually involved, with most cases reported as large masses (> 4 cm) presenting with obstructive jaundice, other pancreatic locations and diffuse involvement have also been described. When carried out for biliary obstruction, endoscopic retrograde cholangiopancreatography (ERCP) usually demonstrates smooth intrapancreatic biliary stenosis [3].

EUS-FNA has a proven record for staging pancreatic cancer and for cytological evaluation. About 6% of cytology results are "atypical", that is, they do not have features of pancreatic adenocarcinoma [5]. The cytological/histological diagnosis in the majority of cases reporting multiple myeloma of the pancreas have been based on surgical specimens/surgical biopsies, imaging-guided percutaneous biopsy, and postmortem evaluation. We could find only one report in which EUS had been carried out, although no description of the procedure or images were provided [6]. In summary, pancreatic mass in the setting of multiple myeloma, especially after ASCT, should alert the clinician to the possibility of extramedullary disease.

Competing interests: None

References

Bibliography
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Corresponding author
P. Pinto-Marques
Hospital da Luz – Gastroenterology
Av. Lusíada 100
Lisbon 1500-650
Portugal
Fax: +351-217104409
pmarques@hospitaldaluz.pt

Fig. 4 Cytological specimen. a Cellblock section (hematoxylin and eosin, magnification × 400). Uniform plasma cell population and discrete nuclear atypia. b Intense CD38 positive staining seen in virtually all cells. c Intense CD138 positive staining in 100% of plasma cells.