First experience of obtaining pancreatic tissue with a puncture biopsy forceps versus fine needle aspiration

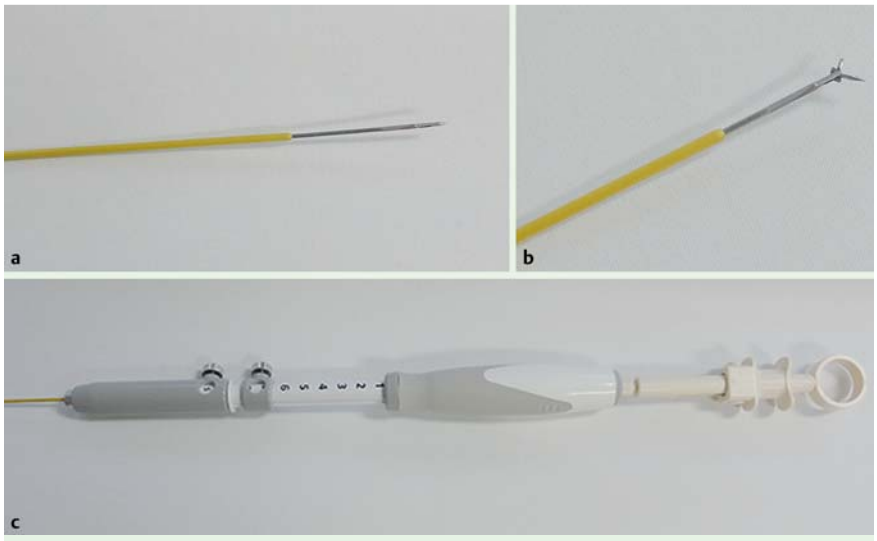

Fig. 1 The puncture biopsy forceps (PBF): **a** in closed position; **b** in opened position; **c** device handle.

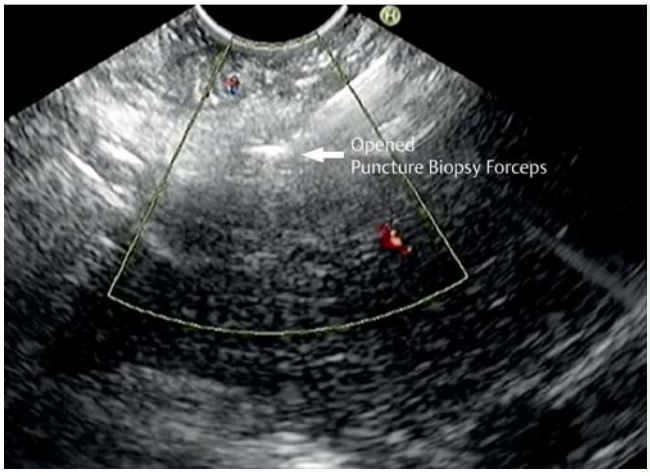

Fig. 2 Endoscopic ultrasound (EUS) image showing the puncture biopsy forceps (PBF) being used.

A 36-year-old woman presented with abdominal pain, steatorrhea, and weight loss of 8 kg. A computed tomography (CT) scan showed an enlarged pancreas with the characteristics of autoimmune pancreatitis (AIP). Because of the suspicion of an autoimmune pancreatitis, she was scheduled for endoscopic ultrasound (EUS) with a 19-gauge puncture biopsy forceps (PBF; MTW Endoskopie Manufaktur, Wesel, Germany) (**Fig. 1**) and conventional 22-gauge fine needle aspiration (FNA) needle (Cooke).

The EUS revealed no signs of chronic pancreatitis and her pancreatic duct was normal. We performed two passes with the FNA needle and took three biopsies with the new PBF, in both cases sampling the pancreatic body, which was reached through the gastric wall at the greater curvature of the body. No adverse events occurred.

The PBF was very sharp, which resulted in easy penetration of the gastric wall and pancreatic body. Additionally the entire needle and its opening were clearly visible on the ultrasound imaging (**Fig. 2**), allowing good precision of the biopsy location.

The PBF histology consisted of four small pieces of tissue up to 1 mm. The cut material showed acinar pancreatic tissue without any specific abnormalities (**Fig. 3**). The differences in terms of pathology between the PBF and FNA were:

(i) histology versus cytology, meaning that the material from the PBF could be assessed for tissue coherence and architecture;

(ii) material obtained with the PBF contained less contamination with blood and gastric mucosa, which promoted easier

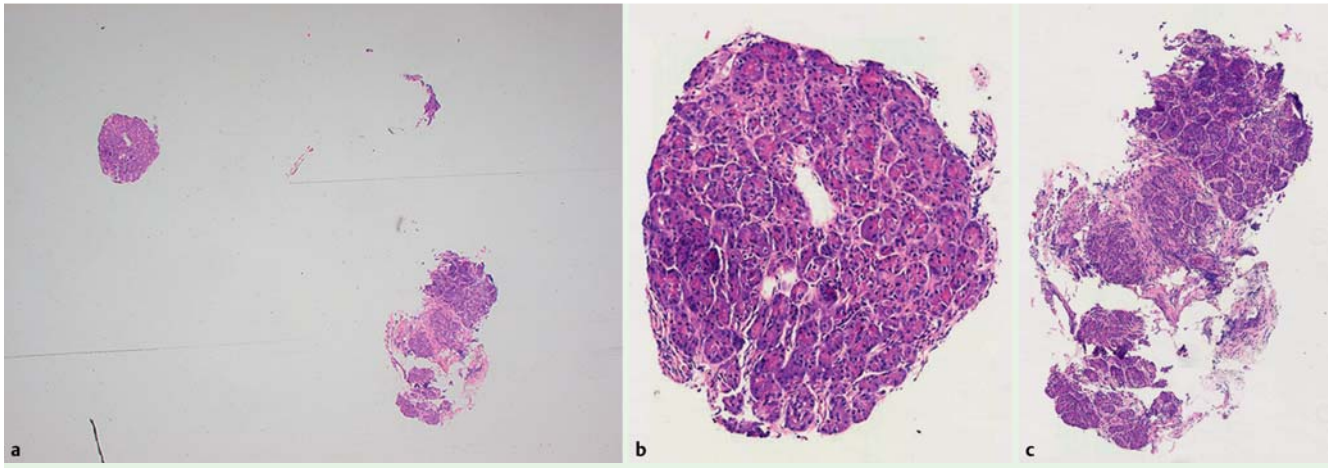

Fig. 3 Biopsies of pancreatic tissue obtained using the puncture biopsy forceps (PBF) and stained with hematoxylin and eosin (H&E) showing: **a** the overall appearance on low power view (original magnification × 12.5); **b, c** clearly visible tissue architecture on high power view (original magnification × 100).

and more accurate assessment of the biopsies.

The current standard method for obtaining pathology of the pancreas is EUS-guided FNA. A downside to this method is that cytology is obtained instead of material for histology, as can be obtained with the PBF. Several devices have been developed that aim to obtain histology through EUS, such as the core biopsy needle (CBN), for which studies have shown varying results [1 – 3].

In conclusion, our first experience with the PBF resulted in histopathology of the pancreas through a feasible instrument, which handles well and accurately. The PBF is a potential rival for core biopsy; however, more research and development is needed to position its use in the clinical setting.

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Competing interests: None

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