

Images in EUS

Pancreatic Adenocarcinoma with Early Intense Enhancement in Harmonic Contrast-Endoscopic Ultrasound and High Strain Ratio in Elastometry (with video)

Fabrice Caillol^{*}, Domenico Galasso, Erwan Bories, Christian Pesenti, Flora Poizat, Genevieve Monges, Marc Giovannini

GI Department and Endoscopic Unit, Paoli-Calmettes Institute, 232 Bd St-Marguerite, 13273 Marseille Cedex 9, France

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A 72-year old man was referred in May 2012 for exploration of a dilated bile and pancreatic duct which had occurred for 18 months without jaundice. He underwent left pancreatectomy for clear cell pancreatic adenocarcinoma in September 2003, after neoadjuvant radio-chemotherapy (45 Grays, 5 FU-Taxotere).

On performance of endoscopic ultrasound (EUS), a well-delimited hypo-echoic mass of 34-mm diameter was found (Fig. 1). The strain ration elastometry was 69 (Fig. 2) and the lesion presented early intense enhancement with harmonic contrast (CH-EUS) (video 1). Biopsy showed clear cell adenocarcinoma.

Elastography is a technique enabling tissue viewed with EUS to be assessed and, more recently, to have its elasticity quantified. Assessment of elasticity has shown that malignant mass is harder in elastography than benign mass.¹ More recently a quantitative elastography (elastometry) used a strain ratio to differentiate the stiffness of pathological and normal tissue. Iglesias-Garcia et al showed a cut-off of 6.04 between benign and malignant lesions, with benign lesions being softer. The same team also showed a cut-off of 26.03 between pancreatic adenocarcinoma and endocrine pancreatic cancer, with the former being softer.²

It has been established that normal pancreas has an iso-enhancement, a nodule of chronic pancreatitis an iso- or hypo-intense enhancement (depending on necrosis in the



Figure 1. Endosonography showed a well-delimited hypo-echoic mass of 34-mm diameter.

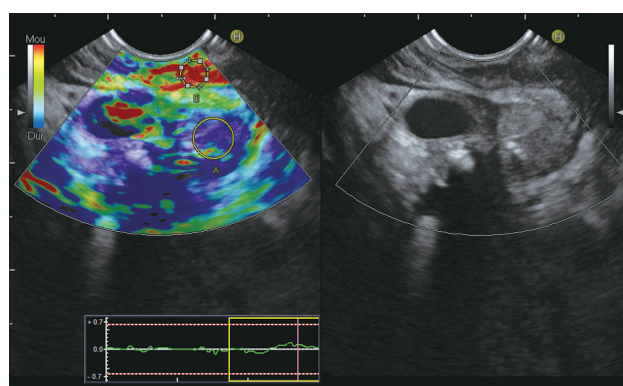


Figure 2. Contrast-harmonic endosonography presented intense enhancement of the mass and strain ration elastometry was 69.

*To whom correspondence should be addressed.

E-mail: fcaillol@free.fr

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nodule), adenocarcinoma a hypo-intense enhancement, while endocrine tumour has a hyper-intense enhancement compared to the pancreatic tissue around the lesion. These data have been confirmed with harmonic contrast enhancement.^{3,4}

The originality of this case is the description of pancreatic adenocarcinoma with a very high strain ratio and a hyper-intense enhancement. Pancreatic adenocarcinoma has not yet been described as a very hard mass. Above all, pancreatic adenocarcinoma has been described as a mass with hypo-intense harmonic enhancement and never as a mass with hyper-intense harmonic enhancement. As such, the case serves to highlight the fact that not all histologies are yet described in CH-EUS and elastography (clear cell

adenocarcinoma in this case).

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