

Does endoscopic ultrasound-guided fine-needle aspiration of pancreatic cystic lesions provides adequate material for cytology and biochemical analysis ?

Mavrogenis Georgios¹, Birgit Weynand², Alain Sibille¹, Gérald Longheval¹, Philippe Warzée¹

(1) Department of Gastroenterology, Grand Hôpital de Charleroi, Site Notre Dame, Charleroi, Belgium ; (2) Department of Pathology, Centre hospitalier universitaire de Mont-Godinne, Université Catholique de Louvain, Mont-Godinne, Yvoir, Belgium.

To the Editor,

Recent data suggest that endoscopic ultrasound (EUS)-guided fine needle aspiration (FNA) is of limited value in the management of pancreatic cysts (1).

In this prospective study endoscopic ultrasound (EUS)-guided FNA was done in 128 patients. Material was sent for cytology from 124/128 patients (96.8%). A classifying diagnosis was obtained in only 44/124 patients (35.4%). Sufficient fluid was available for biochemical analysis in 80/124 cases (64.5%) and analysis succeeded in 70/124 patients (56.4%). Given these results the authors concluded that EUS-FNA has a limited role in the diagnostic approach of pancreatic cysts.

In order to address the question whether EUS guided-FNA of pancreatic cysts provides sufficient material for cytology and laboratory analysis, a retrospective analysis was done of all EUS guided-FNA examinations for pancreatic cysts performed in our centre between the period 2000-2011. Characteristics of patients and cysts are shown in Table 1. A total of 68 patients were included (43 females, 25 males) with a median age of 63 years (range : 33-86). In total, 70 cysts were punctured. Eight were located at the uncinated process (11.4%), 30 at the head (42.9%), 24 at the corpus (34.3%) and 8 at the tail of the pancreas (11.4%). The median size of the cysts was 22.2 mm (range 4-68). In 10 out of 70 cases the cytological examination was not conclusive while in 60/70 (85.7%) of cases a cytological diagnosis was obtained (Table 2). Moreover, in 43/70 (61.4%) the pathologist could identify specific cytological criteria that further enhanced his diagnostic accuracy. Predictive factor of a conclusive cytological examination was a bigger cyst size (23.75 mm (range 4-68) versus 13.35 mm (range 8-31), $p = 0.023$, Mann-Whitney test, SPSS 17). Fluid biochemical analysis succeeded in 42/70 cases (60%).

Our data, are in accordance with a previous study published by Frossard *et al.* (2) who reported a classifying diagnosis in 98 out of 127 cases (77.1%) of pancreatic cysts by cytology, and suggest that the characterization of pancreatic cysts by EUS FNA is possible in the majority of patients. In addition, our data show that EUS FNA may contribute to the detection of a significant number of malignant cysts, since in 11.4 % of our cases the diagnosis of adenocarcinoma or neuroendocrine tumor was established by cytological analysis.

Table 1. — Evaluation of pancreatic cysts by endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) : characteristics of patients (n = 68) and cysts (n = 70)

Gender, female, n (%)	43 (63.2%)
Age, median (range), years	63 (33-86)
Cyst size, median (range), mm	22.2 (4-68)
Pancreatic location	
Uncinate process	8 (11.4%)
Head	30 (42.9%)
Corpus	24 (34.3%)
Tail	8 (11.4%)
Conclusive cytological examination	60 (85.7%)
Presence of specific cytological signs	43 (61.4%)
Sufficient fluid for biochemistry	42 (60%)

Table 2. — Cytological evaluation of the cysts (n = 70)

Pseudocyst	20 (28.5%)
Simple cyst	23 (32.8%)
Infected cyst	3 (4%)
Blood-filled cyst	3 (4%)
Mucinous cystadenoma	4 (5.7%)
Neuroendocrine tumor	1 (1.4%)
Adenocarcinoma	7 (10%)
Non classified	10 (14.2%)

The higher rate of sufficient material for cytological analysis found in our study may be attributed to several reasons : a) Collected samples were processed as liquid based cytological preparations (ThinPrep method) (3-6) b) Aspirated fluid was preferentially sent for cytological instead of laboratory analysis c) Cytological analysis was performed by a cytopathologist with a high volume experience in pancreatic fluid analysis.

Correspondence to : Philippe Warzée, M.D., Grand Hôpital de Charleroi, Site Notre Dame, 3 Grand Rue, 6000 Charleroi-Belgium.
E-mail : pwarzee@hotmail.com

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In conclusion, we believe that endoscopists should not be discouraged to use EUS FNA as a diagnostic tool in the management of pancreatic cysts. Bigger cyst size (> 13 mm), a successful treatment of the acquired fluid samples and the collaboration with an expert cytopathologist, may play a critical role to a successful cytological examination.

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