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Clinical Impact of Endoscopic Ultrasound Tissue Acquisition on Pancreatic Lesions ≤10mm

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BACKGROUND

Subcentimeter pancreatic lesions have variable malignant potential and are increasingly identified due to the widespread use of high-resolution cross-sectional imaging. The impact of EUS-guided tissue acquisition (EUS-TA) on management decisions in this population is not well characterized.

METHODS

We conducted a retrospective cohort study of patients who underwent EUS-TA for pancreatic lesions ≤10 mm over a 5-year period from 2020-2025. The primary outcome was a change in clinical management attributable to EUS-TA findings, defined as any alteration from the planned surveillance strategy, including surgical intervention (major impact) or discontinuation of surveillance (minor impact).

RESULTS

Eighty-seven patients underwent EUS evaluation of a total of 89 pancreatic lesions. TA identified malignant lesions in 53 cases (59.6%), most commonly pancreatic neuroendocrine tumors (PNET, n=41, 77.4% of malignant lesions), while 25 lesions (28.1%) were benign. TA was nondiagnostic in 11 cases (12.3%). EUS-TA findings did not alter management in 71 lesions (79.8%), for which continued surveillance was pursued. However, they changed management in 18 lesions (20.2%), including 12 lesions that underwent surgical resection (13.5%) and 6 in which surveillance was discontinued (6.7%). Among lesions managed with surveillance, mean follow-up was 1.96 ± 1.4 years. During follow-up, 13 lesions (18.3%) progressed in size, whereas 58 (81.7%) remained non-progressive, including lesions that remained stable, regressed, or resolved. EUS-TA was more likely to impact management when symptoms (9.8% vs 27.7%, p=0.047) or pancreatic duct abnormalities (5.6% vs 33.3%, p=0.004) were present. (Table 1). Among 12 surgically managed lesions, final surgical pathology changed the diagnosis in 3 cases (25%) (from PNET to benign, non-diagnostic to Intraductal Papillary Mucinous Neoplasm, and non-diagnostic to PNET). Four surgically resected lesions were confirmed as PNETs, all WHO grade 1, with Ki-67 indices ranging from 1.2% to 4.0%. Repeat EUS-guided sampling was required in 7 lesions (7.9%).

Table 1: Lesion and patient characteristics stratified by management impact after EUS-guided tissue acquisition

Variable	No effect on management N=71	Positive effect on management N=18	P value
Symptomatic presentation	7	5	0.047*
Pancreatic duct abnormality present	4	6	0.004*
Lesion size (>5mm)	66	17	1
Lesion location (head)	31	6	0.427
Lesion malignant on biopsy	44	9	0.424
Genetic syndrome	14	4	0.754
Personal history of pancreatic cancer	7	1	1

CONCLUSIONS

EUS-TA did not alter management in the majority of ≤10 mm in size. Symptomatic patient presentation and pancreatic duct abnormalities may designate lesions more likely to be clinically actionable.

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