

Endoscopic ultrasound-guided needle confocal laser endomicroscopy in pancreatic masses

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Introduction: Endoscopic ultrasound (EUS) is an established tool in diagnosing pancreatic masses and enables guided fine-needle aspiration (FNA). Confocal laser endomicroscopy (CLE) has allowed *in vivo* microscopic analysis during on-going endoscopy. Recently,

CLE has gone beyond luminal indications with the development of a new microprobe (nCLE). The aim of this case series was to study the feasibility of EUS-guided nCLE and to correlate the findings with microscopy.

Methods: A total of 25 patients with pancreatic masses were included. During the procedure, an nCLE fiber preloaded into a 19 gauge FNA needle was advanced into the lesion under EUS guidance. Fluorescein was administered intravenously and imaging performed. Afterwards EUS-FNA was performed in the same location. Safety and feasibility were evaluated and CLE structures were registered and correlated to the standard hematoxylin and eosin cytopathology specimens. Moreover, additional topical acriflavine-enhanced *ex vivo* examinations on fresh pancreatic specimens were conducted.

Results: EUS-guided nCLE procedures were accomplished in all patients. No adverse events were registered. Furthermore, it was feasible to do nCLE inside pathological lesions and relatively easy to visualize organ specific tissue. Despite selecting predefined structures the diagnostic value was limited mainly due to the missing ability to elucidate the cell nuclei, In the *ex vivo* examinations, where acriflavine was administered topically on excised pancreatic tissue, the nuclei were clearly visualized, thus increasing the diagnostic value.

Conclusion: EUS-guided nCLE procedures on focal pancreatic masses are feasible and safe, but the diagnostic value seems limited. Thus, further studies using different contrast agents are required to optimize the diagnostic accuracy.

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The authors declare: No significant relationship.