

## EDITORIAL

# Endoscopic Ultrasound-Guided Fine Needle Aspiration of Pancreatic Mass Lesions

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“To do a great right, do a little wrong”

By William Shakespeare

Endoscopic ultrasound (EUS) is the first choice modality for local staging of malignant pancreatic mass lesions [1, 2, 3]. EUS-guided fine needle aspiration (EUS-FNA) of pancreatic mass lesions (solid or cystic) is an excellent procedure, which many manuscripts revealed its feasibility, safety, and high diagnostic accuracy [4, 5]. The reported yield of EUS-FNA is about 90-95%, with an overall sensitivity and specificity of 90% and 100%, respectively. Several factors have impact on the EUS-FNA outcomes, such as the degree of technical difficulty, size and type of needle, endoscopic technique, use of suction to aspirate tissue, use of a stylet in the needle assembly, maneuvers to procure quality tissue, availability of an on-site cytopathologist, and, lastly, endosonographer's experience and skills who does the procedure [6, 7, 8].

Curvilinear array echoendoscopes (CLA-EUS) for EUS-FNA are produced by three leading manufacturers: Olympus (Olympus Medical Systems Inc., Tokyo, Japan), Pentax (Pentax, Tokyo, Japan) and Fujinon (Fujifilm Corp., Tokyo, Japan). The diameter of working channel should be at least 2.8 mm for passing needles and other accessories and all echoendoscopes have an elevator located on the handle side of the scope that is able to make moving and changes in the exit angle of the FNA needle to facilitate the targeting process [9, 10, 11].

Fundamentally, EUS-FNA be performed with 25G, 22G, or 19G stainless steel, aspiration needles through the biopsy port of an echoendoscope under real-time guidance into an EUS visualized mass lesion, lymph node, lesion within another organ, or fluid collection. Although there

are no convincing safety data showing any significant advantage between the three commonly used FNA needle gauges but it seems intuitive that a smaller needle that is easier to maneuver would lead to fewer complications over time [12].

The complication of EUS-FNA has been reported to be very low, ranging from 0% to 2%, except in cases of cystic lesions where a complication rate of up to 14% has been reported. The substantial complication of EUS-FNA for cystic lesions is infectious process, other complications reported with EUS-FNA are bleeding, pancreatitis, and perforation [13].

There is little data for comparison of EUS versus MRI in pancreatic cancer [14]. Although articles comparing CT to MRI for pancreatic masses show CT to currently has a slight advantage over MRI, it would be reasonable to presume EUS is superior to MRI at least for small masses. T staging of pancreatic cancer by EUS is correct in about 80-85% of time [15], which is similar to CT and MRI. EUS has singular advantages in staging of small tumors and lesions of the pancreatic head but has the disadvantage of being highly operator dependent and unable to see deep areas of mesenteric root and pancreatic-colonic interface.

Finally, rapid on-site evaluation (ROSE) for EUS-guided FNA of pancreatic mass lesions is critical to improve the diagnostic yield, decrease the number of patients who required a repeat procedure, decreases the number of needle passes, and consequently, reduces the time of procedure.

## Conflict of Interest

Authors declare to have no conflict of interest.

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