

Performance Characteristics of a New Flexible Nitinol 19-Gauge Endoscopic Ultrasound-Guided Fine Needle Aspiration Needle

Disaya Chavalitdhamrong and Peter V. Draganov

Division of Gastroenterology, Hepatology and Nutrition, Department of Internal Medicine, University of Florida College of Medicine, Gainesville, FL, USA

We would like to report out results with the use of new flexible nitinol 19 gauge (G) endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) needle. We studied the performance characteristics of this new EUS needle (Expect™ 19 Flex; Boston Scientific, Natick, MA, USA) in cases considered difficult to perform with traditional stainless steel 19 G needles. Inclusion criteria were 1) lesion in the pancreatic head, 2) nondiagnostic prior EUS-FNA, 3) subepithelial lesion in proximal stomach, and 4) passage of 0.035" wire needed to facilitate EUS-guided therapeutic procedure.

Ten EUS procedures were done in 10 patients. We experienced technical success in all patients (100%). Adequate for cytologic evaluation specimen was obtained by mean of 1.2 (range, 1 to 2) passes in all eight patients (100%: six pancreatic head mass, one prior nondiagnostic EUS-FNA, and one gastric subepithelial lesion). One pseudocyst drainage and one pancreatic duct drainage were both successful.

In one patient we were unable to achieve the final diagnosis despite the adequate specimen for evaluation by our cytologist. Of the seven cases in which final tissue diagnosis was achieved, FNA established the diagnosis in five (71%), and the remaining two required surgical biopsy. For all patients, the diagnostic yield of FNA was five out of eight (63%). Performance characteristics needle scores (1, best; 3, same; 5, worst compare with stainless steel 19 G needle) were passability through the scope 1.67 ± 0.5 , sharpness 1.55 ± 0.53 , visualization 2.22 ± 0.44 , durability 2.33 ± 0.71 , connection to the scope 2.44 ± 0.73 , ergonomics

2.44 ± 0.53 , and overall performance 1.89 ± 0.33 . There were no complications.

In summary, our findings further expand on the data reported by Varadarajulu *et al.*¹ We demonstrate that in cases considered difficult to perform with traditional stainless steel 19 G needles, the new flexible 19 G nitinol EUS needle provides high procedure success rate. In most cases requiring tissue sampling, cytologic diagnosis was achieved with a single needle pass. Performance characteristics of the new flexible needle were superior to the traditional 19 G needles, but the diagnostic yield remained the same. The limitations of our study are the subjectively-rated needle performance characteristics by one endoscopist and a small sample size. Further studies are required to better validate these findings and evaluate the new needle's abilities to obtain histologic samples.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCE

1. Varadarajulu S, Bang JY, Hebert-Magee S. Assessment of the technical performance of the flexible 19-gauge EUS-FNA needle. *Gastrointest Endosc* 2012;76:336-343.

Correspondence to: Disaya Chavalitdhamrong

Division of Gastroenterology, Hepatology and Nutrition, Department of Internal Medicine, University of Florida College of Medicine, 1600 SW Archer Rd, Gainesville, FL 32610, USA

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