

Endoscopic ultrasound-guided fine-needle aspiration using 22- and 25-gauge needles alternately

During endoscopic ultrasound (EUS)-guided fine-needle aspiration (FNA), the standard size of needle used is a 22-gauge needle. Larger needles have been used to obtain actual core tissue samples [1–3], but their has failed to significantly improve diagnostic accuracy for malignancy [2–4], except perhaps in the case of unusual histology [5]. On the contrary, a new, smaller-caliber (25-gauge) needle has been introduced to the market by Wilson-Cook Medical Inc. (Winston-Salem, North Carolina, USA). The purpose of this study was to compare the 22- and 25-gauge needles for adequacy of tissue acquisition and diagnostic yield.

The study was a retrospective review of all EUS-FNA procedures performed using 22- and 25-gauge needles alternately in the same patient. Of a total of 132 patients undergoing EUS, only 16 met the inclusion criteria. The mean age was 65.1 years. The cytotechnician was present during 75% of the procedures. The needle pass was considered by the endoscopist to be difficult in 37.5% vs. 25.0% of cases using the 22- and 25-gauge needles, respectively ($P=0.7$). The specimen adequacy rates were: cytologic 68.6 vs. 56.3 ($P=0.7$), and histologic 87.5% vs. 75.0% ($P=0.6$) with 22- and 25-gauge needles, respectively. Two patients were lost to follow-up. Out of the remaining 14 patients, a definitive diagnosis was obtained in 85.7% (22-gauge needle) and 50.0% (25-gauge needle) ($P=0.1$). When 22- and 25-gauge needles were combined,

the cytologic and histologic yields, as well as the definitive diagnosis, were higher (81.3%, 93.8%, and 92.9%, respectively). Hence, in conclusion we found no statistically significant difference between needle size despite a relatively easier pass with the 25-gauge needle and higher specimen adequacy and definitive diagnosis with the 22-gauge needle. Although we found the two needles to complement each other when used alternately in the same patient, the differences did not reach statistical significance due to the small number of cases. We recommend large prospective trials.

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Table 1 Comparison of 22- and 25-gauge needles with combined technique.

	22-gauge needle		25-gauge needle		Combined		P-value
	n/N	%	n/N	%	n/N	%	
Tissue yield	16/16	100	15/16	93.6	16/16	100	NS
Difficult needle pass	6/16	37.5	4/16	25.0	N/A		NS
Cytologic adequacy	11/16	68.6	9/16	56.3	13/16	81.3	NS
Histologic adequacy	14/16	87.5	12/16	75.0	15/16	93.8	NS
Definitive diagnosis	12/14	85.7	7/14	50.0	13/14	92.9	NS

N/A, not applicable; NS, not significant.