



EVALUATION OF THE NOVEL TAPERED TIP EUS-FNB NEEDLE: A UK MULTICENTRE STUDY

D Storan¹, A Hussenbux², R Allen³, T El Menabawey⁴, A McGowan³, M Huggett², J Leeds¹, K Oppong¹, M Nayar¹

1. Freeman Hospital, Newcastle Upon Tyne Hospitals NHS Foundation Trust, UK; 2. Leeds Teaching Hospitals NHS Trust, Leeds, UK;

3. Royal Infirmary of Edinburgh, Edinburgh, UK; 4. University College London Hospitals NHS Foundation Trust, London, UK

INTRODUCTION

A new core biopsy needle with a novel tapered stylet tip has been introduced for EUS-guided fine needle biopsy (FNB). This novel tapered point stylet (Fig. 1) is purported to improve ease of puncture leading to improved tissue acquisition and accuracy. However, there is no data available in the published literature.

The aim of this study was to compare the diagnostic performance of the tapered stylet needle with conventional fork tip FNB needles for tissue acquisition from solid lesions.

METHODS

Patients who underwent EUS-FNB of a solid lesion using the tapered tip stylet Acquire-S (Boston Scientific) needle across 4 tertiary HPB centres in the UK were included in the study.

Demographic, clinical & performance outcomes were included in the analysis. We compared this with a similar cohort of patients who underwent EUS-FNB as per standard of care using the Sharkcore FNB needle (Medtronic).

The primary outcome was accuracy for diagnosis of malignancy.

RESULTS

136 patients across four sites who underwent sampling with the novel Acquire-S needle were included for analysis while 49 control cases (Sharkcore FNB needle) were included for comparison.

Demographics and clinical characteristics are outlined in Table 1. Both groups had a similar demographic profile, lesion size, number of passes, and malignant pathology.

Variable	Acquire-S n=136	Control n=49
Female (%)	49	45
Age, mean (years)	66	65
Lesion site (%)		
Pancreas	72%	55%
Lymph node	7%	14%
Bile duct	6%	18%
Liver	3%	4%
Ampulla	4%	6%
Other	8%	3%
Lesion size, mean (mm)	27.5	27.9
Passes, mean	2.9	2.4
Final diagnosis malignancy (%)	78%	71%

Table 1. Demographics and clinical characteristics

CONCLUSION

The new Acquire-S needle with a novel tapered tip stylet demonstrated comparable tissue adequacy, sensitivity, NPV and diagnostic accuracy to conventional FNB needles.

Both needles demonstrated an excellent diagnostic performance with accuracy $\geq 90\%$. Performance outcomes for both needles were similar with no significant difference in tissue adequacy, sensitivity or diagnostic accuracy as outlined in Table 2.

Performance measure	Acquire-S	Control	p value
Tissue adequacy (%)	97%	92%	0.20
Sensitivity	90%	86%	0.53
NPV	70%	68%	0.53
Diagnostic accuracy	92%	90%	0.65

Table 2. Needle performance outcomes



Figure 1. Acquire-S needle with tapered stylet tip

These are the first reported results for this new needle. However, further large comparative studies are warranted to validate our results and to determine if the tapered stylet offers a true advantage over the conventional design.