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Title: EUS-FNA for mediastinal lesions of unknown aetiology: A 4-year experience from a single centre

Dr. Vinod S. 6151 Hegade vinodhegade@yahoo.com MD¹, Dr. Dinesh 6152 Saralaya Dinesh.Saralaya@bthft.nhs.uk MD², Dr. Abid 6153 Aziz Abid.Aziz@bthft.nhs.uk MD², Dr. Sarah 6154 Jowett Sarah.Jowett@bthft.nhs.uk MD¹ and Dr. Conrad 6155 Beckett Conrad.Beckett@bthft.nhs.uk MD¹.¹ Digestive Disease Centre, Bradford Teaching Hospitals NHS Foundation Trust, Bradford, United Kingdom and ² Department of Respiratory Medicine, Bradford Teaching Hospitals NHS Foundation Trust, Bradford, United Kingdom.

Body: Aim: Endoscopic ultrasound guided fine needle aspiration (EUS-FNA) allows access to the posterior mediastinum and tissue acquisition under real-time ultrasound guidance through the oesophageal wall. The aim of this study was to report the experience of mediastinal EUS-FNA in a large UK tertiary centre. Methods: The study included all patients who underwent mediastinal EUS-FNA in our institution from January 2008 to December 2011. Patient and procedure related data were collected from endoscopy reports. Cytology and microbiology culture reports were compared to the final clinical diagnoses made during the follow-up. We calculated sensitivity, specificity, positive and negative predictive value (PPV&NPV) of mediastinal EUS-FNA for most common conditions. Results: 195 patients (n=195, males 65%, mean age 58.6) underwent mediastinal EUS-FNA during the study period. Mean size of the lesions was 15.82mm (range 3.9-43) in short axis and 28.23mm (range 8-60) in long axis. Sub-carinal lymph nodes (LN) were the commonest (145/195, 70.3%) target lesion.

	EUS-FNA result	Final clinical	Sensitivity (%)	Specificity (%)	PPV	NPV
	(n)	diagnosis (n)	(95% CI)	(95% CI)	(%)	(%)
Malignancy	61	74	82.4 (71.4-89.9)	100	100	90.2
Sarcoidosis	40	49	83.3 (69.2-92)	99.3 (95.7-99.9)	97.5	94.8
Tuberculosis	15	24	62.5 (40.7-80.4)	98.8 (95.3-99.7)	88.2	94.9
Overall	116	147	79.4 (71.8-85.5)	93.8 (82.1-98.4)	97.4	60.5

Table 1: Overall and condition specific results of mediastinal EUS-FNA

Conclusion: Our large series shows that mediastinal EUS-FNA has high sensitivity and specificity for malignancy and sarcoidosis. With overall high sensitivity & specificity, it should be a useful tool in the

assessment of mediastinal pathology.