00712 EBUS-GS FOR MALIGNANT PERIPHERAL PULMONARY NODULES

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<B> Background. </B> Radial endobronchial ultrasound (R-EBUS) is a diagnostic modality recommended for peripheral pulmonary nodules (PPNs). Improvements in accuracy came about with the use of a guide sheath (GS) and efforts are underway to increase this further. This study aims to determine what factors other than those already known could affect diagnostic yield of EBUS-GS for peripheral pulmonary nodules.

<B> Methods. </B> This is a retrospective study involving malignant peripheral pulmonary lesions measuring <U> < </U>30mm that underwent diagnostic bronchoscopy from April 2012 to March 2013 at the National Cancer Center Hospital, Tokyo. Those without a definitive diagnosis after more than 6 months of follow-up were excluded.

All procedures of transbronchial sampling (biopsy, brush, washing) utilized fluoroscopy and EBUS with two sizes of guide sheaths and their corresponding sampling devices.

The diagnostic yield was computed and study variables pertaining to both the characteristics of the PPN and the EBUS-GS procedure were described and analyzed using logistic regression.

<B> Results. </B> Our study included 204 malignant PPNs with a mean diameter of 21± 5 mm in the major axis. Majority were solid nodules (56%) while 44% had ground glass opacity. Overall diagnostic yield was 71 percent. In logistic regression analysis, factors that significantly increased this yield further were shorter procedure time, EBUS-probe within, and central location of the PPN (Table 1). In a sub-group analysis, use of a larger size GS kit had a high diagnostic yield regardless of the location of the PPN while use of a smaller size GS kit had a significantly lower yield when the PPN was located adjacent to the pleura (57% vs. 81%, p< 0.05).

<B> Conclusion. </B> EBUS-GS is an acceptable procedure for malignant PPNs with a diagnostic yield of 71 percent. Aside from EBUS-probe within, other factors that increase this yield are shorter procedure time and central location of the lesion.

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Table 1. Diagnostic Yield of EBUS-GS for Malignant Peripheral Pulmonary Nodules (N=204)

	Success	Failure	Accuracy	Univariate	Multivariate
Age (years± SD)	68± 11	68± 9		0.855	-
Sex				0.262	-
Male	81	38			
Female	64	21			
Size in major axis (mm ± SD)	21± 5	21± 5		0.387	-
Procedure time (mins± SD)	23± 8	28± 7		<0.001	0.003
EBUS-probe				<0.001	<0.001
Within	97	21	82%		
Adjacent	42	18	70%		
Invisible	6	20	23%		
Nodule Character				0.936	-
Solid	82	33	71%		
GGO	63	26	71%		
Location				0.018	0.021
Peripheral	48	30	62%		
Central	97	29	77%		
GS size				0.785	-
Large	62	24	72%		
Small	83	35	70%		
Use of Needle				0.741	-
Yes	30	11	73%		
No	115	48	71%		
Number of tissue samples	5± 2	4± 2		0.03	0.346

EBUS-GS: Endobronchial Ultrasound with a Guide Sheath
p-value of <0.05 is significant.