



Role of Bronchoscopy in Tuberculosis

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ABSTRACT

The aim of this study was to assess the role of Bronchoscopy in plural effusion in tuberculosis condition. Pleural effusion is one of the commonest problems with which patients present to the hospital. Around a million patients worldwide develop pleural effusion each year. This is a Prospective and Observational Study. All patients diagnosed to have pleural effusion by xray, clinical examination and ultrasound examination of pleura if needed will undergo informed. All 16 patients underwent bronchoscopy procedure, We conclude that bronchoscopy has a definite role in the etiological diagnosis of pleural effusion.

KEYWORDS : Bronchoscopy, xray, Pleural effusion and Malignancy

I. INTRODUCTION

Flexible bronchoscopy is an invasive procedure that is utilized to visualize the nasal passages, pharynx, larynx, vocal cords, and tracheal bronchial tree. It is utilized for both the diagnosis and treatment of lung disorder[1].

In developing countries like India with a high incidence of tuberculosis, the commonest causes of pleural effusion include tuberculosis, neoplasia, congestive cardiac failure and pneumonia[2]. Many studies have reported that relatively large numbers of patients with pleural effusion in whom a definite diagnosis could not be made, despite extensive investigations[3,4].

Microbiological diagnosis is the main stay for the effective treatment of pulmonary tuberculosis .about 20 % of the new cases may be smear negative for AFB. Difficulties arise when a patient who is suspected of active tuberculosis, both clinically and radiologically, does not produce sputum or when it is available AFB may be negative. fibreoptic bronchoscopy offers a mean of investigation whereby bronchial secretion and washing can be collected from the most likely abnormal site under direct vision

II. MATERIALS AND METHODS

Ila. Experimental Design

Sixteen patients in the age group of 20-70 admitted in the unit of T.B and Pulmonary Medicine, Sri Ramachandra University, Porur, Chennai, Tamil Nadu for the study. The conducted study was a Prospective, Observational Study. This includes 10 were males and 6 were females. Patients demographic data, including sex, age, and mild to moderate effusion were recorded.

Ilb. Statistical Analysis

Data were analyzed using the SPSS software package, version 17.0 (SPSS Inc., Chicago, Illinois, USA). Quantitative data were expressed using range, mean, SD, and median, whereas qualitative data were expressed as frequency and percentage. P value was assumed to be statistically significant at 0.05.

III. ETHICAL CONCERN

Ethical clearance was obtained from the Ethical committee meeting conducted at Sri Ramachandra Medical College, Chennai, Tamil Nadu.

IV. RESULTS

1. Presentation according to SEX in Pleural effusion Tuberculosis Patients

SEX					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	60	75.0	75.0	75.0
	FEMALE	20	25.0	25.0	100.0
	Total	80	100.0	100.0	

TB: Out of 16 patients, 10 males are tuberculosis, 6 females are tuberculosis

2. Presentation according to Smokers in Pleural effusion Tuberculosis Patients

SMOKING H/O					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	60	75.0	75.0	75.0
	NO	20	25.0	25.0	100.0
	Total	80	100.0	100.0	

TB: Out of 16 tuberculous patients, 10 were smokers.

3. Presentation according to side of Effusion in Pleural effusion TB Patients

SIDE OF EFFUSION					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	RIGHT	60	62.5	62.5	62.5
	LEFT	30	37.5	37.5	100.0
	Total	80	100.0	100.0	

TB: out of 16, 10 right side effusion were tuberculosis and 6 left side effusion were tuberculosis.

4. CHEST XRAY FINDINGS IN VIEW OF TUBERCULOSIS

CHEST XRAY NO MEDIASTINAL SHIFT : TB					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	POSITIVE	4	5.0	5.0	5.0
	NEGATIVE	76	95.0	95.0	100.0
	Total	80	100.0	100.0	

Table :11
Out of 80 patients, 4(5%) patients had no mediastinal shift in chest xray.

CHEST XRAY MEDIASTINL SHIFT (OPP) : TB

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid POSITIVE	12	15.0	15.0	15.0
NEGATIVE	68	85.0	85.0	100.0
Total	80	100.0	100.0	

Table : 12
 Out of 80 patients, 12(15%) patients had mediastinal shift to opposite side in chest x-ray .

5.HISTORY OF HEMOPTYSIS IN VIEW OF TUBERCULOSIS

HISTORY OF HEMOPTYSIS :TB

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid NEGATIVE	80	100.0	100.0	100.0

Out of 80 patients, None of tuberculous patient had history of hemoptysis

6.FINAL DEFINITIVE DIAGNOSIS OF TUBERCULOSIS

FINAL DEFINITIVE DIAGNOSIS - TB

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid POSITIVE	16	20.0	20.0	20.0
NEGATIVE	64	80.0	80.0	100.0
Total	80	100.0	100.0	

Out of 80 patients, 16 patients are diagnosed as tuberculosis (20 %)

FINAL DEFINITIVE DIAGNOSIS - TB

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid POSITIVE	16	20.0	20.0	20.0
NEGATIVE	64	80.0	80.0	100.0
Total	80	100.0	100.0	

V. DISCUSSION

Out of 80 patients in my study, 16 patients were proved to be positive for tuberculosis (20%) by: Bronchial wash AFB and Bronchial Biopsy - 2 patients. Bronchial wash AFB and culture (GENE XPRT) - 10 patients Only Culture (GENE XPRT) - 6 patients Out of 16 patients who were diagnosed of tuberculous origin, 10 were males and 6 were females;10 had right side effusion and 6 had left side effusion ;all 10 male patients were smokers.

There was no history of hemoptysis among 16 tuberculous patients. Radiologically only 4 patients had no mediastinal shift and 12 patient had mediastinal shift to the opposite side. Out of 80 patients, 25 were Lymphocytic predominance, (TB): 12/16. chest xray and CT showed no parenchymal abnormality . P value : 0.001

As per tubercular pleural effusion is concerned the bronchoscopy yield was good .FOB can be used as diagnostic tool where cause is unknown .⁽⁵⁾

According to the present study lymphocytic predominance for tuberculosis was found to be high that is 12 among 16 TB patients had lymphocytic predominance which was proven similar to Gupta etal ⁽⁶⁾, which illustrates that in smear negative tubercular pleural effusion bronchoscopy leads to increased bacteriological yield and they recommended this procedure as it is a safe intervention so particularly in cases of pleural effusion where the fluid is exudative showing lymphocyte predominant pattern is useful to perform the fiberoptic bronchoscopy before going for an empirical tubercular therapy.

VI. CONCLUSION

We conclude that fiberoptic bronchoscopy has an important role in the diagnosis of patients suspected to have tuberculosis ,whose spu-

tum smears were negative or who could not produce sputum .It is useful and necessary in selected cases Bronchoscopy has a definite role in the etiological diagnosis of pleural effusion. In the present era of evidence based medicine we can go for a safer intervention like fiberoptic bronchoscopy if the cases of pleural fluid analysis are inconclusive.

REFERENCES:

1. Honeybourne D, Babb J, Bowie P, et al. British Thoracic Society guidelines on diagnostic flexible bronchoscopy. *Thorax* 2001;56:i1-i21
2. Valdes L, Alvarez D, Valle JM, Pose A, San Jose E. The aetiology of pleural effusions in an area with high incidence of tuberculosis. *Chest.* 1996; 109(1): 158- 62.
3. Storey DD, Dines DE, Coles DT. Pleural effusion. A diagnostic dilemma. *JAMA.* 1976; 236(19):2183-6.
4. Hirsch A, Ruffle P, Nebut M, Bignon J, Chretien J. Pleural effusion: laboratory tests in 300 cases. *Thorax.* 1979;34(1):106-12
5. Light RW. Pleural effusion. *N Engl J Med* 2002; 346:1971-7
6. K.B.Gupta ,Puneet Chopra. Use of fiberoptic bronchoscopy in increasing diagnostic yield in smear negative tubercular effusion .*Lung india* 2007;24:17-19.