



## A COMPARITIVE STUDY OF TBNA AND ENDOBRONCHIAL BIOPSY IN CASES OF ENDOBRONCHIAL LESIONS

### Pulmonary Medicine

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### ABSTRACT

**INTRODUCTION:** Transbronchial needle aspiration (TBNA) is a modality that allows the bronchoscopist to sample tissue from the deeper submucosa as well as from the close extra luminal areas of the endobronchial tree. The aim of this study is to report our experience in diagnostic utility of TBNA and its contributions to biopsy in visible endobronchial lesions.

**MATERIALS AND METHODS:** It is a prospective study taken up by the department of pulmonary medicine of SVS medical college and hospital, Mahabubnagar, Telangana. The study duration was from December 2015 to December 2016.

**RESULTS:** TBNA was exclusively diagnostic in 4 (30.7%) patients where 2 patients had peribronchial and 2 patients had intrabronchial lesion. TBNA was diagnostic in 100% cases. Biopsy was inconclusive in 2 cases and in 1 case biopsy could not be done due to excessive bleeding.

**CONCLUSION:** TBNA is a safe and complimentary tool for biopsy in the diagnosis of endobronchial lesions.

### KEYWORDS

Transbronchial needle aspiration, Lung cancer, Biopsy.

#### INTRODUCTION:

Trans bronchial needle aspiration (TBNA) is a modality that allows the bronchoscopist to sample tissue from the deeper sub mucosa as well as from the close extra luminal areas of the endo bronchial tree. TBNA is a beneficial, safe, and minimally invasive technique that was proved to be useful in the diagnosis and staging of lung cancer.<sup>1</sup>

However, only few studies<sup>2-7</sup> had addressed the diagnostic utility of TBNA in visible endo bronchial lung cancer. Moreover, despite that TBNA proved cost-effective diagnostic utility in visible malignant endo bronchial lesions<sup>8</sup>, studies evaluating that utility in developing countries are still lacking.

Lung cancer may present either as a parenchymal lesion or as endo bronchial disease. The latter may manifest as an exophytic mass lesion (EML), sub mucosal infiltration (sub mucosal disease, SD), or extrinsic compression from peri bronchial disease (PD)<sup>1,2</sup>. The impact of different characteristics of endo bronchial lesions (e.g., type, histo pathologic subtype, location) on the diagnostic utility of TBNA needs to be elucidated<sup>2,7</sup>.

#### AIM:

The aim of this study is to report our experience in diagnostic utility of TBNA and its contributions to biopsy in visible endo bronchial lesions.

#### MATERIALS AND METHODS:

It is a prospective study taken up by the department of pulmonary medicine of SVS medical college and hospital, Mahabubnagar, Telangana. The study duration was from December 2015 to December 2016. Total of 13 patients who had the preliminary diagnosis of lung cancer in whom EML, SD or PD was detected by routine FOB underwent TBNA in addition to the bronchoscopic biopsy and were prospectively enrolled into the study after taking the informed consent. The study was started after taking the approval of Institutional Ethics Committee, SVS medical college and hospital, Mahabubnagar, Telangana. The patients who were diagnosed to have malignancy were excluded from the study.

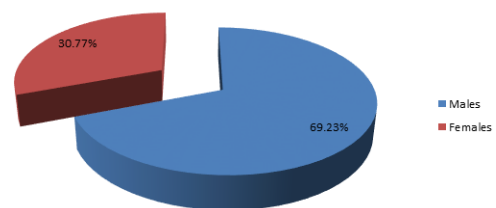
TBNA is a minimally invasive procedure that provides a nonsurgical means to diagnose and stage bronchogenic carcinoma by sampling the mediastinal lymph nodes. Applications of bronchoscopic needle aspiration have expanded to include not only sampling of paratracheal or mediastinal lymph nodes, but peripheral, submucosal, and

endobronchial lesions. The procedure allows for sampling tissue through the trachea or bronchial wall, and sampling of tissue beyond the vision of the dedicated operator.

#### OBSERVATIONS AND RESULTS:

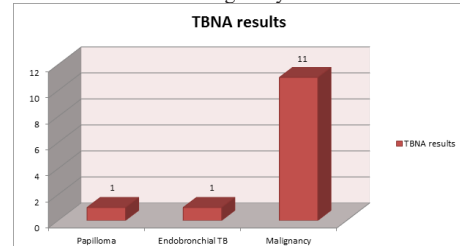
A total of 13 patients were enrolled out of which 9 were males and 4 were females. The mean age of the patients was 50.7 years.

**Gender distribution**



**Figure 1 showing the gender distribution:**

TBNA was exclusively diagnostic in 4 (30.7%) patients where 2 patients had peribronchial and 2 patients had intrabronchial lesion. TBNA was diagnostic in 100% cases. Out of 13 patients in whom TBNA was done 1 turned out to be papilloma, 1 tumorous type of endobronchial TB and 11 had malignancy.



**Figure 2 showing TBNA results:**

Biopsy is inconclusive in 2 cases and in 1 case biopsy could not be done due to excessive bleeding. Out of 10 patients in whom biopsy was done 1 turned out to be papilloma, 1 tumorous type of endobronchial TB and 8 malignancy.

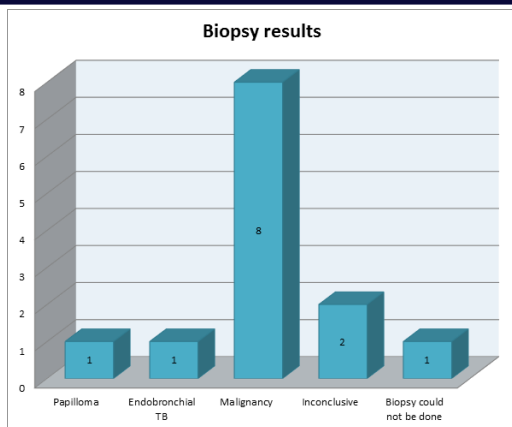


Figure 3 showing Biopsy results:

Table 1 showing TBNA and Biopsy yield.

LESION	TBNA yield	BIOPSY yield
Submucosal	4	4
Peribronchial	4	2
Intrabronchial	5	4
Total	13	10

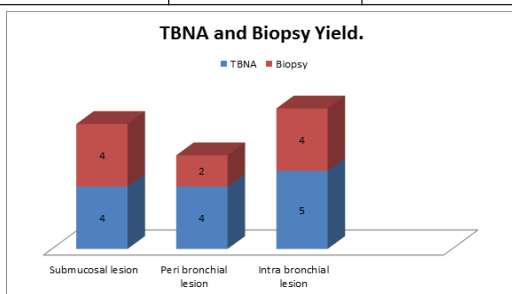


Figure 4 showing TBNA and Biopsy yield:

**DISCUSSION:**

It is a prospective study taken up by the department of pulmonary medicine of SVS medical college and hospital, Mahabubnagar, Telangana. In the current study, we aimed to report our experience with the diagnostic utility of TBNA in patients with visible malignant endobronchial lesions and to evaluate this utility in relation to different lesions characteristics.

In this study, majority of the study population were males. Similar finding was encountered in other studies done by Raghu S et al<sup>7</sup> and Sherif A. A. Mohamed et al<sup>10</sup>.

In this present study, TBNA was exclusively diagnostic in 4 (30.7%) of the cases. But in studies done by Sherif A. A. Mohamed et al<sup>10</sup>, Dasgupta.A et al<sup>2</sup>, Kacar et al<sup>6</sup> revealed that TBNA was exclusively diagnostic in only 14%, 20% and 11% of the cases respectively.

**CONCLUSION:**

Being safe and cost-effective, TBNA is a useful diagnostic tool in the hands of bronchoscopists in developing countries. Our results confirm that TBNA is a safe and complimentary tool for biopsy in the diagnosis of endobronchial lesions. Utility of TBNA is evident as a complementary tool for the diagnosis of malignant endobronchial lesions, particularly in peribronchial disease.

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**CONFLICT OF INTEREST:** None declared

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