

## Clinical Profile of 85 Cases of Medical Thoracoscopy: A Clinical Study

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### ABSTRACT

**Background:** The present study was conducted to determine clinical profile of 85 cases of medical thoracoscopy in both genders.

**Materials & Methods:** 85 patients of pleural disease who needed medical thoracoscopy, attending various out-patient departments, indoor patients at IGMC Shimla were recruited. Patients were subjected to liver and renal functions tests, complete blood count, coagulation profile, viral markers and plain chest X-ray (P–A and lateral view).

**Results:** Common clinical features were shortness of breath seen in 52, chest pain in 36, cough in 24, fever in 20 and 11 had previous history of carcinoma. Left sided pleural effusion was seen in 24, right sided pleural effusion in 48 and bilateral pleural effusion in 13 patients. Post- procedure complications were subcutaneous emphysema seen in 12, pulmonary edema in 6 and air leak >5 day in 2 patients.

**Conclusion:** Most common clinical feature was shortness of

breath and chest pain. Right sided pleural effusion was commonly seen in most of the patients.

**Key words:** Chest Pain, Pleural Effusion, Renal Functions Tests.

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### INTRODUCTION

Thoracoscopy is the 'gold standard' in the diagnosis of pleural effusion, which is indicated when less invasive tests failed.<sup>1</sup> Thoracoscopy is a simple and safe method and should be the procedure of choice in the diagnosis of an exudative pleural effusion. The sensitivity of thoracoscopy ranges from 92 to 97 % and its specificity is 99-100%, for patients with malignant pleural effusion.<sup>2</sup> Biopsies may be taken not only from the parietal but also from the visceral and diaphragmatic pleura, as during thoracoscopy whole pleural cavity is inspected under direct vision. Thoracoscopy is better than closed needle pleural biopsy in establishing a diagnosis.<sup>3</sup>

Thoracoscopy in spontaneous pneumothorax may identify the cause of the pneumothorax. Medical thoracoscopy and talc poudrage has been employed, with good effect, as a method of recurrence prevention for both primary and secondary spontaneous pneumothorax for over three decades.<sup>4</sup> It has been clearly shown for many decades that the recurrence rate after performing simple talc poudrage under thoracoscopy is similar to recurrence rate associated with the surgical treatment of spontaneous pneumothorax.<sup>5</sup> Thoracoscopy is certainly effective in the treatment of pleural infections especially in multiloculated empyema preventing progression to thoracotomy. A medical thoracoscopy with biopsy forceps is a safe procedure in the hands

of a well-trained pulmonologist, can be an alternative to a surgical procedure in the diagnostic work-up of diffuse interstitial lung disease but one has to be aware of the limitations of the technique.<sup>6</sup> The present study was conducted to determine clinical profile of 85 cases of medical thoracoscopy in both genders.

### MATERIALS & METHODS

The present cross-sectional hospital-based study was conducted in the department of pulmonary medicine and department of pathology IGMC, Shimla. It comprised of 85 patients of pleural disease, who needed medical thoracoscopy, attending various out-patient departments, indoor patients at IGMC Shimla.

Data such as name, age, gender etc. was recorded. A thorough clinical examination was performed. Patients were subjected to liver and renal, functions tests, complete blood count, coagulation profile, viral markers, plain chest X-ray (P–A and lateral view), USG Chest, CECT Chest, Bronchoscopy. Diagnostic pleural aspiration was done and the pleural fluid was analyzed for sugar, protein, Lactate dehydrogenase (LDH), Adenosine deaminase (ADA) and cytological analysis. Patients underwent medical thoracoscopy and pleural biopsy. Results of the study was tabulated and subjected to statistical analysis. P value less than 0.05 was considered significant.

**Table I: Distribution of patients (Total- 85)**

Gender	Males	Females
Number	50	35

**Table II: Clinical features in patients**

Clinical features	n	P value
Shortness of breath	52	0.01
Chest pain	36	
Cough	24	
Fever	20	
Previous history of carcinoma	11	

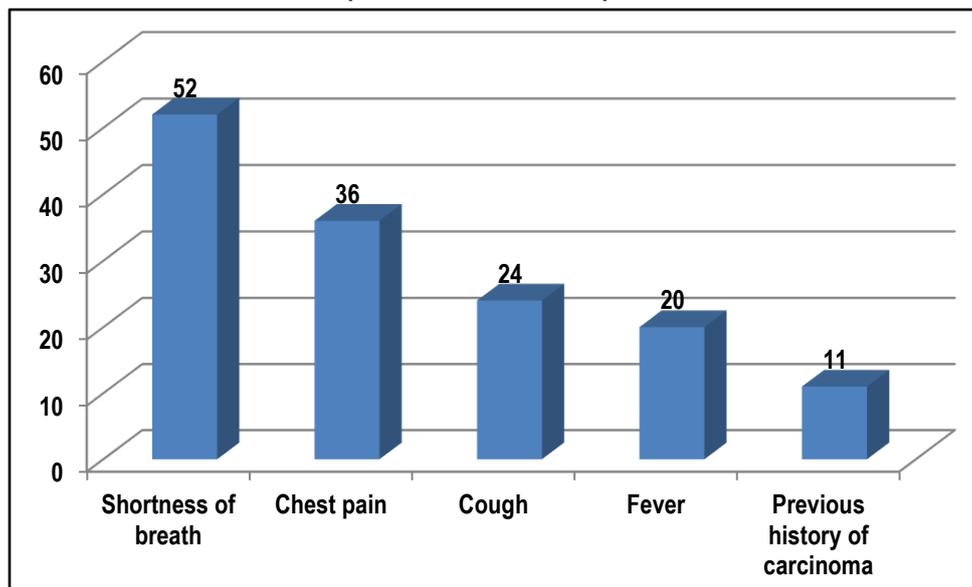
**Table III Type of pleural effusion**

Type	n	P value
Left sided pleural effusion	24	0.05
Right sided pleural effusion	48	
Bilateral pleural effusion	13	

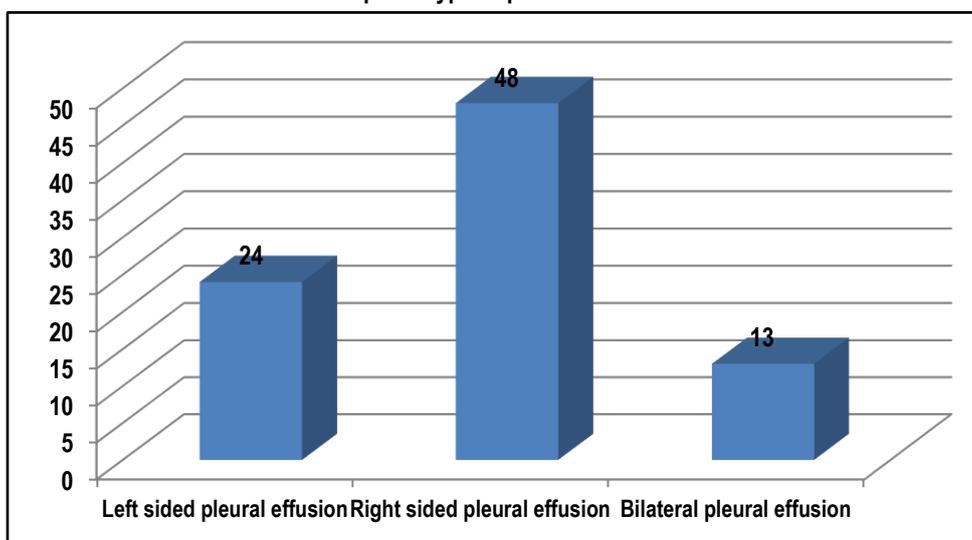
**Table IV Post- procedure complications**

Complications	n	P value
Subcutaneous emphysema	12	0.02
Pulmonary edema	6	
Air leak >5 day	2	

**Graph I: Clinical features in patients**



**Graph II: Type of pleural effusion**



**RESULTS**

Table I shows that out of 85 patients, males were 50 and females were 35. Table II, graph I shows that common clinical features were shortness of breath seen in 52, chest pain in 36, cough in 24, fever in 20 and 11 had previous history of carcinoma. The difference was significant ( $P < 0.05$ ). Table III, graph II shows that

left sided pleural effusion was seen in 24, right sided pleural effusion in 48 and bilateral pleural effusion in 13 patients. The difference was significant ( $P < 0.05$ ). Table IV shows that post-procedure complications were subcutaneous emphysema seen in 12, pulmonary edema in 6 and air leak >5 day in 2 patients. The difference was significant ( $P < 0.05$ ).

## DISCUSSION

Thoracoscopy is an increasingly common procedure that provides significant clinical information and therapeutic applications. The procedure allows the physician to biopsy the parietal pleura under direct visualization with high accuracy.<sup>7</sup> In addition, one can drain pleural fluid, place a chest tube in a precise location, and perform poudrage pleurodesis. Medical thoracoscopy (MT) is carried out in the operating room or procedure suite under moderate sedation with spontaneous ventilation.<sup>8</sup> In comparison, video-assisted thoracoscopic surgery (VATS) is performed under general anesthesia with single lung ventilation and through multiple ports in the operating room. MT is less invasive, has a comparable diagnostic yield, and maybe better tolerated in high-risk patients.<sup>9</sup> The present study was conducted to determine clinical profile of 85 cases of medical thoracoscopy in both genders.

In present study, out of 85 patients, males were 50 and females were 35. Common clinical features were shortness of breath seen in 52, chest pain in 36, cough in 24, fever in 20 and 11 had previous history of carcinoma. Xiao-Juan et al<sup>10</sup> assessed the efficacy and safety of medical thoracoscopy in the diagnosis of patients with undiagnosed pleural effusions in a Chinese population. During this 9-year study, satisfactory pleural biopsy samples were obtained in 833 patients, and MT revealed malignant pleural effusion in 342 (41.1%) patients, benign pleural effusion in 429 (51.5%) patients, and 62 (7.4%) patients could not get definite diagnoses. The overall diagnostic efficiency of MT was 92.6% (771/833). After MT, the only severe complication was empyema, seen in 3 patients (0.4%). The most common minor complication was transient chest pain (44.1%) from the indwelling chest tube. MT is an effective and safe procedure for diagnosing pleural effusions of undetermined causes.

We found that left sided pleural effusion was seen in 24, right sided pleural effusion in 48 and bilateral pleural effusion in 13 patients. Samad et al<sup>11</sup> performed thoracoscopy in 26 patients for diagnosis of undiagnosed exudative pleural effusion. Clinical and paraclinical data of patients were collected prospectively and analyzed. Thoracoscopy was diagnostic in 24 patients (92.3%). The pathologic findings were carcinoma (46.2%), tuberculosis (30.8%) and chronic inflammation without a definitive microbiologic culture (15.4%). Surprisingly mean ADA level in the tuberculosis group was in the normal range. No mortality or complication related to our operation was observed. The study concluded that video-assisted thoracoscopy is a minimally invasive procedure with a high definitive diagnostic accuracy in the evaluation of tuberculosis and malignant pleural effusions. Pulmonologist should refer these patients sooner to decrease the waiting period of diagnosis and treatment of such conditions. We observed that post-procedure complications were subcutaneous emphysema seen in 12, pulmonary edema in 6 and air leak >5 day in 2 patients. Selvamani et al<sup>12</sup> in their study thoracoscopies were performed in 172 patients to determine the cause of a pleural effusion and in 32 to try to make the histological diagnosis of a pulmonary shadow with negative bronchoscopy associated, in most cases, with a pleural effusion. The malignant

lesions have varied in appearance from a solitary nodule to widespread generalized carcinomatosis. Two hundred and eight explorations have been performed in our service in the last seven years. From 137 pleural malignancies, we have obtained an unequivocal positive biopsy in 129 (94%) with a minimum number of complications and no mortality.

The shortcoming of the study is small sample size.

## CONCLUSION

Authors found that most common clinical feature was shortness of breath and chest pain. Right sided pleural effusion was commonly seen in most of the patients.

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