

## Clinico-Pathological Profile of Lung Cancer Patients: A Prospective, Cross-Sectional Study

Srikanth<sup>1</sup>, Vasanthi<sup>2</sup>, Rama Chandra Reddy<sup>3</sup>

<sup>1</sup>MBBS, MD Internal Medicine, Warangal hospital and diagnostic centre, Warangal

<sup>2</sup>MBBS, MD Internal Medicine, Aditya hospital,

<sup>3</sup>MBBS, MD Emergency Medicine, 2<sup>nd</sup> year PG student, MS Ramaiah Medical College, Bangalore, Karnataka

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Corresponding Author: Dr. Srikanth

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### Abstract:

**Introduction:** Lung cancer is one of the most frequent and severe malignancies in the world. It has a poor prognosis. The present study was done to study the clinical, radiological, and histological profiles of lung cancer patients

**Materials and Methods:** This cross-sectional descriptive research was conducted over a one-year period on 50 patients with primary lung cancer who were diagnosed radiologically and histopathologically and visited the Warangal hospital and diagnostic center. The clinicopathological, radiological, and Histopathological profile data were entered in a predesigned proforma.

**Results:** The study involved 50 patients: 40 males and 10 females. Patients ranged in age from 40 to 85 years, with the majority being between the ages of 61 and 70. 36 male patients (72%) had a smoking history. Four of the 14 non-smokers were men, and ten were women. Bidi smokers accounted for 76% of all smokes. Cough was the most common clinical manifestation, affecting 47 patients (94%). The most prevalent chest radiographic characteristic was a mass lesion, which was identified in 50 individuals (100%). The most common histological kind of lung cancer was adeno carcinoma, which was detected in 31 cases (62%).

**Conclusion:** Awareness of symptoms and related risk factors is critical for early diagnosis of lung cancer, reducing mortality and mobility. Patients with a history of smoking and persistent respiratory symptoms should be checked immediately for lung cancer.

**Keywords:** Lung Cancer, Smoking, Adenocarcinoma.

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### Introduction

Lung cancer is the most often diagnosed cancer and the main cause of cancer-related deaths globally. In India, lung cancer is responsible for 5.9% of all cancers and 8.1% of all cancer-related fatalities. [1] In India, lung cancer is the most frequent and deadly cancer among men, accounting for 5.9% of all cancer diagnoses and 8.1% of cancer-related deaths. [2]

The incidence of lung cancer is increasing at an alarming rate in developing countries. In India, there have been significant alterations in the incidence patterns among males and females, as well as the histology and molecular profile of lung cancer. [3] Many risk factors for lung cancer have been identified, but smoking, including cigarettes, bidis, chillum, and hukkah, is still the most common. [4] Cure is possible if the diagnosis is made early in the course of the disease, before lymph node involvement or distant metastases develop. As a result, accurate information on the

main lesion, lymph nodes, and metastases is required. Imaging techniques are critical for diagnosing, staging, and monitoring lung cancer patients. Several technologies are now available for this purpose, including contrast-enhanced thoracic CT (TCT), positron emission tomography (PET), transesophageal endoscopic ultrasonography (EUS), and endobronchial ultrasound (EBUS). Approximately 10% of lung cancer patients are asymptomatic upon diagnosis. Most cases are symptomatic, presenting with non-specific symptoms including weight loss or exhaustion, as well as direct signs and symptoms from the main tumor or its spread.

However, in India, lung cancer is frequently misdiagnosed or delayed due to the non-specific character of symptoms and the high prevalence of tuberculosis. Many patients appear with a variety of co-morbidities, which can have a negative impact on diagnosis and outcome. The majority of

individuals are diagnosed at an advanced stage of the disease and are not candidates for curative treatment. [5] The most prevalent histological forms are adenocarcinoma, squamous cell carcinoma, large cell carcinoma, and small cell undifferentiated carcinoma, which account for more than 90% of all lung malignancies. [6] This study was conducted to investigate the clinicopathological profile of lung cancer patients who reported to the hospital.

### Materials and Methods

This cross-sectional descriptive study was conducted for a period of 1 year on 50 patients of primary lung cancer diagnosed radiologically and histopathologically who visited Warangal hospital and diagnostic centre, Warangal.

The cases with secondary lung cancer, lymphoproliferative disease, malignant pleural effusion of unknown primary, or nonpulmonary site, sarcomatoid tumors and other rare varieties were excluded from this study. The study was

carried out after receiving ethics committee approval. The clinicopathological and radiological profiles of proven primary lung cancer were examined in accordance with the study's objectives. The clinicopathological and radiological profile data were recorded into a predesigned proforma that included demographic information, a comprehensive history with the duration of symptoms, a clinical examination, and radiological results.

Radiological investigations were reviewed and repeated as per requirement for better localisation of the pathology and anatomical classification of the diseases done accordingly.

### Results

A total of 50 patients comprising of 40 males and 10 females were included in the study. Patients were from 40 to 85 years of age; however, maximum number of patients was from 61 to 70 years of age as shown in Table 1.

**Table 1: Age distribution of the patients**

Age	Number of patients	Percentage (%)
40-50	5	10
51-60	12	24
61-70	29	58
>70	4	8

Of the 50 patients, 36 male patients (72%) had history of smoking. Among 14 non-smokers, 4 were males and 10 were females. Among the smokers, bidi smokers were 76% followed by 18% of cigarette smokers and 6% patients were having other smoking history like hukkah, chilam and ganja as shown in Table 2.

**Table 2: smoking habit of the patients**

Variable	Sub group	Number of patients	Percentage (%)
Smoking	Smoker	36	72
	Non smoker	14	28
Type of smoking	Beedi	27	75
	Cigarette	7	19
	others	2	6

Most of the patients had multiple presenting complaints. The most common clinical presentation was cough seen in 47 (94%) patients. The second most common presentation was shortness of breath seen in 34 (68%) patients as shown in Table 3.

**Table 3: Clinical presentation of the patients**

Variables	Number of patients	Percentage (%)
Cough	47	94
Dyspnoea	34	68
Expectoration	18	62
Chest pain	36	58
Loss of Appetite	9	54
Loss of weight	5	52
Hemoptysis	14	28
Fever	11	22
Hoarseness of voice	6	12
Dysphagia	4	8
Clubbing	21	42
Anaemia	10	20
superior vena cava obstruction	2	4

Radiologically, most of the patients in our study had multiple findings. Most common chest radiographic feature was mass lesion found in 50 (100%) patients. Mass with lung collapse was found in 24 (48%) patients, while mass with pleural effusion was present in 18 patients. and consolidation in 7 (14%) patients as shown in Table 4.

**Table 4: Radiological presentation of the patients**

Finding	Number of patients	Percentage (%)
Lung mass	50	100
Collapse of lung	24	48
Pleural effusion	18	36
Lung Consolidation	7	14
Solitary pulmonary nodule	3	6

Out of the 50 cases, the most common histological type of lung cancer was adeno carcinoma which was seen in 31(62%) patients. The second common type was squamous cell carcinoma which was seen in 14 (28%) patients as shown in Table 5.

**Table 5: Histopathological presentation of the patients**

Finding	Number of patients	Percentage (%)
Adenocarcinoma	31	62
Squamous cell carcinoma	14	28
Small cell carcinoma	3	6
Carcinoid tumors	1	2
Adenosquamous carcinoma	1	2

## Discussion

In the current study, the male-to-female ratio was 4:1, which was consistent with previous investigations.[7-10] Our findings revealed that smoking is linked to the majority of lung cancer incidences. In our study, up to 72% of participants smoked. The majority were bidi smokers, which is an indigenously made, unfiltered, and primitive form of tobacco smoking that is common primarily in rural areas. Previous Indian studies revealed that the majority of lung cancer patients were dual smokers. [11-14] In the current study, the majority of patients were between the ages of 61 and 70, which is consistent with previous Indian investigations conducted by Jindal et al. [15] Malik et al. [16], Hathila et al. [17] The majority of the study participants presented with numerous symptoms. Cough was the most prevalent symptom and was present in 94% of the patients, similar to earlier research [18-22].

In the current study We found that the most common radiological result was a well-defined mass, although additional abnormalities included lobar collapse, lung consolidation, a solitary pulmonary nodule, and pleural effusion. Alamoudi [23] reported lung mass as the most common radiographic result, followed by pleural effusion. In the current investigation, the most common histological subtypes were adenocarcinoma (62%) and squamous cell carcinoma (28%), followed by small cell lung carcinoma (6%). Mandal SK et al.'s study from India [23] found that squamous cell carcinoma was the most prevalent subtype; however several other studies [24-26] have found that adenocarcinoma is the most common subtype. This trend could be attributed to shifting smoking

habits and an increase in the prevalence of lung cancer in women and nonsmokers. [27]

## Conclusion

Awareness of symptoms and related risk factors is critical for early diagnosis of lung cancer, reducing mortality and mobility. Patients with a history of smoking and persistent respiratory symptoms should be checked immediately for lung cancer.

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