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# CLINICO-PATHOLOGICAL PROFILE OF LUNG CANCER IN A TERTIARY CARE CENTRE OF CENTRAL INDIA

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## ABSTRACT

Lung cancer is a complex health concern across the world and is a major cause of morbidity and mortality in male population of India. Lung cancer tends to be aggressive and is mostly diagnosed in the advanced stages and smoking is a strong contributing factor. In this study we have analyzed the clinicopathological features of lung cancer patients presenting in our center to gain more insights into this complex disease.

**Keywords:** Lung cancer, histopathology type, smoking, squamous cell carcinoma

## INTRODUCTION

Lung cancer is a major contributor in the cancer related fatalities all over the world. It accounts for approximately 28% of all the cancer related deaths. [1] The incidence of lung cancer among females is rising in the developed countries.

In India, smoking tobacco and increased life expectancy has led to a steady rise in the incidence and prevalence of lung cancer.[2] Smoking is associated with more than 85% cases of bronchogenic carcinoma cases.[3,4] World health organization (WHO) classifies lung cancer into various distinct histological subtypes.[5] The occurrence of these subtypes depends on various genotypic and phenotypic factors.

We performed this retrospective study of patients diagnosed with lung cancer at Chirayu medical college and hospital Bhopal, to understand the clinic pathological profile of lung cancers in patients of central India.

## MATERIALS AND METHODS

All the pathology proven cases of lung cancer that got registered in our setup during January 2021 to December 2022 were included in this study. A dataset of 135 patients was formed and analyzed.
The clinical records of the patients were received for demographic data, smoking history, duration of symptoms, symptoms and signs, radiographic findings, histopathology, and clinical staging of lung cancer. Only patients with a confirmed pathological diagnosis were included for the study. For confirmation of diagnosis of lung cancer, majority of patients were subjected to fiber-optic bronchoscopy and/or percutaneous fine needle aspiration biopsy (FNAB) under imaging guidance.

## RESULTS

**Table 1**: **Clinico- radiological manifestations**

| Symptoms | No. of patients |
|---|---|
| Cough | 129 |
| Fever | 45 |
| Hemoptysis | 118 |
| Chest pain | 113 |
| Dyspnea | 131 |
| Hoarseness of voice | 28 |
| SVC obstruction | 14 |
| Loss of weight and appetite | 125 |

Mass lesion in the lungs was the commonest radiological feature (98 cases) followed by collapse-consolidation (37 cases). All the modalities used for diagnosis are tabulated in Table 2. Central endobronchial tumors were seen in 45 patients, whereas peripheral tumors in 90 patients. The adenocarcinoma most manifested as peripheral mass.

**Table 2: Diagnostic yield of various investigative procedures**

| Diagnostic procedure | Diagnosed cases |
|---|---|
| FOB | 68 |
| Lymph node biopsy | 2 |
| P/C TT FNAC | 61 |
| Pleural biopsy | 2 |
| Pleural fluid | 2 |

**Table 3**: **Radiological presentation**

| Site | Number |
|---|---|
| Bilateral | 6 |
| Right lung | 70 |
| Left lung | 59 |
| Mass | 98 |
| Collapse-consolidation | 37 |
| Pleural effusion | 45 |

The most common histopathological type was SCC (79 cases), followed by adenocarcinoma (40 cases), and SLCC (7 cases) [Table 4]. The majority of patients (112) were diagnosed in the later stages of the disease. The patients presented to their physician, on an average, 120 days after the onset of symptoms.

**Table 4: Histological type of lung cancer**

| Histology | No. of patients |
|---|---|
| Squamous cell carcinoma | 79 |
| Adenocarcinoma | 40 |
| Undifferentiated carcinoma | 9 |
| Small cell carcinoma | 7 |
| Total | 135 |

## DISCUSSION

Most of our study belonged to the patients of age group between 51-75 years, with a male predominance. Tobacco smoking was associated with 90 percent of cases. Similar observation has been done in other similar studies.[6–10]

One important observation made in our study is the delay in presentation of patient to cancer hospital. Majority of the cases were misdiagnosed as tuberculosis and treated at various other centers, leading to delay in diagnosis.

In our study, the delay in seeking treatment was observed to vary from 4-6 months, which is like other observers. [11] The commonest symptom of our patients was breathlessness and cough which is similar to the observations made by other Indian studies.[10] The pattern of lung cancer has been changing in the West with adenocarcinoma overtaking the squamous cell carcinoma.[12] However, the pattern seen at our hospital was different with squamous cell carcinoma being the commonest histological subtype. This difference in histopathology may be because smoking is less prevalent among women in India as opposed to the West.

Bronchoscopy is the most useful investigation in diagnosis of lung cancer. FNAB done under CT is the investigation of choice for peripherally situated lesions.

The commonest radiological finding seen in present study was mass followed by collapse consolidation which is in sync with various other studies.[10] The adenocarcinoma commonly manifested as peripheral mass while squamous cell carcinoma mainly presented more centrally.

## CONCLUSION

Our study has shown that the lung cancer is a major disease of middle age to elderly men and has strong association with tobacco smoking. Most of the patients present with breathlessness and cough. Majority of cases are diagnosed in the advanced stages and squamous cell carcinoma is the commonest pathological type. Steps must be taken to educate people to quit smoking and see medical advice in the early course of the disease for improved outcomes.

Conflict of Interest: None declared.

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