CLINICAL AND PATHOLOGICAL PRESENTATIONS OF BRONCHOGENIC CARCINOMA IN A TERTIARY CARE CENTRE

Vishwanath V. Pujari1, Rahul M. Lokhande2, Sushant H. Meshram3, Rakesh D. Waghmare4

1Assistant Professor, Department of Pulmonary Medicine, B. J. Government Medical College, Pune.
2Associate Professor, Department of Pulmonary Medicine, B. J. Government Medical College, Pune.
3Professor, Department of Pulmonary Medicine, B. J. Government Medical College, Pune.
4Assistant Professor, Department of Pulmonary Medicine, B. J. Government Medical College, Pune.

ABSTRACT

BACKGROUND

Lung cancer is presently the most common malignant disease (13% of all cancers) and the leading cause of cancer deaths (19% of all cancer deaths) in the world in all age groups and in both sexes. It is the leading cause of cancer deaths in developed as well as in developing countries.

OBJECTIVE

The present study was conducted to study the various clinical and pathological presentations of bronchogenic carcinoma.

MATERIALS AND METHODS

A total of 82 patients with histologically proven bronchogenic carcinoma, hospitalized between 2012 and 2014 at a tertiary care centre, Pune, India, were analysed.

RESULT

Out of a total of 82 diagnosed cases, average age was 61 years, nearly 80.0% were males. Smoking was the risk factor in 63.41%. About 2% of female patients were smokers. Six (7.3%) patients were <40 years of age at the time of diagnosis. Fiberoptic bronchoscopy (75.60%) was found to be the most efficient diagnostic procedure. Histologically, adenocarcinoma, squamous cell carcinoma, non-small cell carcinoma and small cell carcinoma were seen in 57.31%, 24.39%, 9.75% and 6.09% cases, respectively. Distant metastases to organs like nodes, liver, adrenals and bones were present in 67%.

CONCLUSION

This study shows that adenocarcinoma is the most common type of lung cancer and clinical and radiological suspicion should lead to the prompt diagnosis and management.

KEYWORDS

Bronchogenic Carcinoma, Bronchoscopy, Adenocarcinoma, Clinical and Pathological.


INTRODUCTION

Lung cancer is presently the most common malignant disease (13% of all cancers) and the leading cause of cancer deaths (19% of all cancer deaths) in the world.1 Its incidence peaks between age 55 and 65 years. The age adjusted death rate is decreasing in males and females.2 Globally, 85% of lung cancer in male and 46% in the female is due to smoking.3 Approximately, 10% of lung cancer patients are asymptomatic at presentation. However, most are symptomatic and may present with non-specific symptoms such as weight loss or fatigue or with direct signs and symptoms caused by the primary tumour or intrathoracic or extrathoracic spread. For the therapeutic decision, lung cancer is categorized as small cell carcinoma or non-small cell (NSC) carcinoma. The major histological classes of NSC carcinoma are adenocarcinoma, squamous cell carcinoma and large cell carcinoma.

In India, an increased incidence of bronchogenic carcinoma was recognized in the early 1960s by Viswanathan et al.4 Subsequently, there have been many sporadic reports on the clinical and pathological features of lung cancer from different parts of the country.5 According to National Cancer Registry (2001-2004) of the Indian Council of Medical Research, carcinoma lung constitutes 7.6-11.10% of all cancers in men and 1.40-2.98% of all cancers in women in India.6 Hospital based data have also shown a similar variability regarding risk factors, clinical presentations, radiological findings and histological diagnosis.

The present study was conducted to document the clinicopathological features of patients hospitalized with carcinoma lung to our centre. This study was carried out to observe the age distribution, sex distribution, clinical and radiological presentation, smoking and histological patterns of carcinoma lung presented to our tertiary care centre over the period of two years.

MATERIALS AND METHODS

Study population and duration: All patients admitted under the Department of Pulmonary Medicine, in our Tertiary Care Centre at Pune during the specified period. Duration of the study period between 2012 and 2014.
METHODOLOGY
Our study included all the consecutive histopathologically proven cases of bronchogenic carcinoma, those either presented first time to our institute or were referred for confirmation of their diagnosis and to receive treatment. Detailed history was taken into an account and smoking habits and exposure were noted including the Radiological presentations.

Type of Study: Observational study.

Aims and Objectives
1. To study the various clinical, radiological and histological presentations of bronchogenic carcinoma.
2. To study the diagnostic yields of various diagnostic procedures.
3. To study the risk factors for bronchogenic carcinoma.

Inclusion Criteria
All the patients with histologically proven bronchogenic carcinoma.

Exclusion Criteria
Intrathoracic masses other than bronchogenic carcinoma. The patients were classified according to the major histologic groups: Adenocarcinoma, Squamous cell carcinoma, Small cell carcinoma, undifferentiated non-small cell carcinoma and others. Immunohistochemistry was not done due to its unavailability at our institute.

RESULTS AND OBSERVATIONS
Clinical Presentation
A total of 82 cases of lung cancer were diagnosed in our hospital during the period of two years. Of which 80 (97.5%) patients were symptomatic at the time of presentation and two were diagnosed as an incidental radiological finding. Table 1 shows that Cough was the most common symptom (90.24%) followed by dyspnoea, probably due to COPD. Haeomoptysis was the presenting symptom in 22 (26.82%).

![Fig. 1: Age and Gender Distribution](image)

Age and Gender Distribution of the Cases
The youngest patient was 32 years old male and the oldest was 82 years with an average age of 61 years. Out of a total of 82 patients, 66 were males (80.48%) and 16 were females (19.52%). The ratio of men to women in this group was 4.12:1. Age and sex distribution is shown in Figure 1. In the age group of 20-40 years, all the six diagnosed cases were males. In the age group of 41 to 60 years total 40 (30 males and 10 females) and in the age group more than 60 years 36 patients (30 males and 6 females) had bronchogenic carcinoma.

Risk Factors
Among all the patients, 52 (63.41%) were smokers; 50 out of the 66 males (75.7%) and 2 out of the 16 females (12.5%) had a history of smoking. History of tuberculosis was present in 4 (4.87%) patients and 16 (19.51%) patients were on the anti-tuberculosis treatment at the time of diagnosis. These patients were diagnosed on the basis of radiological findings. Two patients (2.43%) had a suspected occupational asbestos exposure, but were smokers too.

Diagnostic Yield of Different Diagnostic Procedures
Table 3 shows diagnostic yields of different diagnostic procedures like Bronchoscopy, pleural fluid analysis, CT guided biopsies and FNAC from peripheral metastatic lesions like lymph nodes. Among the different procedures, Bronchoscopy was the most efficient procedure in the diagnosis of bronchogenic carcinoma (75.60%) followed by the others. Of the 20 patients not diagnosed by the bronchoscopy, 10 patients were diagnosed exclusively by pleural fluid cytology, eight were diagnosed by CT guided biopsy and two were diagnosed exclusively by lymph node FNAC.

Table 2: Radiological Presentations

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Radiological Signs</th>
<th>No. of Patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Well-defined mass</td>
<td>52 (63.41%)</td>
</tr>
<tr>
<td>2</td>
<td>Lobar collapse</td>
<td>27 (32.92%)</td>
</tr>
<tr>
<td>3</td>
<td>Pleural effusion</td>
<td>25 (30.48%)</td>
</tr>
<tr>
<td>4</td>
<td>Thoracic metastases</td>
<td>19 (23.17%)</td>
</tr>
<tr>
<td>5</td>
<td>Extrathoracic metastasis</td>
<td>23 (28.04%)</td>
</tr>
<tr>
<td>6</td>
<td>Lymphangitis</td>
<td>14 (17.07%)</td>
</tr>
<tr>
<td>7</td>
<td>SpN</td>
<td>3 (3.65%)</td>
</tr>
</tbody>
</table>

Table 1: Signs and Symptoms

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Symptoms and Signs</th>
<th>No. of Patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cough</td>
<td>74 (90.24%)</td>
</tr>
<tr>
<td>2</td>
<td>Haemoptysis</td>
<td>22 (26.82%)</td>
</tr>
<tr>
<td>3</td>
<td>Chest pain</td>
<td>21 (25.60%)</td>
</tr>
<tr>
<td>4</td>
<td>Dyspnoea</td>
<td>34 (41.46%)</td>
</tr>
<tr>
<td>5</td>
<td>Weight loss</td>
<td>47 (57.31%)</td>
</tr>
<tr>
<td>6</td>
<td>Peripheral</td>
<td>17 (20.73%)</td>
</tr>
<tr>
<td>7</td>
<td>Back ache</td>
<td>4 (4.87%)</td>
</tr>
</tbody>
</table>

Table 3: Diagnostic Yield of Different Diagnostic Procedures

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Procedure</th>
<th>Yield (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bronchoscopy</td>
<td>62 (75.60%)</td>
</tr>
<tr>
<td>2</td>
<td>Pleural fluid cytology</td>
<td>19 (23.17%)</td>
</tr>
<tr>
<td>3</td>
<td>CT guided biopsy</td>
<td>8 (9.75%)</td>
</tr>
<tr>
<td>4</td>
<td>Peripheral metastasis FNAC</td>
<td>15 (18.29%)</td>
</tr>
</tbody>
</table>
Gender Distribution of Cases as per the Histological Type

Among the histological subtypes adenocarcinoma was diagnosed in 47 cases (57.31%), 20 cases (24.39%) were diagnosed as squamous cell carcinoma, small cell carcinoma in 5 (6.09%), whereas 8 (9.75%) cases could not be diagnosed by histopathology alone and were labelled as non-small cell carcinoma and two were diagnosed as others (Large cell carcinoma-1 and Pleomorphic carcinoma-1). Figure 2 shows the distribution of histological types in our study.

CONCLUSION

In this study adenocarcinoma was found to be the most common type of lung cancer. Bronchoscopy is the most effective diagnostic investigation. Smoking is the most common risk factor, more in males.

This study shows that patients who have persistent clinical and radiological signs of pulmonary disease and a history of smoking must be thoroughly investigated considering the possibility of lung cancer.

REFERENCES


