CLINICO-PATHOLOGICAL PROFILE OF LUNG CANCER AT A TERTIARY CARE CENTER, BAREILLYManoj Kumar Agrawal¹, Amit Kumar², Ankit Khurana³, Nadeem Akbar⁴**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: BACKGROUND: Lung cancer is the most common cancer representing approximately 12% of all new cancers. It is also the most frequent type of cancer in males and remains the most common cause of cancer related mortality in both sexes. An increasing incidence of lung cancer has been observed in India. **OBJECTIVE:** To evaluate the clinical and pathological profile of patients with lung cancer in tertiary care center. **MATERIAL AND METHODS:** We performed a retrospective analysis of histopathologically proven cases of bronchogenic carcinoma admitted in our hospital. **RESULTS:** Our study included 93 patients with confirmed cases of lung cancer. Smoking was found to be the main risk factor in 79 patients (84.94%). Out of 93 patients, 81 (87.09%) were male and 12 (12.90%) were females. Mean age was 48 years. The most frequent symptom was cough (75.26%), followed by dyspnea (56.98%), chest pain (47.31%) and hemoptysis (45.16%). The most common histopathological type was squamous cell carcinoma in 69 (74.19%) followed by adenocarcinoma in 16 (17.20%) and small cell carcinoma in 7 (7.52%). **CONCLUSION:** Squamous cell carcinoma was the most frequent histopathological form. Smoking still remains the major risk factor for lung cancer.

KEYWORDS: Smoking, lung cancer, histopathological.

INTRODUCTION: Lung cancer is the most commonly diagnosed cancer annually since 1985. It accounts for 12.7% of all new cancer cases and 18.2% of all cancer related deaths, throughout the life.^[1] In India, approximately 63, 000 new lung cancer cases are reported each year.^[2] The major risk factor for developing lung cancer is tobacco use and this disease is often viewed solely as a smoker's disease. However, a significant number of patients with lung cancer have no history of smoking. Progressive survival extension and increased cigarette smoking has led to a rise in number of patients with lung cancer in India. It is in accordance with the epidemiological data from western countries, which shows rising prevalence of lung cancer in Indian population.^[3]

Approximately 95% of all lung cancers are classified as either small cell lung cancer (SCLC) or non-small cell lung cancer (NSCLC). This distinction is essential for staging and management. Other histological types of lung cancer comprise 5% of all lung malignancies. Surgery is the treatment of choice for NSCLC, if primary tumour is resectable and if there is no distant metastasis. Chemotherapy and radiotherapy are used to treat tumours that are not resectable. Small cell lung cancer metastasizes early and has worse prognosis than non-small cell carcinoma.^[4,5]

We performed a retrospective analysis of histopathologically proven cases of bronchogenic cancer at Rohilkhand Medical College and Hospital, Bareilly to evaluate the clinical and histological profile of Lung cancer in Rohilkhand region.

MATERIAL AND METHODS: This study was conducted in the Department of Pulmonary Medicine, Rohilkhand Medical College and Hospital, Bareilly. Rohilkhand Medical College is a tertiary care

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teaching hospital with well-equipped state of the art infrastructure and well trained human resources. It caters mainly to the population of district Bareilly and adjoining areas.

Data regarding demographics (age of the patients, sex), smoking status, clinical presentation, radiological findings, histological findings, method of diagnosis and stage of lung cancer were obtained from the files of histologically proven cases of bronchogenic cancer.

Patients without histopathological confirmation were excluded from the study. For the diagnosis of Bronchogenic carcinoma, majority of patients were subjected to fiber-optic bronchoscopy and CT- guided FNAC.

Institutional ethical committee permission was taken before the analysis.

RESULTS: A total of 93 patients with histologically confirmed bronchogenic carcinoma were available for the analysis. Out of 93 patients, majority of patients were in age group of 41-60 years followed by more than 60 years (Table 1). Majority of patients were male (87.09%) (Table 2). Out of 93 patients, 79 (84.94%) were smokers (Table 3). Cough was the most common symptom in 70 patients (75.26%) followed by dyspnea in 53 (56.98%), chest pain in 44 (47.31%) and hemoptysis in 42 (45.16%) (Table 4).

39 (41.93%) patients presented with mass lesion as a radiological manifestation followed by collapse in 28 patients (30.10%) and pleural effusion in 21 patients (22.58%) (Table 6).

Squamous cell carcinoma in 69 patients (74.19%) was the most common histological type followed by adenocarcinoma in 16 patients (17.20%) and small cell carcinoma in 7 patients (7.52%) (Table 7).

Age Group	No. of Patient (n=93)	Percentage
<40 years	13	13.97%
41- 60 years	63	67.74%
>60 years	17	18.27%

Table1: Age distribution of study group

Sex	No. of Patients (n=93)	Percentage
Male	81	87.09%
Female	12	12.90%

Table 2: Sex distribution of study group

Smoking status	No. of patients (n=93)	Percentage
Smoker	79	84.94%
Non smoker	14	15.05%

Table 3: Smoking wise distribution of study group

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Symptom	No. of Patients (n=93)	Percentage
Cough	70	75.26%
Dyspnea	53	56.98%
Chest pain	44	47.31%
Hemoptysis	42	45.16%
Fever	36	38.70%
Hoarseness of voice	17	18.27%
SVC Obstruction	9	9.67%

Table 4: Clinical manifestations of study group

Site	No. of Patients (n=93)	Percentage
Right lung	67	72.04%
Left lung	24	25.80%
Bilateral	2	2.15%

Table 5: Site of involvement

Radiological manifestations	No. of Patients (n=93)	Percentage
Mass	39	41.93%
Collapse with consolidation	28	30.10%
Pleural effusion	21	22.58%
Combined presentation	5	5.37%

Table 6: Radiological manifestations

Type	No. of Patients (n=93)	Percentage
Squamous cell carcinoma	69	74.19%
Adenocarcinoma	16	17.20%
Small cell carcinoma	7	7.52%
Large cell carcinoma	1	1.07%

Table 7: Histopathological Type of bronchogenic carcinoma

DISCUSSION: The aim of the study was to evaluate the clinico-pathological profile of patients having bronchogenic carcinoma. A total of 93 patients with histologically proven bronchogenic carcinoma were enrolled in the study. Out of 93 patients, majority of patients belonged to the age group 41-60 years. We had male to female ratio of 6.7:1 which is in accordance with the study conducted by Kashyap et al. (2003) which reported a ratio of 6.1:1.^[6]

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Smoking was found to be the most important risk factor for lung cancer in our study, 84.94% of patients were smokers who had histologically proven bronchogenic carcinoma. Similar observation was made by Thippanna et al. (1999), Jindal et al. (1979), Notani et al. (1974).^[7,8,9]

On evaluating the clinical manifestations of study group, cough was the most common presenting symptom in 75.28% of patients followed by dyspnea (56.98%), chest pain (47.31%) and hemoptysis (45.16%). A similar observation was reported by Gupta et al. (2001) who studied cough (68.42%) as most common presenting symptom followed by breathlessness (63.15%), chest pain (52.63%) and hoarseness of voice (14.66%).^[10] SVC obstruction was seen in 9.67% of patients in the present study.

The most common radiological presentation was mass lesion (41.93%) followed by collapse (30.10%) and pleural effusion (22.58%) which is in accordance with study conducted by Behra et al. (2004).^[11] Most of the lesions were found on right side (72.04%) which is similar to Khan et al. (2004), who observed 63% in the right lung.^[12]

In our study, squamous cell carcinoma was the most common histopathological finding in 74.19% of patients followed by adenocarcinoma (17.20%) and small cell carcinoma (7.52%) which are similar to various studies conducted in India.^[13]

CONCLUSION: Our study showed that, smoking is still the most common risk factor for lung cancer. Most of the patients with lung cancer are males. Squamous cell carcinoma was the most common histopathological type of lung cancer. It is very important to detect and treat lung cancer early, to reduce the morbidity and mortality associated with lung cancer. Smoking cessation programs and awareness about deleterious effects of smoking in general population is needed for the prevention of Lung cancer.

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