

A clinical study of non small cell lung carcinoma at tertiary care hospital, Jaipur

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Abstract

Background: Lung cancer is one of the most common cancer and leading cause of cancer mortality worldwide. We conducted a clinical study of non small cell lung carcinoma at tertiary care hospital, Jaipur

Methods: This was a hospital based prospective and observational study carried out on Cases detected as non small cell carcinoma on histopathological examination of lung tissue biopsy of lung carcinoma patients attending OPD or hospitalized at Department of Respiratory Medicine during the year 2018-2019. Institute of Respiratory Diseases is a tertiary care center for tuberculosis and Respiratory diseases in Rajasthan.

Results: Most common presenting complaints among patients of lung carcinoma was cough and dyspnoea (36.8%). Adenocarcinoma was most commonly encountered malignancy (62.1%), followed by squamous cell carcinoma (32.6%) while adenosquamous lung carcinoma was the least seen type of lung carcinoma

Conclusion: Most common presenting complaints among patients of lung carcinoma was cough and

dyspnoea and Adenocarcinoma was most commonly encountered malignancy.

Keywords: Adenocarcinoma, Dyspnoea, cough

Introduction

Lung cancer is among the most deadly cancers for both men and women ¹ Its death rate exceeds that of the three most common cancers (colon, breast, and pancreatic) combined. Over half of patients diagnosed with lung cancer die within one year of diagnosis and the 5-year survival is around 17.8% ²⁻³

There are two main subtypes of lung cancer, small-cell lung carcinoma and non-small-cell lung carcinoma (NSCLC), accounting for 15% and 85% of all lung cancer, respectively . NSCLC is further classified into three types: squamous-cell carcinoma, adenocarcinoma, and large-cell carcinoma.⁴

The most common type of lung cancer is adenocarcinoma; it comprises around 40% of all lung cancer. It arises from small airway epithelial, type II alveolar cells, which secrete mucus and other substances . Adenocarcinoma is the most common type of lung cancer in smokers and nonsmokers in men and

women regardless of their age. It tends to occur in the periphery of the lung, which might be due to the addition of filters in cigarettes preventing large particles from entering the lungs. This results in deeper inhalation of cigarette smoke, leading to peripheral lesions. Compared to other types of lung cancer, adenocarcinoma tends to grow slower and has a greater chance of being found before it has spread outside of the lungs.⁵

Material and method

This was a hospital based prospective and observational study carried out on Cases detected as non small cell carcinoma on histopathological examination of lung tissue biopsy of lung carcinoma patients attending OPD or hospitalized at Department of Respiratory Medicine during the year 2018-2019. Institute of Respiratory Diseases is a tertiary care center for tuberculosis and Respiratory diseases in Rajasthan.

Bronchoscopy or CT guided biopsy from lung was taken and put in a sterile container containing 10% Neutral buffered formalin in 10:1 ratio which was sent to histopathology department of S.M.S. Medical college for histopathological and immunohistochemistry studies.

Past history of antitubercular treatment, associated comorbidity, history of medication, current use of oral or inhaled corticosteroid therapy, congenital or acquired heart diseases, history of allergy and surgery in past was recorded.

Personnel history had been taken for smoking, alcohol intake, any other exposure to smoke and dust and any other addiction.

History of diabetes, systemic hypertension and heart disease was noted. General physical examination included height, weight, pulse, blood pressure, oedema, pallor, icterus, peripheral lymphadenopathy, cyanosis

and clubbing. Respiratory, abdomen, central nervous and cardiovascular examination also had been done.

Statistical analysis was performed with the SPSS, version 21 for Windows statistical software package (SPSS inc., Chicago, IL, USA). The Categorical data was presented as numbers (percent) and were compared among groups using Chi square test. The quantitative data was presented as mean and standard deviation and were compared by students t-test. Probability was considered to be significant if less than 0.05.

Results

Mean age calculated for lung carcinoma was 58.7 ± 13.5 (25 – 88). The distribution of cases on the basis of gender showed increasing trend of lung carcinoma in males accounting for 76 cases out of 95 cases while female patients with lung carcinoma were 19.

Table 1: Presenting complaints among study subjects

Presenting complaints	Number of patients	Percentage
Hemoptysis	18	18.94
Fever and weight loss	10	10.5
Cough and dyspnoea	35	36.8
Dyspnoea and chest pain	32	33.6
Total	95	100

It was observed that most common presenting complaint among patients of lung carcinoma was cough and dyspnoea seen in 35 cases followed by dyspnoea and chest pain seen in 32 cases. Least common presenting complain was fever and weight loss which was seen in 10 patients.

Table 2: Distribution of study subjects according to type of malignancy

Type of malignancy	Number of patients	Percentage
Adenocarcinoma	59	62.1
Non small cell lung carcinoma- NOS	3	3.2
Adeno-squamous carcinoma	2	2.1
Squamous cell carcinoma	31	32.6
Total	95	100

Distribution pattern of lung carcinoma was studied in the cases examined and it was observed that adenocarcinoma was most commonly encountered malignancy accounting for 59 cases, followed by squamous cell carcinoma in 31 cases. Adenosquamous lung carcinoma was the least seen type of lung carcinoma in 2 cases.

Table 3: Type of malignancy in relation to smoking status of study subjects

Type of malignancy	Smoker		Non smoker		Total	
	Number of patients	%	Number of patients	%	Number of patients	%
Adenocarcinoma	43	56.5	16	84.2	59	62.1
Non small cell lung carcinoma- NOS	2	2.6	1	5.2	3	3.2
Adeno-squamous carcinoma	2	2.6	0	0	2	2.1
Squamous cell carcinoma	29	38.1	2	10.5	31	32.6
Total	76	100	19	100	95	100

Chi-square = 8.253 with 3 degrees of freedom; P = 0.053

Trend of type of lung carcinoma in relation to smoking exposure was also studied and it was observed that out of 76 smokers, 43 developed squamous cell carcinoma

while out of 19 non smokers only 2 cases developed squamous cell carcinoma. Out of 19 non smokers, incidence of adenocarcinoma was 16.

Discussion

Lung cancer is one of the commonest cancer and cause of cancer related deaths all over the world. It accounts for 13 percent of all new cancer cases and 19 percent of cancer related deaths worldwide. There were 1.8 million new lung cancer cases estimated to occur in 2012.

It was observed in our study that most common presenting complaint among patients of lung carcinoma was cough and dyspnoea seen in 35 cases (36.8%) followed by dyspnoea and chest pain in 32 cases (33.6%). Least common presenting complaint was fever and weight loss which was seen in 10 patients (10.5%) which is comparable to study conducted by Xing Chen et al in 1396 early stage lung carcinoma cases and reported complaint of dyspnea in 32.7%, and pain in 28.1%.⁶

Type of lung carcinoma was studied in the cases examined and it was observed that adenocarcinoma was most commonly encountered malignancy accounting for 59 cases (62.1%), followed by squamous cell carcinoma (32.6%) and adenosquamous lung carcinoma was the least seen type of lung carcinoma in 2 cases(2.1%)

Shankar et al concluded that out of 84 cases of NSCLC, 46 cases (55%) were immunohistochemically proven primary adenocarcinoma of the lung. This was followed by squamous cell carcinoma (24%), adenosquamous carcinoma (4%) and non-small cell carcinoma-not otherwise specified (NSCLC-NOS) which is comparable to our study results.⁷

Kaur H et al conducted a study on 1301 cases and observed that on the basis of histology there were

36.4% cases of squamous cell carcinoma and 38.1% cases of adenocarcinoma and NSCLC-NOS comprised 5.1% of cases which is quite comparable to the results of our study.⁸

Conclusion

Most common presenting complaints among patients of lung carcinoma was cough and dyspnoea and Adenocarcinoma was most commonly encountered malignancy.

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