ORIGINAL RESEARCH ARTICLE

Role of Radiological Diagnosis in the Evaluation of Lung Cancer

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ABSTRACT

Introduction: Lung cancer is the most lethal form of cancer in developed as well as in developing countries. This study aimed to determine the clinico-radiological and pathological profile of lung cancer patients.

Material and Methods: This is a prospective observational study, a total of 57 lung cancer patients were examined by histopathological and radiological methods. All data were analyzed by SPSS 20.0 statistical software. This study was approved by Institutional Ethical Committee.

Results: Among 57 patients, 68.4% were male and 31.6% were female. Right side lung was most commonly affected (64.9%). Cough and dyspnea were common clinical symptoms (84.2%). Radiological observation found mass in 85.9% and pleural effusion in 49.1% patients. 50.9% patients with stage 4 type lung cancer, stage 3B in 33.33% patients. Adenocarcinoma was found in 45.6% cases, 31.6% squamous cell carcinoma, poorly differentiated carcinoma, small cell carcinoma were 15.8% and 7.01% respectively.

Conclusion: we found most common lung cancers presented as mass lesion and common histopathological type was adenocarcinoma.

Key words: Lung Cancer, Mass, Squamous Cell Carcinoma, Adenocarcinoma

INTRODUCTION

Lung cancer is the leading cause of cancer-related deaths in the developed as well as in the developing world.[1-3] In India, the incidence of oral, breast, colorectal, prostate and cervix cancer is higher, lung cancer also the major cause of mortality among men.[4,5] Most of the patients with lung cancer present at an advanced stage, but patients with early-stage lung cancer can be treated. Thus, it is most important to diagnose the case as early as possible by the help of radiological diagnosis. In this study, we analyzed various typical and atypical radiological patterns of lung cancer and their implications on therapeutic options.

MATERIAL AND METHODS

The present study was performed in Department of Radiology, MNR medical College and Hospital during the period from February 2015 to April 2017. This was a prospective observational study consisting of 57 Lung cancer patients with radiological and Histopathological Profile.

Inclusion criteria

1. Patients were diagnosed as lung cancer based on histopathology.
2. Patients with any radiological features of Lung cancer.

Exclusion criteria

1. Sputum positive for AFB.
2. Pulmonary hypertension.
3. Suspected vascular lesion.
4. Bleeding disorders.

Radiological examination was done in all patients. After the histopathological diagnosis of cancer, staging assessed according to the 7th edition of American Joint Commission on Cancer (AJCC). After histopathological diagnosis of lung cancer all the patients with different radiological presentation were examined.

RESULTS

Among 57 lung cancer patients, 39 were male (68.4%) and 18 were female (31.6%) patient. Most common age group affected was 50-60 years (66.6%). According to the radiological findings, most of the lesions were presented on right side (64.9%). Most common clinical symptoms associated with lung cancer was cough and dyspnea (84.2%) followed by weight loss (68.4%) and

Demographic data	Total No. of Patients	Percentage (%)
Male	39	68.4
Female	18	31.6
Age (years)		
>50	7	12.3
50-60	38	66.6
>60	12	21.05
Right Lung Lesion	37	64.9
Left Lung Lesion	20	35.08
Clinical-radiological presentation		
Cough	48	84.2
Chest pain	27	47.4
Weight loss	39	68.4
Dyspnea	48	84.2
Hemoptysis	12	21.05
Hoarseness of voice	11	19.3
Pleural effusion	28	49.1
Collapse-consolidation	16	28.07
Mass	49	85.9
Mediastinal lymphadenopathy	21	36.8

Table-1: Demographic data of lung cancer patients (n= 57).

Tumor Node Metastasis	Total No. of patients (n=57)	Percentage (%)
Stage 1	00	00
Stage 2	00	00
Stage 3A	09	15.8
Stage 3B	19	33.33
Stage 4	29	50.9

Table-2: Cancer stage-wise presentation of study patients.

Histopathological type	Total No. of Cases	Percentage (%)
Adenocarcinoma	26	45.6
Squamous cell Carcinoma	18	31.6
Poorly differentiated Carcinoma	9	15.8
Small cell Carcinoma	4	7.01

Table-3: Histopathological findings among cancer patients

chest pain (47.4%). Radiological findings revealed, 85.9% mass, 49.1% pleural effusion, 36.8% mediastinal lymphadenopathy and collapse-consolidation in 28.07% lung cancer patients. Most of the patients presented with stage 4 type (50.9%) of lung cancer followed by stage 3B type (33.33%). Adenocarcinoma was found in 45.6% cases, 31.6% squamous cell carcinoma, poorly differentiated carcinoma, small cell carcinoma were 15.8% and 7.01% respectively.

DISCUSSION

Lung cancer is one of the most common malignant diseases among men and women in the world.[6] In India, the incidence of lung cancer is increasing rapidly, mainly due to progressive change in life style. Further most of the Indian studies revealed that squamous cell carcinoma as the commonest histology.[7,8] In this present study most commonly affected age group was 50-60 years, which was similar to the other studies.[9,10] Our study revealed higher cancer incidence in male patients. Similarly reported by Allena et al. in their study.[11] But Gupta et al. reported female were most commonly affected than male.[12] Radiological and histopathological assessment was done in all patients. Adenocarcinoma was the most common histology found followed by squamous cell carcinoma, poorly differentiated carcinoma and small cell carcinoma. Most of the studies also reported the similar findings.[13,14] The most common radiological presentation seen in present study was mass followed by pleural effusion and mediastinal lymphadenopathy. In this present study most of the patients presenting stage 4 type of cancer followed by stage 3B. Similar findings were recorded by Allena et al.[11]

CONCLUSION

The clinico-pathological profile of lung cancer has changed in last few years and especially in the increase in adenocarcinoma incidence. This study revealed that most of the lung cancers were presented as mass lesions; histopathologically most of them were adenocarcinoma. Majority of the cases were misdiagnosed as tuberculosis and treated, causing delay in diagnosis. So this is necessary to implement effective methods like CT for early detection of lung cancer.

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