

Study of Demographic Profile & Presentation of Lung Cancer at Jamnagar

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Abstracts: Introduction: As the Smoking, Industries, and Pollution is increasing day by day, the lung cancers have taken place as one of the common malignant disease among people and recognized as a serious problem because of its high morbidity, mortality¹. This study was conducted to know incidence of lung tumor as per age, gender, habits, and type. **Material & Methods:** The present study comprises of 100 patients suspected of lung tumors. The study was carried out in the department of pathology, Shree M.P. Shah Medical College, Jamnagar. The samples of bronchoscopic material were received from tuberculosis and chest Diseases Department, G. G. G. Hospital, Jamnagar. Total 100 patients clinically suspected to have lung cancer were selected for cytological and histological study during the period from Aug. 2010 to sep. 2012. Of all patient clinical history and other details were recorded in the specially formed proforma. **Results:** Out of 100 cases, 20 were benign (09 of inflammatory lesions, 06 of squamous metaplasia, 5 were dysplasia) and 80 were malignant cases, the commonest tumor was squamous cell carcinoma (50 cases, 62.5%) followed by adenocarcinoma (12 cases, 15%), small cell carcinoma (8 cases, 10%) and large cell carcinoma (2 cases 2.5%). In most of the lung tumors high age incidence was found in 6th and 7th decade. Out of 100 cases, males were predominantly affected (82 were males and 18 were female). Out of 100 cases, 82 were smokers and 18 were non-smoker, and out of 80 cases positive for malignancy, 74 (92.8%) had positive history of smoking. [Dawari S NJIRM 2014; 5(2) :56-59]

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Introduction : Lung cancer is the most frequently diagnosed cancer in the world and is the leading cause of cancer related mortality in both men and women^{2,3}. Cancer is an important public health concern in our country. Deaths due to lung cancer are more than those due to colorectal, breast and prostate cancers put together⁴. In India, lung cancer was thought to be infrequent⁵, but as per the data given in first All India Report (AIR) 2001-2002⁶, in males the lung cancer is leading site of cancer in 8 of the 12-population based cancer registries (PBCR's) (ICMR, 2001-2002)⁶. Tumors of lung as noted by Adler, were a rarity in the beginning of twentieth century. There was no way for Adler to foresee that in coming years cancer of lung would show an astonishing 15-fold increase in males and 9-fold increase in females⁷. So, early detection is deadly needed in present scenario with clinical symptoms, X-Ray chest, sputum cytology and tumor markers which can support the evidence of tumor by histological cell typing. In present study, use of brush cytology, transbronchial needle aspiration and bronchial biopsy has been evaluated. Present study was carried out with an aim to know incidence of lung tumor as per age, gender, habits, and type.

Material & Methods : The present study comprises of bronchoscopic cytology and histology of bronchial biopsy in 100 patients suspected of lung tumors. The study was carried out in the department of pathology, Shree M.P. Shah Medical College, Jamnagar with prior permission from Institutional Review Board. The samples of bronchoscopic material were received from tuberculosis and chest Diseases Department, G. G. G. Hospital, Jamnagar. Patients whose investigation includes both type of examination, Cytology (bronchial brush cytology, broncho-alveolar lavage (BAL), transbronchial needle aspiration (TBNA) or transthoracic needled aspiration (TTNA)) as well as histopathology (bronchial biopsy) are included in this study. Those who are not passing through both investigations are not included in study.

Total 100 patients clinically suspected to have lung cancer were selected for cytological and histological study during the period from Aug. 2010 to sep. 2012. Of all patient clinical history and other details were recorded in the Performa. The bronchoscopy was performed by flexible fiber

optic bronchoscope in Tuberculosis and Chest Diseases Department, G.G.G. Hospital, Jamnagar.

Result: The present study comprises of 100 patients of suspected lung cancer during the period from august 2010 to September 2012. The patients included in this study had suspicious radiological as well as clinical findings of lung cancer.

Samples were taken in all 100 cases. 90 cases showed adequate material out of these 90 cases, 80 were diagnosed as malignant lesions, remaining 10 were diagnosed as non malignant lesions. The remaining 10 cases out of 100 in which the material yield was inadequate had symptomatology suggestive of malignancy were referred to higher centre for further investigation and follow up these 10 patients were diagnosed as non malignant lesions.

Out of 20 non malignant cases, 5 cases were having dysplasia, 6 cases were diagnosed as squamous metaplasia and 9 were diagnosed as non-specific inflammatory lesions.

Out of 80 malignant cases following is the distribution of various malignancies amongst them.

Table – 1: Incidence Of Various Types Of Lung Tumors

No.	Type of tumor	No. of cases	Percentage (%)
1	Squamous cell carcinoma	50	62.50
2	Adenocarcinoma	12	15.0
3	Small cell carcinoma	08	10.0
4	Large cell carcinoma	02	2.5
5	Bronchiole alveolar carcinoma	03	3.75
6	Metastatic carcinoma	02	2.5
7	Un differentiated carcinoma	03	3.75
	Total	80	100%

From above table, it was observed that squamous cell carcinoma was the most common carcinoma

(62.50%), followed by adenocarcinoma (15%), small cell carcinoma (10%) and large cell carcinoma (2.5%).

Table – 2 : Age Incidence In Different Lung Cancers (N=80)

No.	Lung cancer	31-40 Yr.	41-50 Yr.	51-60 Yr.	61-70 Yr.
1	Squamous cell carcinoma	01	03	20	26
2	Small cell carcinoma	-	01	02	05
3	Adenocarcinoma	01	02	03	06
4	Bronchiolo-alveolar carcinoma	-	-	03	-
5	Large cell carcinoma	-	01	01	-
6	Metastatic carcinoma	-	-	02	-
7	Undifferentiated carcinoma	-	-	01	02
	Total	02	07	32	39

From above table it was observed that, maximum number of cases 39 were in the 61-70 years group followed by 32 cases in 51-60 years of age. Malignancy was common in 6th and 7th decade for primary lesion while metastatic lesions were common in 6th decade.

Table-3: Over All Gender Incidence In 100 Case Of Study

Sex of the pt.	No. of cases	Percentage(%)
Male	82	82.0
Female	18	18.0
Total	100	100%

Out of 100 cases 82 were male and 18 were female.

Table-4 : Gender Wise Incidence In Various Lung Cancer. (N=80)

No.	Type of cancer	No. of male Pt.	No. of Female Pt.
1	Squamous cell carcinoma	47	03
2	Small cell carcinoma	06	02

3	Adeno carcinoma	04	08
4	Bronchiolo-alveolar carcinoma	03	-
5	Large cell carcinoma	02	-
6	Metastatic carcinoma	01	01
7	Undifferentiated carcinoma	03	-
	Total	66	14

The sex ratio was observed in overall 100 cases, and also in various type of cancer. All lung cancer was predominantly found in males, except adenocarcinoma. Over all male: female ratio was 4.7: 1 in lung cancer patients.

Table –5 :Symptomatology In 100 Cases

Presenting Symptom	No. of patients
Chest pain	50
Cough	35
Hemoptysis	05
Fever	04
Anorexia	03
Weight loss	03

Majority of patients were presented with the chief complaint of chest pain and cough followed by weight loss, fever and anorexia.

Table – 6 : Positive History Of Smoking (N=100)

No.	History of smoking	No. of cases	M	F	Percentage (%)
1	Positive history of smoking	82	80	02	82.0
2	Negative history of smoking	18	02	16	18.0
	Total	100	82	18	100

Out of 100 patients studied, 82 (82.00%) had positive history of smoking. 80 were male and 2 were female.

Table – 7: Positive History Of Smoking In Lung Cancer Patients (N=80)

No.	History of smoking	No.	Percentage
1	positive history of smoking	74	92.8
2	Negative history of smoking	06	7.5
	Total	80	100

Out of 80 lung cancer patients, 74 (92.80%) patients had positive history of smoking.

Discussion: In present study out of 80 cases of lung tumors most affected age group is 61-70 years,

which is consistent with the study of Agarwal A et al¹, and Chokhani R et al⁸ in which most affected age group is 60-69 years, and 60-70 years respectively. While in study of Rawat Jagdish et al⁹ the most affected age group is 40-60 years.

Table 7: Comparison with other study

Variables	Present study	Agarwal A et al ¹	Chokhani R et al ⁸	Rawat J et al ⁹
Age group	60-70	60-69	60-70	40-60
M:F ratio	4.7:1	3.7:1	2.8:1	8.2:1
Most common type	Squamous cell (62.5%)	Squamous cell (45.2%)	Squamous cell (64%)	Squamous cell (44.8%)
Least common type	Large cell & metastatic (2%)	Large & Small cell (2.3%)	Large & Small cell (1%)	Small cell (16.75%)
Smoker: Non smoker ratio	12.3:1	1.8:1	7.3:1	4.5:1
Common symptom	Chest pain (62.5%)	-----	-----	Cough (72.9%)

As table shows Male: Female ratio in present study is 4.7:1, while in study of Agarwal A et al¹, Chokhani R et al⁸ and Rawat Jagdish et al⁹ it is respectively 3.7:1, 2.8:1 and 8.2:1 which are all different in all of these studies. But all studies show those males are more dominant than females in lung tumors.

In all above studies Squamous Cell Carcinoma is the most common type of lung tumor. Incidence of Squamous Cell Carcinoma is 62.5% in Present study, 45.2% in study of Agarwal A et al¹, 64% in study of Chokhani R et al⁸, and 44.8% in study of Rawat Jagdish et al⁹. While least common type is Large Cell & Metastatic (2%) in present study, Large & Small Cell in study of Agarwal A et al¹(2.3%) and Chokhani R et al⁸ (1%), Small Cell (16.75%) in study of Rawat Jagdish et al⁹. So Large & Small cell types are least common types of lung tumors.

Smokers are more prone to carcinoma as we can see in present study the smoker: non smoker ratio is 12.3:1, while in study of Agarwal A et al¹ it is

1.8:1, in study of Chokhani R et al⁸ it is 7.3:1, in study of Rawat Jgdish et al⁹ it is 4.5:1. Chest pain is the most common symptom in this study while in study of Rawat Jgdish et al⁹ Cough is the commonest symptom.

Conclusion: From this study it is concluded that males are more prone to lung cancer than females. Most common age group affected in lung cancer is 60-70 years. Most common type of lung cancer is Squamous Cell Carcinoma and least common is Large & Small Cell Carcinoma. Those who have smoking habit are more prone to lung cancer.

References:

1. Agarwal A et al. Evaluation of Pulmonary Malignancies in Kathmandu Valley and Role of Bronchoscopic Techniques in Diagnosis of such Cases. JIACM 2003; 4(2); 127-33
2. Brambella E et al. The new world health organization classification of lung tumours. Eur Respir J 2001; 18; 1059-68.
3. Hussain Aliya N. The lung Robbin's and Cotran's pathologic basis of disease. Saunders Company 2010; 8; 721-34.
4. Khuri FR, Herbst RS, Fossella FV. Emerging therapies in non-small cell lung cancer. Ann Oncol 2001; 12; 739-44.
5. Nath V, Grewal KS. Cancer in India. Ind J Med Res 1935; 23; 149-90.
6. ICMR. Cancer incidence and leading sites of cancer in population based cancer registries: development of an atlas of cancer in India. ICMR, First AIR 2001-2002; 11-8.
7. Parker SL, Tong T, Bolden S, Wingo PA. Cancer statistics-1997. CA Cancer J Clin 1997; 47; 5-27.
8. Chokhani R. Lung cancer diagnosis by bronchofibroscopy in a chest clinic in Kathmandu. NMCJ 1998; 1,2; 5-28.
9. Rawat Jagdish. Clino-pathological profile of lung cancer in Uttarakhand, Lung India. 2009 Jul Sep; 26(3); 74-76.

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