IJTA

International Journal of Therapeutic Applications
ISSN 2320-138X

DEMOGRAPHIC PATTERNS OF LUNG CANCER IN JAMMU REGION: A SINGLE CENTRE STUDY

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Abstract

Lung cancer is widely prevalent worldwide and has different histological types. Various risk factors especially smoking have been associated with lung cancer. Squamous cell carcinoma has been the commonest histological type found in the present study, brain being the most common site of distant metastasis.

Keyword: *lung cancer, smoking, histology, metastasis.*

Introduction

The annual incidence of lung cancer in the world is 1.61 million [1]. The annual incidence of lung cancer in India is 41000 [2]. Jindal and Behera in 1990 reported that Indian patients present with lung cancer in 5th and 6th decade, 15-20 years earlier than the western patients [3]. Whereas adenocarcinoma is the predominant histological subtype present in the western world (40%), Indian population mostly presents with squamous cell carcinoma [4]. The bronchiolo-alveolar carcinoma is a variant of adenocarcinoma seen mostly in female never smokers with favourable outcome [5]. Horn *et al* in 2012 attributed 80-90% of the risk of lung cancer to chronic exposure to tobacco smoke [6]. Hecht in 2003 reported that cigarette smoke contains about 60 known carcinogens that include nitrosamines, benzopyrine and radioisotopes [7]. The symptomatology of lung cancer includes coughing, hemoptysis, weight loss, chest pain, bone pains, dyspnoea, fever, superior venacava obstruction, fatigue, clubbing and odynophagia [6]. The chest radiography is the first investigation whereas a tissue for histological diagnosis is obtained by bronchoscope or CT guided biopsy [8, 9].

Screening recommendations for lung cancer

Routine screening by chest X-ray or BAL is not cost-effective and not recommended [10]. However, annual screening with low dose CT scan in high risk patients may reduce mortality attributable to lung cancer by 20% [11].

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Table1. Showing the demographic characteristics of Lung cancer	
N	80
Male: Female	68(85%): 12(15%)
Cigarette: Bidi: Hukka: Chulha	37.5%: 27.5%: 3.75%: 2.5%
Teenage smoking	90%
Cough: Dyspnoea: Hemoptysis: Chest pain	46%: 42.5%: 36%: 33.75%
Fever	23%
Weight loss	16%
Metastasis	Brain (43%): pleura/ Pericardium (37.8%): Bones (10.8%): Lungs (5.4%): Liver (2.7%)

Table 2. Histologic types and prevalence	
Squamous cell carcinoma	70%
Small cell carcinoma	15%
Adenocarcinoma	13%
Large cell carcinoma	1%

Methodology

The present study was conducted in the Postgraduate Department of Medicine in association with the Department of Oncology, Government Medical College, Jammu for a period of one year from November 2012 to October 2013. A total of 80 patients with histologically confirmed lung cancer were enrolled in this study and the associations with the clinical parameters were explored in retrospect. The ethical clearance was obtained from the institutional ethics committee.

Results and Discussion

Out of 80 patients, 68 were males and 12 were females of the age group ranging from 46-75 years, most of them being farmers of Jammu and Rajouri district. Bhattacharyya *et al.* (2011) had similarly reported a mean age of 41-60 years in 52% of the patients [12].

The sources of inhaled smoke associated with lung cancer were cigarettes (37.5%), bidis (27.5%), hukka (3.75%) and chulha (2.5%). 80.89% of the patients with lung cancer had started smoking in teen age and 90% of the patients had been exposed to the smoke for more than 10 years. 46% of the patients presented with cough, 42.5% presented with dyspnoea, 36% presented with hemoptysis, 33.75% patients with chest pain, 23% with fever, 16% with weight loss and easy fatiguability. A similar profile of patients was described by Horn and Jhonson in 2012 [6]. The histological profile of the patients revealed that 70% of the patients had squamous cell carcinoma, 15% had small cell lung cancer, 13% had adenocarcinoma and 1% had large cell lung cancer. Rawat *et al.* (2009) had similarly reported the

histological prevalence of squamous cell carcinoma, adenocarcinoma and small cell lung carcinoma to be 44.83%, 19.78% and 16.75% respectively [13]. 42% of the patients with non-small cell lung cancer had distant metastasis at the time of presentation. In our study, 43% of the patients had metastasis to brain, 37.8% to pleura/pericardium, 10.8% to bones, 5.4% to lungs and 2.7% to liver. Greene *et al* in 2002 similarly reported that common sites of spread include the brain, bone, adrenal glands, opposite lung, liver, pericardium, and kidneys [14]. Various treatment modalities were employed with maximum number of patients receiving combined treatment (48.75%), followed by chemotherapy alone (22.25%) and radiotherapy alone (11.25%). Cellerino *et al.* in 1991 had reported that cisplatin containing regimens were superior in non-small cell lung cancer patients [15]. Beattie *et al.* in 1983 had found an improved 5 year survival with surgery in non-Oat cell lung cancer [16].

Conclusion

Any patient with chronic cough should be subjected to radiography to look for any mass lesion. Smoking cessation programmes and promoting healthy lifestyle in adolescents to avoid starting cigarette smoking should be undertaken. Early diagnosis should be made and treatment with chemotherapy or radiotherapy or combination therapy should be started at the earliest.

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