

A Retrospective Analysis Of Advance Lung Carcinoma In North Indian Population With Emphasis To Its Emerging Risk In The Rural Retreat

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Abstract : *In India, lung carcinoma has become a great apprehension, by claiming large number of lives, due to well known risk factors like smoking, pollution, passive smoking, hazardous work environment¹. This cancer has become a leading life-threatening malady among Indian males and with time incidence of this dreaded condition has put females too at a greater risk².*

Key Words – Lung Carcinoma, never-smokers, Increasing Incidence in Females

INTRODUCTION

Lung cancer is the most commonly diagnosed cancer and the most common cause of cancer death worldwide³. approximately 58% of all lung cancers occur in less developed nations. In India, lung cancer constitutes 6.9% of all new cancer cases and 9.3% of all cancer related deaths⁴. The most important risk factor for lung cancer is tobacco smoking. Other contributory factors include environmental exposure to radon; asbestos; certain metals such as chromium, cadmium and arsenic; some organic chemicals; radiation; coal smoke; as well as indoor emission of fuel burning⁵. Studies have proved that Passive or environmental tobacco smoke (ETS) exposure, has shown to increase morbidity and incidence of lung carcinoma⁶. The indicates that for men it is the habits as well as the habitat resulted in putting them in the risk zone while for the female clan it is primarily their habitat and environmental factors that make them more prone towards this deadly disease⁷. Globally, lung cancer in non-smokers demonstrates a marked gender bias, occurring more frequently among women. In particular, high proportion of Asian women diagnosed with lung cancer are never-smokers⁸. Furthermore lung cancer occurring in never-smokers is more common, resulting in 20,000 reported cases in United states putting deaths in never-smokers among top 10 causes of cancer death⁹.

Studies show that over the last 10 years the survival in lung cancer has increased from a median overall survival of 11 months to an overall 5-year survival rate of 17.8%⁴. Lung cancer surviving rate in India is the lowest in the world making it a major reason of concern. There are various obstacles which are preventing us to reach the stated survival rate the most common being the lack of awareness of the disease and its symptoms¹⁰. Of all the lung cancer patients over 88% patients represent advance stage lung carcinoma which result in delay of diagnosis and its treatment¹¹. In this review we attempt to create better understanding that due to lack of screening facilities drastically increase the risk factors and symptoms which may impact the preventive measures and early diagnosis leading to better quality of life¹².

Population and Sample

We interviewed, discussed and examined 90 advance Lung Carcinoma patients from both sexes in the outpatient department of the Radiotherapy of a multidisciplinary Medical University in North Indian State University and collected data on the basis of their place of residence, risk factors/addition, general complains and symptoms. An analysis was done as per complete, partial remission at the completion of treatment.

Data and Sources of Data

For this study the data of advance Lung Carcinoma patients has been collected. From the outpatient department of Radiation Oncology, King George Medical University, Lucknow India. The data collection period is ranging from April 2013 to Dec 2017.

Method and Material

This was a retrospective analysis of prospectively collected data for all advance lung carcinoma adult (≥ 18 years) patients who were registered in the King George's Medical University, Lucknow, Uttar Pradesh, India. Disease was confirmed by histopathological and/or cytological examination of representative tissue specimens if necessary, more than one type of diagnostic modalities were used, and relevant procedures performed to obtain tissue for immunochemistry and/or molecular studies

Following information was extracted from the database: demographic profile (age, gender, height/weight, Risk factors, dwelling, occupation, complaints, histological type and stage (including presence/extent of extra thoracic metastases, pleural effusion).

A computed tomography (CT) scan of thorax/upper abdomen (including liver and adrenals) was performed in all patients for staging.¹ Patients with symptoms suggestive of metastatic disease underwent relevant investigations (brain magnetic resonance imaging, bone scan, etc.).

In 1st line Chemotherapy all patients were administered a combination of 6 Cycles of Paclitaxel Carboplatin / Paclitaxel Cisplatin / Paclitaxel Gemcitabine. Palliative radiation therapy was given to patients for bone pain, brain metastasis or for lymph nodes in the chest or neck region. Response to treatment was analyses as partial, complete or no response.

Discussion

As per the data analysis it was revealed that due to lack of awareness of risk factors and symptoms of the disease Lung carcinoma is erupting as a major issue and this problem has majorly affected the rural area. As per the Uttar Pradesh (the largest and most populous state in India) rural population as per Census 2011, 77.73% people reside in the rural where 70% people are directly or indirectly dependent on agriculture lack of awareness cause delay in diagnosis and further delays treatment. Lower literacy rate, blind believes, quacks are the prime reasons which are a cause of patient defaulting during treatment or delay in treatment which results in low life expectancy with partial or no response to treatment. Palliative radiotherapy contributes majorly in providing better quality of life.

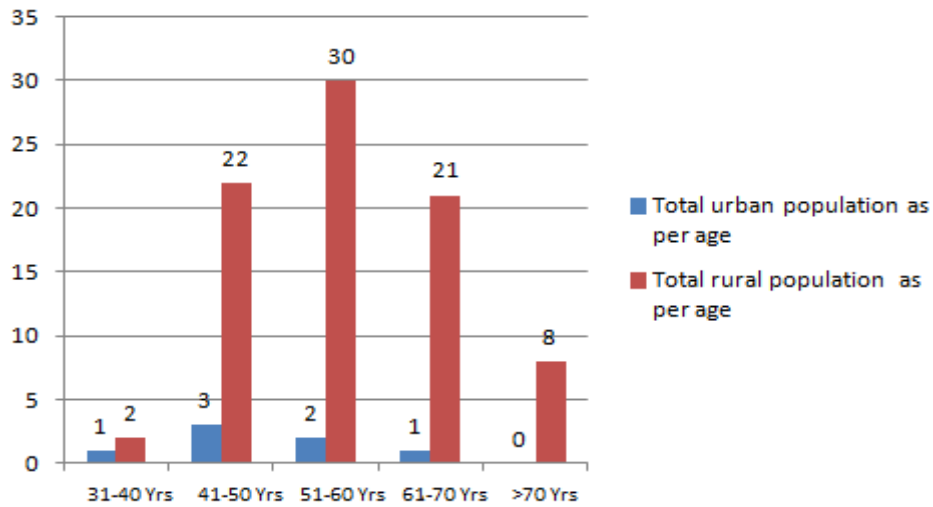


Table 1
Representation of total Urban and Rural Population as per their age

TABLE - II

DISTRIBUTION OF CASES ACCORDING TO HABIT OF ADDICTION

HABIT	NO. OF CASES	DURATION (IN YEARS)		
		10	10-20	20+
NO ADDICTION	24	-	-	-
TOBACCO SMOKING	38	6	14	20
TOBACCO CHEWING	11	2	4	5
ALCOHOL	4	-	1	3
COMBINED ADDICTION	13	2	5	6

Table shows that around 42% cases gave history of addiction to tobacco smoking .The presentation also reveals around 38% had exposure to the risk factors for over 20 years. It also indicates that around 27% of the patients were not addicted to any of the common risk factors however hazardous work environment put them in the risk zone.

TABLE -III
SHOWING RESPONSE TO TREATMENT IN EACH GROUP

S.NO.	TYPE OF RESPONSE	Squamous Cell Carcinoma	Adeno Carcinoma
1	Complete Response	3/52 (5.8%)	2/38 (5.3%)
2	Partial Response	31/52 (59.6%)	20/38 (52.6%)
3	No Response	15/52 (28.8%)	12/38 (31.6%)
4	Progression	3/52 (5.8%)	4/38 (10.5%)

This table shows the total rate in terms of complete, partial remission at the completion of treatment. It is evident that better response is seen in patients treated with Squamous Cell Carcinoma.

Result

Of the total advanced lung carcinoma patients analyzed 19% patients were females. 92% patients were from the rural retreat (Refer Fig. 1) of which 52% of the patients were farmers, 19% were housewife's, 19% were daily wages workers (masons, welders) while the remaining 10% were self employed. As the huge populations with advanced state representation were from the rural area it clearly represented lack of awareness of the various risk factors, 42% patients had a history of long term tobacco smoking. As a huge population was farming based prolonged use of pesticides, chemical fertilizers, smoke, coal fumes were a major risk factor while the rest of the population had a major exposure to metal fumes, prolonged exposure of silica can lead to lung damage and silicosis. Various researches have shown Individuals who develop silicosis are also at an increased risk of developing lung cancer. 42% of the cases reported were Adenocarcinoma while 58% cases were Squamous cell Carcinoma indicating a rise in the rate of Adenocarcinoma. 8% on treatment showed complete response while 56% showed partial response to treatment, 27% of total patients showed no response to treatment while 7% were found to have disease progression.

Conclusion: Lung cancer is no longer solely regarded as a smoker's disease but in our analysis it still had a major role to play. Life style, work environment, pollution too have contributed immensely in the spread of the disease. As majority of the patients were from the rural background, who reported with advanced stage lung carcinoma, shows the lack of awareness of the disease and its symptoms which is a major cause of delay in treatment which results in low life expectancy with partial or no response to treatment.

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