

A Retrospective Evaluation of 571 Lung Carcinoma Patients

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Abstract

We analysed a group of 571 patients with lung carcinoma in whom the diagnosis was established at our clinic in the course of 1994-1999. The series included 536 men (93.8%) and 35 women (6.2%); 77 patients (13.4%) were \leq 45 years old, 494 patients (86.5%) were \geq 46 years old. A smoking history was available in 406 patients (71%). Biopsy samples revealed the histological type of the tumors in 97%: Non-small cell lung cancer (NSCLC) in 394 patients (69%), small cell lung cancer (SCLC) in 150 patients (26%), while in 3% of cases the histological type of the bronchogenic carcinoma was not determined. The disease was diagnosed mostly by bronchoscopy in 388 (70%) cases. We found metastasis to lymphnodes in 45%, to bone in 31.4% and to liver in 19.3%. Clinical stages at diagnosis for NSCLC were classified in the

following manner: stage I: 5.3%, stage II: 5.3%, stage IIIA: 14.5%, stage IIIB: 25.9%, stage IV: 43.4%, unclassified: 5.6%. SCLC were classified in the following manner: limited disease: 35.3%, extensive disease: 60%. In 7 patients (4.7%), staging procedures were incomplete for proper staging. According to the TNM staging and overall conditions of the patients, the following modes of therapy were applied: chemotherapy in 303 (53%), radiotherapy in 90 (15.8%), surgery in 14 (2.4%), combined therapy (chemotherapy/radiotherapy and surgery) in 98 (17.2%), while 66 patients (11.6%) received only symptomatic therapy.

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Key words: lung cancer, histopathology types, diagnosis

Introduction

Lung cancer is believed to be the most common fatal neoplastic disease in the world today. It is responsible of 28% of all cancer related deaths (1). In 1994, incidence figures for all cancers and lung cancer were 33.1/100 000 and 5.9/100 000 respectively in Turkey (2). While the ratio of male to female is changing from 5/1 to 2/1 in the world, at present it is 8/1 in Turkey (3). Smoking is the cause for about 85% of the bronchogenic carcinoma cases (4,5). According to the World Health Organisation (WHO) classification formulated in 1999; there are six major types of malignant epithelial nonsmall cell lung carcinoma (NSCLC) and small cell lung carcinoma (SCLC) (6). Non-small cell lung carcinoma, which include squamous cell carcinoma (40-60%), adenocarcinoma (20-30%) and large cell carcinoma (5-10%), represent about 70 percent of all lung cancers (7). The proportions of histopathologic cell types of lung cancer vary with changes in social and other environmental factors. Combined types are seen most frequently.

We undertook this retrospective review of patients diagnosed with lung cancer at our clinic over a 5 year period in order to understand the patient profile.

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	NSCLC (n)	SCLC (n)
Total	394	150
Gender		
Female	23	10
Male	371	140
Diagnostic procedures		
FOB	275	102
Rigid bronchoscopy	9	2
Supraclavicular/scalene lymph node biopsy	12	12
CT guided TTFNAB	45	16
US guided TTFNAB	16	2
Pleural biopsy	13	2
Thoracotomy	10	2
Mediastinostomy	2	3
Other	12	5
NSCLC: nonsmall cell lung carcinoma SCLC: small cell lung carcinoma FOB: fiberoptic bronchoscopy TTFNAB: transthoracic fine needle aspiration biopsy; n: number of patients		

Sites of metastasis	NSCLC	SCLC
Hilar/mediastinal LAM	106	32
Scalene/supraclavicular LAM	19	16
Pleura	39	6
Liver	35	40
Bone	80	42
Contralateral lung	17	4
Brain	32	5
Adrenal	32	3
Other	10	9
* Some cases had more than one metastasis		

Materials and Methods

This retrospective study was performed using a database with 571 patients who had been diagnosed at our clinic, in the period between the years of 1994 and 1999. The patients were analysed with regard to age, sex, smoking habits, histopathologic type of the tumor, clinical stage and treatment regimen.

Results

The series included 536 men (93.8%) and 35 women (6.2%). 77 patients (13.4%) were ≤45 years old and the remaining 494 patients (86.5%) were older. Information on smoking habits was available in 406 patients (71%). Mean (SD) package/year cigarette consumption of the patients was 49±26. The most frequently encountered additional diseases were COPD and inactive lung tuberculosis. Results are shown in Tables 1-4.

Histology	No of patients
Nonsmall cell lung carcinoma	394
Squamous cell	236
Adenocarcinoma	103
Large cell	7
Bronchioloalveolar	8
Not identified	40
Small cell lung carcinoma	150
Classic	144
Combined type (SCLC+squamous cell/adenocarcinoma/large cell)	6
Other	27
Neuroendocrine tumors	1
Schwannoma	1
Malign thymoma	1
Undifferential carcinoma	6
Carcinoid tumor	2
Malign cytology without type determination	16

	Stage	No of patient
NSCLC	I	21
	II	21
	III A	57
	III B	102
	IV	171
	Unclassified	22
SCLC	Limited stage	53
	Extensive stage	90
	Unclassified	7

Discussion

Lung cancer is usually classified in two main categories, NSCLC and SCLC. Since treatment varies considerably between SCLC and NSCLC, it is important to differentiate the tumor types. NSCLC constitutes about 70-80% of all cancers of the lung (7,8). In our study, NSCLC also was the most frequent histologic type (69%). Among the 394 patients identified with NSCLC, squamous cell carcinoma and adenocarcinoma were the predominant types (59.8% and 26.14% respectively). These figures are similar to results in previously reported series.

NSCLC typically presents between the ages of 50 and 80 years. Only 3% will present before the age of 45 years and 9% before the age of 50 years (8-10). Ninety percent of patients with NSCLC will present this disease before the age of 80 years (11). Our study population was similar with 13.4% of our patients ≤45 years old, 60.1% aged between 46-65 years and 26.4% aged 66 years or older.

We found a smoking prevalence of 71% with a mean value of 49.0 ± 26 package/years. These findings supported the conclusion that smoking was the major cause of lung cancer. It is obvious that the prevalence of the disease can be greatly reduced by eliminating tobacco use.

Bronchoscopy is the most useful investigation in the evaluation of a patient suspected of a lung cancer. Tumours that are beyond bronchoscopic vision are difficult to reach and require other techniques (12). 69.9% of our patients were diagnosed by bronchoscopic biopsy. Ultrasound and CT guided transthoracic fine needle aspiration biopsy (TTFNAB) were methods which had to be resorted to in 14.2% of the patients.

The usual sites of metastatic diseases include lymph nodes, liver, brain, adrenals, kidneys and bones, though virtually any organ can be affected (13). We found matastases in the lymph nodes (in 35.6%), and in the bones (in 31.4%) in 388 of the 571 patients.

Treatment varies considerably depending both on tumor histologic subtype and on stage at the time of diagnosis. The majority of our patients with NSCLC were evaluated as Stage IV (43.4%) and stage IIIB (25.9%) at the time of diagnosis. These findings suggest that there is an initial delay in diagnosis.

Twenty-five percent of nonsmall cell lung cancer patients are reported to have resectable disease at the time of diagnosis and 50% to have disease confined to the thorax (8). In our cases 51% had disease confined to the thorax. Approximately twenty-five percent had resectable tumors and surgery was applied to 20% of these cases.

Small cell lung cancer is unique among bronchogenic carcinoma because of its rapid clinical course and propensity for rapid dissemination (14). Two thirds of small cell lung cancer patients have metastasis at the time of diagnosis (15). In our study, approximately 60% of SCLC patients had extensive disease. On the other hand the condition is highly

responsive to chemotherapy but unfortunately most of the cases eventually relapse and die from this malignancy (16). According to the TNM staging and overall conditions of the patients, the following modes of therapy were applied: Chemotherapy in 53%, radiotherapy in 15.8%, surgery in 2.4%, combined therapy (chemotherapy/radiotherapy+surgery) in 17.2%. Symptomatic therapy was received only by 11.6% of the patients.

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