

AKCİĞER KANSERLİ OLGULARIN ACİL SERVİS BAŞVURULARI

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ÖZET

Amaç: Akciğer kanserindeki onkolojik aciller sık ve genellikle ciddidir. Acil servisimize başvuran akciğer kanserli vakalarımızdaki onkolojik acillerin nedenlerini araştırmayı amaçladık.

Gereç ve Yöntem: Bir yıllık süre içinde acil servisimize başvuran akciğer kanserli vakaları retrospektif olarak inceledik. Acil servis ve beraberinde istenen konsültasyon dökümanlarından; semptomlar, laboratuvar bulguları, sigara öyküleri, göğüs radyogramları, akciğer bilgisayarlı tomografileri ve tanıları kaydedildi.

Bulgular: Acil servisimize belirtilen sürede 45 akciğer kanseri başvurusu olmuştur. Ortalama yaş 62.6 ± 11.5 idi. Hastaların en sık başvuru nedenleri sırasıyla; nefes darlığı (62%), öksürük (29%), göğüs ağrısı (22%), çarpıntı (18%), ateş (13%) ve nörolojik bulgular (11%) idi. Acil servisteki değerlendirmenin ardından en sık rastlanan tanıları; kronik obstrüktif akciğer hastalığı (KOAH) (24%), pnömoni (20%), plevral sıvı (11%), koroner arter hastalığı (9%), pulmoner embolizm (7%), elektrolit bozukluğu (7%), ciddi solunum yetmezliği (7%) idi. Kırk beş hastanın 14’ü yatırılarak tedavi gördü, 2’si ağır solunum yetmezliğinden acil serviste vefat etti, 28’ide acil serviste gereken tedaviyi aldıktan sonra evine gönderildi. Sonuç: Akciğer kanserli hastaların acil servise başvuru nedenleri arasında en sık KOAH alevlenmesi bulunmaktaydı. Bunun nedeni olarak Türk akciğer kanseri hastalarının yüksek oranda devam eden sigara içme oranlarının olduğunu düşünmekteyiz. Çalışmamızdaki diğer ilginç bir bulgu da klasik kitaplarda onkolojik aciller altında pek bahsedilmeyen, ancak tanısının koyulması ve tedavinin başlaması ile hayat kurtarıcı olan pulmoner embolinin sık olarak rastlanması olmuştur. Araştırmamız bildiğimiz kadarı ile Türkiye’de akciğer kanserli hastaların acil servis başvurularını inceleyen ilk çalışmadır.

Anahtar Kelimeler: Akciğer kanseri, onkolojik aciller

APPLICATION TO EMERGENCY DEPARTMENT AMONG PATIENTS WITH LUNG CANCER

ABSTRACT

Aim: Oncologic emergencies in lung cancer are common and potentially severe. We sought to describe the common causes of oncologic emergencies in patients with lung cancer who applied our emergency department (ED).

Method: A retrospective chart review was conducted of lung cancer patients seen in our ED over one-year period. ED and subsequent consultation records were reviewed for the following: symptoms, laboratory findings, smoking histories, chest radiograph results, chest computed tomographies, and final diagnosis.

Results: There were 45 patients with lung cancer who were applied to the ED. The mean age was 62.6 ± 11.5 years. The most common complaints for the patients for applying ED were; dyspnea (62%), cough (29%), chest pain (22%), palpitation (18%), fever (13%) and neurological findings (11%). After initial evaluation the common diagnosis were; burden of chronic obstructive pulmonary disease (COPD) (24%), pneumonia (20%), pleural effusion (11%), Coronary artery disease (9%), pulmonary embolism (7%), electrolyte imbalance (7%), severe respiratory insufficiency (7%). Out of 45 patients 14 were admitted to inpatient service, 2 patients with severe respiratory insufficiency died in ED, and 28 were discharged after they had appropriate therapy at ED.

Conclusion: A high rate of COPD burden for the reason of ED applications among patients with lung cancer was found. The reason of this might be heavy smoking histories among Turkish lung cancer patients. Another interesting finding in our study was the high rate of pulmonary embolism cases which usually not mentioned under oncologic emergencies, but could be life saving if diagnosed.

Key Words: Lung cancer, Oncologic emergencies

INTRODUCTION

Most cancer patients experience at least one emergency during the course of the disease ⁽¹⁾. Lung cancer can cause emergencies because of tumor growth, invasion of vital structures, and metabolic alterations ⁽²⁾. Besides, oncologic emergencies in lung cancer are common and potentially severe.

Structural obstructive problems of lung cancer can include vena cava superior syndrome, spinal cord compression, pleural or pericardial effusions, brain metastases, pneumonia, and pulmonary hemorrhage⁽²⁾. Paraneoplastic syndromes are metabolic disorders that arise from malignant cells because of lung parenchyma injury, mucin production, ectopic hormone production, or unknown mechanisms ^(2,3). Main metabolic paraneoplastic emergencies associated with lung cancer may include: hypercalcemia, hypocalcemia, hyponatremia, Eaton-Lambert Syndrome, and Cushing Syndrome ⁽³⁾.

Numerous chemotherapy regimens are now administered in the outpatient setting and even at home. These factors contribute to the likelihood that most emergency or pulmonary medicine physicians will encounter a patient with an oncologic emergency. Increasingly, these patients are being evaluated in emergency departments of both tertiary care centers and community hospitals ⁽⁴⁾.

Oncologic emergencies have been described and identified in internal medicine ⁽⁵⁾ and oncology textbooks ⁽⁶⁾. However, in daily practice, cancer patients seek nonscheduled medical care and apply to Emergency Departments (EDs). Due to the associated high mortality and morbidity, initial evaluation of the patient in ED and therapy have utmost importance in the outcome of the patient. We attempted to determine the prevalence of the common causes of oncologic emergencies in patients with lung cancer who applied to our emergency department.

METHODS

A retrospective chart review was conducted of patients seen in our ED between 1-1-2006 and 31-12-2006 who had diagnosed with lung cancer.

ED and subsequent consultation records were reviewed for the followings: vital signs, symptoms, laboratory findings including serum biochemistry, complete blood count, and arterial blood gas analysis, stages, ECOG performance status, chest radiograph results, chest computed tomography when available, comorbidities, smoking histories, final diagnosis and outcome. The interval from last admission to hospital and presentation to ED was detected.

RESULTS

There were 45 patients with lung cancer who applied to the ED between 1-1-2006 and 31-12-2006. The mean age was 62.6±11.5 years. The study group comprised 15 females and 30 males. Patient demographics smoking histories, stages, histological types and ECOG performance status of patients are outlined in *Table I*. Nearly two third of the patients (64%) had stage III or IV non small cell lung cancer. Seventy-five percent of patients had ECOG score of 2 and 3. The interval from last admission to hospital and presentation to ED was 19.7±21.8 days.

The common complaints of the patients for applying ED were; dyspnea (62%), cough (29%), chest pain (22%),

Table I. Demographics, smoking histories, stages and ECOGs of patients.

Characteristic (n=45)	Number (%)
Age, years (mean ± SD)	62.6 ± 11.5
Sex	
Male	30 (67)
Female	15 (33)
Smoking history	
Current	14 (31)
Former	15 (33)
Never	16 (36)
Pack-years for current or former smokers (mean ± SD)	61.9 ± 29.5
Histology and Clinical stage	
Non Small Cell Lung Cancer, Stage II	10 (22)
Non Small Cell Lung Cancer, Stage III	17 (38)
Non Small Cell Lung Cancer, Stage IV	12 (26)
Small Cell Lung Cancer, Advanced stage	6 (14)
ECOG score	
1	9 (20)
2	23 (51)
3	11 (24)
4	2 (5)

palpitation (18%), fever (13%) and neurological findings (11%) (*Table II*). Laboratory tests` results are presented in *Table III*.

After initial evaluation the common diagnosis were; burden of chronic obstructive pulmonary disease (COPD) (24%), pneumonia (20%), pleural effusion (11%), Coronary artery disease (9%), pulmonary embolism (7%), electrolyte imbalance (7%), severe respiratory insufficiency (7%) (*Table IV*). Sixty-seven percent of patients who were diagnosed COPD continued smoking after diagnosis of lung cancer. Overall, 14 of 45 patients were admitted to inpatient service, 2 patients with severe respiratory insufficiency died in ED, and 28 were discharged after they had appropriate therapy at ED.

DISCUSSION

In our study a significant number of patients applied to the ED because of dyspnea, cough and chest pain. After initial evaluation the most common diagnosis was burden of COPD (24%). Even more striking is the fact that 67% of these

Table II. Complaints of the patients for applying ED

Symptom	Patients (N=45)	%
Dyspnea	28	62
Cough	13	29
Chest pain	10	22
Palpitation	8	18
Fever	6	13
Syncope	6	13
Neurological findings	5	11
General Body Pain	4	9
Hypertention	4	9
Diarrhea	4	9
Hypotension	3	7
Nausea/Vomiting	1	2
Hemoptysis	1	2
Anuria	1	2

Table III. The mean laboratory values (\pm SD) of the patients

Diagnostic Tests			
Hematology	Chemistry	ABGs	Coagulation Tests
WBC:1.2 \pm 6.7/mm ³	Na:135.8 \pm 6.7 mEq/L	pH:7.38 \pm 0.1	PTT:33.6 \pm 11.3 sec
Hgb:11.5 \pm 1.9 mg/dL	K:4.4 \pm 0.6 mEq/L	pCO ₂ :35.3 \pm 11.5 mmHg	INR:1.6 \pm 0.9
Hct:34.3 \pm 5.5	Cl:99.9 \pm 7.1 mEq/L	pO ₂ :57.9 \pm 25 mmHg	
Plt:310364 \pm 165863/mm ³	Ca:8.9 \pm 0.6 mg/dL	HCO ₃ :21.0 \pm 3.9 mEq/L	
	SGOT:34.4 \pm 39.0 IU/L	O ₂ Sat:83.0 \pm 14.3	
	Gluc:137.2 \pm 60.8 mg/dl		
	BUN:22.4 \pm 10.4 mg/dL		
	Creat:0.9 \pm 0.9 mg/dL		
	LDH:598.2 \pm 668.8 IU/L		
	Tpro:6.7 \pm 0.7 g/dL		
	ALP:186 \pm 255 IU/L		

Table IV. Final diagnosis after evaluation of the patient

Diagnosis	Patients (N=45)	%
Burden of COPD	11	24
Pneumonia	9	20
Pleural effusion	5	11
Coronary artery disease	4	9
Pulmonary embolism	3	7
Electrolyte imbalance	3	7
Severe respiratory insufficiency	3	7
Pericardial effusion	2	4
Febrile neutropenia	2	4
New brain metastases	2	4
Gastrointestinal complaints	2	4
Pain at the operation sutures	2	4
New bone metastases	1	2
Hemoptysis	1	2

patients continued smoking after diagnosis of lung cancer. Another interesting finding of our study was that the frequent incidence of pulmonary embolism among this group patients. Diaz-Couselo et al.⁽⁷⁾ evaluated the main symptoms leading to nonscheduled consultations and their relationship to the type of cancer in their prospective observational study. Among 67 lung cancer patients the main symptoms were pain (n=16, 24%), fever (n=13, 19%), and dyspnea (n=10, 15%). In our study, fever ratio is in accordance to theirs, however the most common symptom in our patient population was dyspnea with being a complaint amongst 62% of all patients. The difference might be due to the high rate of pack-years of smoking and the rate of active smokers in our study population even though they were diagnosed with lung cancer. Cilli et al.⁽⁸⁾ investigated the prevalence of COPD in patients with lung cancer and its association with prognosis. They concluded that COPD is more prevalent in patients with lung cancer than in the general population. Recently, Baser et al.⁽⁹⁾ assessed the prevalence of pulmonary dysfunction as the underlying reason for inoperability among patients with lung cancer and found that a substantial number of patients with anatomically resectable lung cancer are deemed surgically ineligible based on poor lung function due to COPD. Furthermore, in another study by the same authors⁽¹⁰⁾ showed that patients who quit

smoking after the diagnosis of lung cancer maintain better performance status than those who continued to smoke. In our patient group, after initial evaluation the most common diagnosis was burden of COPD. Several factors may contribute to this. The irritant effect of cigarette smoke on pulmonary tissues may promote airway inflammation, decreased mucociliary activity and may cause burden of COPD⁽¹¹⁾. The fact that 67% of these patients continued smoking after diagnosis of lung cancer strengthens this thesis. Performance status is a well known independent prognostic parameter for patients with cancer^(12,13). In our study 75% of patients had ECOG score of 2 or 3. We had very small amount of patients with an ECOG score of 0 or 1. We may conclude that these applications to ED were mostly patient with poor PS.

Emergencies in lung cancer patients encompass virtually every major system. Cancer is the most common cause of pericardial effusion, and lung cancer is the most common malignant etiology^(2,14). Cardiac effusions and tamponade occur because of direct metastatic invasion of the pericardium or by lymphatic obstruction and dissemination from involved mediastinal nodes⁽²⁾. Out of 45 patients 2 (4%) were diagnosed with pericardial effusion. Symptoms of developing effusion include dyspnea, palpitation, chest pain, cough, weakness and fatigue. The severity of presenting symptoms of effusions and tamponade is related to the rate of accumulation of fluid, the volume of fluid, and the patient's underlying cardiac function⁽²⁾. We detected pleural effusion more than pericardial effusion among our patients (11%). Lung cancer is the most common cause of pleural effusion in men⁽¹⁵⁾. It is most common in adenocarcinoma and large cell, because these tumors tend to invade the pleura⁽²⁾. Pleural effusion may be asymptomatic, but common complaints include dyspnea, cough, and chest pain⁽²⁾.

Malignancy is the most important risk factor for venous thromboembolism. Prostate, pancreas and lung cancers are frequently seen with thrombosis. Pulmonary embolism is usually not mentioned under oncologic emergencies in text books. However, another interesting finding in our study was the high rate of pulmonary embolism cases (7%). Our study has a limitation in that it was a retrospective chart review, and thus we were restricted to the clinical data on the ED record and inpatient charts. However, to the best of our

knowledge, it was the first study that evaluates lung cancer emergencies in Turkish population. The most common diagnosis was burden of COPD (24%). Even more striking is the fact that 67% of these patients continued smoking after diagnosis of lung cancer. Another interesting finding of our study was that the frequent incidence of pulmonary embolism among this group of patients.

Due to the associated high mortality and morbidity, initial evaluation of the patient in ED and therapy have utmost importance in the outcome of the patient. A thorough history, physical examination, chest radiograph, CBC, biochemistry of blood and thorax computed tomography when needed will identify the proper diagnosis and will allow to administer correct treatment.

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