

Case Report

Open Access, Volume 2

Endobronchial metastasis of urinary bladder carcinoma

Yusuf Taha Güllü*; Büşra Adıgüzel Gündoğdu; Tibel Tuna; Nurhan Köksal

Ondokuz Mayıs University Faculty of Medicine, Department of Pulmonary Medicine, Samsun, Turkey.

*Corresponding Authors: Yusuf Taha Güllü

Assistant Professor, Ondokuz Mayıs University
Faculty of Medicine, Department of Pulmonary
Medicine, Atakum, Samsun, Turkey.

Email: tahagullu@gmail.com &
yusuftaha.gullu@omu.edu.tr

Received: Sep 08, 2021

Accepted: Oct 11, 2021

Published: Oct 18, 2021

Archived: www.jcimcr.org

Copyright: © Güllü YT (2021).

Abstract

Introduction: Bladder cancer is the 12th most common cancer type worldwide. The most common symptom is painless hematuria. The most common sites of distant metastasis are liver (47%), lung (45%) and bone (32%), respectively.

Case report: 73-year-old male patient was admitted with the complaint of hematuria. With a preliminary diagnosis of bladder cancer transurethral resection of tumour (TUR-B) was performed and pathology reported invasive urothelial carcinoma. The patient applied to the pulmonary diseases outpatient clinic with the complaint of cough and wheezing. Bronchoscopy was performed with a pre-diagnosis of bladder cancer metastasis. Multiple biopsies from EBL reported in accordance with urothelial carcinoma metastasis.

Result: Urothelial carcinoma of the bladder may present with different pulmonary involvement. Although endobronchial metastasis is a rare condition; it should always be kept in mind in patients with respiratory system complaints.

Keywords: endobronchial metastasis; bladder carcinoma; urothelial carcinoma; pulmonary involvement.

Introduction

Bladder cancer is the 12th most common cancer type worldwide. Urothelial carcinoma is the most common tumour type. It affects especially men more than women. Tobacco smoking is the most important cause of bladder cancer [1]. The most common symptom is painless hematuria. This symptom can be confused with urinary tract infection, prostatitis and renal calculi. Therefore, diagnosis is often delayed. The most common sites of distant metastasis are liver (47%), lung (45%) and bone (32%), respectively. A minority of patients have pulmonary symptoms. Pulmonary symptoms include mediastinal lymph node metastasis, pleural effusion and endobronchial lesions. Endobronchial metastasis is rare in extra-pulmonary malignant tumor. It is most common in head and neck, lung, prostate, breast, colon and renal adenocarcinoma [2,3].

Case report

73-year-old male patient was admitted with the complaint of hematuria. There was hypertension, cerebrovascular disease and arrhythmia in his medical history. With a preliminary diagnosis of bladder cancer transurethral resection of tumour (TUR-B) was performed and pathology reported invasive urothelial carcinoma. Adjuvant chemotherapy was planned for the patient. The patient applied to the pulmonary diseases outpatient clinic with the complaint of cough and wheezing that had continued for 2 months. Physical examination revealed fever 36.7 C, pulse 85 /min/rhythmic, oxygen saturation 95%, respiratory rate 22 /min, blood pressure 130/80 mmHg. Lung auscultation revealed rhonchi with decreased respiratory sounds on the right side. Computed Tomography (CT) of the thorax revealed paratracheal, prevascular, aorticopulmonary, subcarinal, bilat-

eral hilar and interlobar stations with lymph nodes, the largest of which was 2 X 3 cm in size. On the right side, pleural fluid measuring 60 mm thickness in its widest part was observed. An irregular wide area of alveolar consolidation was observed extending from the right hilus to the periphery adjacent to the perivascular structures. Appropriate antibiotic treatment was initiated with the pre-diagnosis of pneumonia. Thoracentesis was performed and pleural fluid was sent to cytology for analysis. The patient's complaints continued after 10 days. It was decided to perform bronchoscopy with a pre-diagnosis of bladder cancer metastasis. In bronchoscopy, the right upper lobe entry, middle lobe entry and lower lobe entry were narrowed. The right secondary carina was edematous, and tumoral infiltration areas originating from this area and endobronchial lesion (EBL) were observed. Multiple biopsies from EBL and tumoural infiltration zones and bronchial lavage from the right main bronchial system were taken. Biopsy results, lavage cytology and pleural fluid cytology were reported in accordance with urothelial carcinoma metastasis. Palliative chemotherapy was initiated to the patient who was found to have endobronchial metastasis and pleural fluid metastasis. One week after the first course of chemotherapy, the patient applied to the emergency department with complaints of general condition disorder and shortness of breath. He was admitted to the intensive care unit and died from respiratory failure on the 7th day of hospitalization.

Discussion

The primary symptom of bladder cancer is painless hematuria. Endobronchial metastasis of bladder cancer is uncommon. The main symptoms include cough, sputum, wheezing, dyspnea and hemoptysis [4,5]. Bronchoscopy should be performed in order to identify the endobronchial metastases in such cases. To our knowledge; 14 cases with endobronchial metastasis of bladder cancer had been reported so far. Shepherd [6] reported 2 cases, Heitmiller [7] et al reported a case, Bukurov [8] et al reported 5 cases, Katsimbri [3] et al reported a case, Stranzl [9] et al reported a case, Sakar [4] et al reported a case, Cekmen [5] et al reported a case and Marchioni [10] et al reported 2 cases with endobronchial metastasis of bladder cancer respectively. In our case; the patient had chronic cough and dyspnea for more than 2 months before a diagnosis of bladder cancer. But he did not apply to a physician until he had hematuria. Endobronchial lesion was detected in fiberoptic bronchoscopy and metastasis of urothelial carcinoma was reported pathologically.

Pulmonary involvement of bladder carcinoma may also present with mediastinal lymph nodes and pleural effusion [11]. It is known that only 5% of all bladder cancer patients present with metastatic disease at admission [12]. Metastasis of urothelial carcinoma to the pleura accounts approximately 11 % of all bladder cancer metastases. Dyspnea was the major symptom in such cases [13]. Pleural effusions should be drained for diagnosis and symptom relieving. In our case; pleural fluid cytology revealed urothelial carcinoma metastasis pathologically. Also mediastinal lymphadenopathy metastases from extrathoracic organs is a rare condition in bladder cancer. When thinking about genitourinary cancers renal cell carcinoma and testis tumours may spread to mediastinal lymph nodes more than bladder cancer [2]. In our case, mediastinal lymphadenopathies were also considered metastatic, since the results

of endobronchial lesion biopsy and pleural fluid cytology were compatible with urothelial carcinoma. No further evaluation was performed for mediastinal lymphadenopathy.

Urothelial carcinoma of the bladder may present with different pulmonary involvement. Although endobronchial metastasis is a rare condition; it should always be kept in mind in patients with respiratory system complaints. Diagnosis of these metastases were delayed unless bronchoscopy performed.

References

1. Wild CP, Weiderpass E, Stewart BW, editors. *World Cancer Report: Cancer Research for Cancer Prevention*. Lyon, France: International Agency for Research on Cancer. 2020.
2. Hiensch R, Belete H, Rashidfarokhi M, Galperin I, Shakil F, Epelbaum O. Unusual Patterns of Thoracic Metastasis of Urinary Bladder Carcinoma. *J Clin Imaging Sci.* 2017; 7: 23.
3. Katsimbri PP, Bamias TA, Froudarakis EM. Endobronchial metastases secondary to solid tumors: Report of eight cases and review of the literature. *Lung Cancer.* 2000; 28: 163-70.
4. A. Sakar, N. Gencer, P. Demireli, T. Muezzinoglu, P. Celik, A. Yorgancioglu, Endobronchial metastasis from urinary bladder cancer, *Tuberk. ve toraks.* 2005; 53: 75-79.
5. N. Cekmen, S. Aciksoz, H. Serdaroglu, O. Erdemli, T. Inan, Endobronchial metastasis of a primary transitional-cell and signet-ring cell carcinoma of the urinary bladder, *Respir. Care.* 2011; 56: 1033-1036.
6. Shepherd MP. Endobronchial metastatic disease. *Thorax.* 1982; 37: 362-5.
7. Heitmiller RF, Marasco WJ, Hruban RH, Marsh BR. Endobronchial metastasis. *J Thorac Cardiovasc Surg.* 1993; 106: 537-42.
8. Bukurov E, Mandaric D, Zivkovic J, Jasnovski T. Endobronchial metastasis of extrathoracic neoplasms. *Lung Cancer.* 1997; 18: 229.
9. Stranzl H, Gabor S, Mayer R, Prettenhofer U, Wurzinger G, Hackl A. Fractionated intraluminal HDR192Ir brachytherapy as palliative treatment in patients with endobronchial metastases from non-bronchogenic primaries. *Strahlenther Onkol.* 2002; 178: 442/5. *Acta Oncologica* 43 (2004) Endobronchial metastases 79.
10. Marchioni A, Lasagni A, Busca A, Cavazza A, Agostini L, Migaldi M, et al. Endobronchial metastasis: An epidemiologic and clinicopathologic study of 174 consecutive cases. *Lung Cancer.* 2014; 84: 222-8.
11. Agrawal A, Sahni S, Vulisha AK, Gumpeni R, Shah R, Talwar A. Pulmonary manifestations of urothelial carcinoma of the bladder. *Respir Med.* 2017; 128: 65-69.
12. S. Al-Sukhun, M. Hussain, Current understanding of the biology of advanced bladder cancer, *Cancer.* 2003; 97: 2064-2075.
13. L. Sengelov, C. Kamby, H. von der Maase, Pattern of metastases in relation to characteristics of primary tumor and treatment in patients with disseminated urothelial carcinoma, *J. Urol.* 1996; 155: 111-114.