

Investigation of Patients with Deep Vein Thrombosis in Terms of Malignancy

Derin Ven Trombozu olan Hastaların Malignite Yönünden Araştırılması

Subhan Mammadov, Semih Yaylı, Başak Koçak, Abdullah Özer

Gazi University Faculty of Medicine, Department of Cardiovascular Surgery, Ankara Turkey

ABSTRACT

Cardiovascular diseases are among the most common causes of death in the world and in our country. Venous Thromboembolism (VTE) is the most important cause of mortality after DVT. Survival is worse in patients with cancer diagnosed concomitantly with deep vein thrombosis. However, information on specific malignancies is limited. If the treatment is started after DVT and the etiology is not investigated, new diagnosis malignancy treatment may be delayed and cause mortality, especially in elderly patients. Our patient, 58 years old, was diagnosed with DVT, after the dvt clinic did not regress and was investigated for malignancy. Left Renal Cell Carcinoma was diagnosed and surgically treated.

Keywords: Deep vein thrombosis, malignant, renal cell carcinoma

Received: 03.30.2021

Accepted: 08.17.2021

ÖZET

Kardiyovasküler hastalıklar dünyada ve ülkemizde ölümlerin en sık nedenlerindedir. DVT sonrasında Venöz Tromboembolizm (VTE) en önemli mortalite sebebidir. Derin ven trombozu ile eşzamanlı olarak teşhis edilen kanserli hastalarda sağkalım daha kötüdür. Ancak, spesifik maligniteler hakkındaki bilgiler sınırlıdır. DVT sonrasında tedavi başlayıp etyoloji araştırılmazsa özellikle yaşlı hastalarda yeni tanı malignite tedavisi geç kalınip mortaliteye sebep olabilir. Hastamız 58 yaşında DVT tanısı konulup tedavi verildikten sonra dvt kliniği gerilemeyip malignite yönünden araştırırken Sol Renal Hücreli Karsinom tanısı konulup cerrahi tedavi edilmiştir.

Anahtar Sözcükler: Malignite, derin ven tromboz, renal hücreli karsinom

Geliş Tarihi: 30.03.2021

Kabul Tarihi: 17.08.2021

ORCID IDs: S.M. 0000-0002-4140-1973, S.Y. 0000-0002-3376-7107, B.K. 0000-0002-3767-0687, A.Ö. 0000-0003-0925-7323

Address for Correspondence / Yazışma Adresi: Subhan Mammadov, MD Gazi University Faculty of Medicine, Department of Cardiovascular Surgery, Ankara Turkey E-mail: dr.subhan313@gmail.com

©Telif Hakkı 2021 Gazi Üniversitesi Tıp Fakültesi - Makale metnine <http://medicaljournal.gazi.edu.tr/> web adresinden ulaşılabilir.

©Copyright 2021 by Gazi University Medical Faculty - Available on-line at web site <http://medicaljournal.gazi.edu.tr/>

doi:<http://dx.doi.org/10.12996/gmj.2021.133>

INTRODUCTION

Cancer individuals are at risk for thrombotic complications due to their hypercoagulopathy state. Thrombosis may precede the diagnosis of malignancy for months or may occur only during treatment or hospitalization. Deep Vein Thrombosis (DVT) is a common complication of malignancy. Venous Thromboembolism (VTE) is seen in 10 percent of patients with cancer (1). Tumor type, location, stage, time since diagnosis, together with patient comorbidities and certain cancer treatments, affect the risk of VTE. Some tumors increase the risk of VTE by squeezing large vessels from the outside or by coating directly inside the great vessels. For example, renal cell carcinoma (RCC) infiltrates the inferior vena cava in 5 to 9% of patients (2).

CASE REPORT

A 58-year-old male patient applied to the emergency department with swelling, pain and diameter difference in the leg for 3 days. In the lower extremity venous doppler (CDUS), the flow signal was not detected in the right superficial femoral, popliteal vein, bilateral common iliac vein and vena cava inferior course. The patient was discharged with anti-coagulant treatment and there was no improvement in CDUS performed three months later. In thoracoabdominal CT, there was a heterogeneous mass lesion (RCC?) in the left kidney, about 12x8x10 cm in size, and there was an appearance of thrombus forming a filling defect in the lumen extending to the left renal vein, inferior vena cava (tumoral thrombus?). There is thrombus material in the inferior vena cava lumen causing almost complete obliteration and the thrombus material extends to the right atrium. The patient was consulted to the Urology department. According to the results of the council, the Urology Department removed the mass to the patient first and then the tumor thrombus was cleared by VCI cardiovascular surgery. Tumoral thrombus in the VCI was cleared by making a VCI incision. Tumoral thrombus in the right atrium was aspirated from the VCI. When the tumoral thrombus did not appear, a sternotomy was performed. Right atrium incision was made without cannulation and off-pump and tumoral thrombus was removed. The patient died from deep metabolic acidosis and hypotensive shock after surgery.



Figure 1. Tumor removed from the right atrium

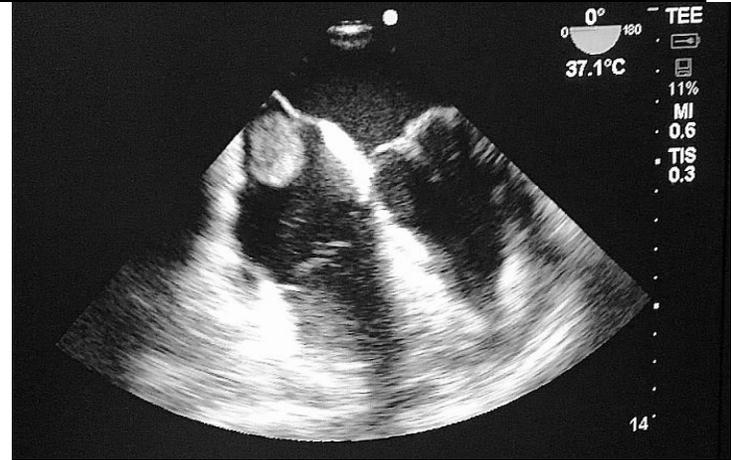


Figure 2. 2-chamber view of the heart with intraoperative trans esophageal echocardiography (TEE)

DISCUSSION

Tumor thrombus is a unique feature of renal cell carcinoma (RCC). Retrospectively analyzed the data obtained from patients with RCC who underwent radical or partial nephrectomy in Seoul National University Hospital from September 1999 to August 2015 and deep vein thrombosis in 13 patients and pulmonary embolism occurred in 15 patients during a mean follow-up period of 39.0 months (3). Our patient had metastatic tissue of RCC advanced to the right atrium. In 1% of patients with RCC, this thrombus may extend to the right atrium (4). In the presence of renal cell carcinoma extending to the inferior vena cava, nephrectomy operation with vena caval thrombectomy was first described by Berg in 1913. Operation-related mortality rates range from 2.7% to 13%, with expected 5-year survival between 30% and 72%. According to the study of Skinner et al. In patients with tumor thrombosis, regardless of the extent of tumor extension, if there is no adipose tissue or local node metastasis, the 5-year survival rates are similar to tumors limited in the renal capsule. However, incomplete tumor resection is associated with a poor prognosis.

Renal failure is another undesirable side effect. In our patient, there was deep metabolic acidosis due to renal failure and the patient was lost.

CONCLUSION

Patients presenting with DVT should be investigated in terms of malignancy if there is mass compression, the anticoagulant agent given does not help, it causes the malignancy to increase invasion and tumor thrombus progress.

Conflict of interest

No conflict of interest was declared by the authors.

REFERENCES

1. Jasmijn F Timp, Sigrid K Braekkan, Henri H Versteeg, Suzanne C Cannegieter, Epidemiology of cancer-associated venous thrombosis, *Blood American Society of Hematology*, 2013 Sep 5; 122(10):1712-23
2. G S Hedderich 1, R J O'Connor, E C Reid, D S Mulder, Caval tumor thrombus complicating renal cell carcinoma: a surgical challenge, *Surgery J*, 1987 Oct; 102(4):614-21.
3. Hyunkyung Park MD, Chang Wook Jeong, MD, yeongdong Yuk, MD, Ja Hyeon Ku MD, Hyeon Hoe Kim MD, Cheol Kwak MD and Inho Kim MD, Influence of Tumor Thrombus on Occurrence of Distant Venous Thromboembolism and Survival in Patients With Renal Cell Carcinoma After Surgery, *Clin Appl Thromb Hemost*. 2019 Jan-Dec; 25: 1076029618823288.
4. Chad Wotkowicz, Matthew F Wszolek, John A Libertino, Resection of renal tumors invading the vena cava, *Urol Clin North Am*, 2008 Nov; 35(4):657-71