A Rare Cause of Renal Vein and Inferior Vena Cava Thrombosis: A Case of Embryonal Testicular Carcinoma

Sevgi Aras, Murat Yakın, İsmail Şerifoğlu, İsmail Ulus, Abdulkadir Zengin, Şule Özoys, Aslıhan Bayır, Ülkühan Köksal, Ahmet Engin Atay

Introduction
Thrombosis is rarely the manifestating symptom of testicular cancers. Patients are usually admitted with painless testicular mass or less frequently pain or hydrocele. Here, we present a young male with germ cell tumor of testis, referred with renal vein and inferior vena cava thrombosis.

Keywords: Germ cell tumor, inferior vena cava, renal vein, thrombosis

Case Report
A 32-year-old young male had fatigue and night sweating for more than 3 months, accompanied by a 4 kilogram weight loss in 3-4 weeks. Abdomen and thorax tomographic examination revealed multiple lymphadenomegalies, and consequently renal doppler ultrasonography indicated thrombosis in the right renal vein and vena cava inferior which reached out inferior hepatic vein and totally occluded both veins. He was referred to our hospital after being initiated anticoagulant therapy in another hospital. Laboratory examination showed high sedimentation rate (55 mm/h), proteinuria (spot urine prot/cre: 1.4 gr) and lactate dehydrogenase: 979 U/L. Patients were hospitalized for more than 3 months, accompanied by 4 kilogram weight loss in 3-4 weeks. Abdomen and thorax tomographic examination revealed multiple lymphadenomegalies, and consequently renal doppler ultrasonography indicated thrombosis in the right renal vein and vena cava inferior which reached out inferior hepatic vein and totally occluded both veins. He was referred to our hospital after being initiated anticoagulant therapy in another hospital. Laboratory examination showed high sedimentation rate (55 mm/h), proteinuria (spot urine prot/cre: 1.4 gr) and lactate dehydrogenase: 979 U/L. Patients were hospitalized
in internal medicine service and low molecular weight heparin therapy (Clexane® 0.8) was continued. Additional blood analysis indicated elevated levels of alpha fetoprotein (775 ng/mL) and beta human chronic gonadotropin (11,011 IU/mL). On physical examination, no significant finding except painless irregular scrotal mass in 5x10 mm size and containing calcifications was observed. He consulted to urology department and underwent surgery. After uneventful postoperative period, histopathologic examination indicated pure embryonal carcinoma. The patient was referred to medical oncology, and chemotherapy was initiated. Control doppler ultrasonographic examination pointed out the recovery of occlusion on the vena cava inferior and renal vein.

**Discussion**

Because approximately 70% of TC are localized in the testicle at the time of diagnosis, thrombosis as a presenting sign of testicular lesion is extremely rare and usually seen in seminomatous cancers related to direct tumor invasion or neoplastic thrombosis (5). Urological cancers constitute approximately %5 of malignancy related thrombosis (6). Germ cell tumors (GCT) has higher tendency to hematogenous spread but inferior vena cava (IVC) invasion of GCT is seen less than %3 in an autopsy series (7). Masui et al. (8) defined risk factors of IVC thrombosis as; right sided testicular tumors with large abdominal mass greater than 5 cm, hepatic metastasis or receiving high dose corticosteroids. The diagnosis of IVC thrombosis is usually done by high index of suspicion in TC patients with retroperitoneal mass >5 cm (9).

The management of GCT associated IVC thrombosis may require multidisciplinary approach. Chemotherapy alone is rarely effective in the resolution of IVC thrombosis in GCT’s, and antithrombotic therapy or even thrombectomy is usually required. A case report presented a patient with TC who experienced pulmonary thromboembolism during anticoagulant therapy (10). To minimize the risk of pulmonary thromboembolism, some authors perform IVC...
Our patient showed a rapid response to anticoagulant therapy, and IVC thrombosis recovered in 4-week period. According to the Hidden study, venous thromboembolism (VTE) is the most frequent preventable cause of death in hospitalized patients (6). Thromboprophylaxis for cancer patients and antithrombotic therapies when a thrombus is detected play vital role to decrease the risk of pulmonary thromboembolism and sudden death.

TCs should be considered in young males presenting with VTE without an evident risk factor for thrombosis. Physical examination of young individuals that are referred with thrombosis plays crucial role, because before starting numerous radiologic interventions and hematologic tests, single scrotal examination may help to establish the diagnosis. Initiation of immediate therapy and collaboration of the departments of internal medicine, urology and cardiovascular surgery are essential in the management of TC patients VTE.

**Ethics**

**Informed Consent:** Written consent was received from the patients.

**Peer-review:** Externally peer-reviewed.

**Authorship Contributions**


**Conflict of Interest:** The authors declare that there is no conflict of interest.

**Financial Disclosure:** No financial support was received from a person or a company.

**References**

