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A rare case of right atrial thrombus in a patient with recurrent Classical Hodgkin Lymphoma.

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A Rare Case of Right Atrial Thrombus in a Patient With Recurrent Classical Hodgkin Lymphoma

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Abstract

Patients with cancer are at risk for thrombotic complications due to a hypercoagulable state. However, the benefit of prophylactic anticoagulation is unclear in many subsets of these patients. For the first episode of acute thromboembolic disease (VTE) in patients with active cancer, anticoagulant therapy is administered for at least three to six months. Herein, we present a 31-year-old female with active, recurrent stage IIIa classical Hodgkin lymphoma (CHL) (nodular sclerosis), previously treated for proximal upper extremity deep vein thrombosis (DVT), presenting for evaluation of shortness of breath and eventually diagnosed with bilateral pulmonary embolism (PE) secondary to a right atrial thrombus. The patient was successfully treated with surgical resection of the thrombus. With this case report, we hope to encourage physicians to use prophylactic indefinite anticoagulation in patients with active cancer and previous DVT, including patients with upper extremity DVT.

Keywords: Right atrial thrombus, Recurrent classical hodgkin lymphoma, Classical hodgkin lymphoma, Lymphoma, Thrombotic complications, DVT, Cancer, Massive PE, VTE in active cancer, Anticoagulation, IVC filter, Extended anticoagulation in cancer, Recurrent V

1. Introduction

Cancer patients are known to be at risk for thrombotic complications. The spectrum of hemostatic abnormalities ranges from abnormal coagulation tests in the absence of clinical manifestations to massive or fatal thromboembolism. Thrombosis may precede the diagnosis of malignancy by months, or it may only occur during treatment or hospitalization.^{1,2} A few studies suggest that the incidence of VTE is highest during the first year after a cancer diagnosis, during chemotherapy, and in those with advanced disease.³⁻⁵ For the first episode of acute thromboembolic disease (VTE) in patients with active cancer, anticoagulant therapy is administered for at least three to six months.⁶ There is currently no consensus on the administration of prophylactic anticoagulation for VTE in patients with active cancer. We report the

case of a 31-year-old female with recurrent CHL, previously treated for DVT of the upper extremity and admitted for bilateral PE with a right large atrial thrombus. We aim to encourage clinicians to continue VTE beyond 3–6 months following an initial VTE in patients with active cancer, as this strategy may help prevent fatal thromboembolism in this patient population.

2. Case presentation

This is a 31-year-old female with a history significant for recurrent stage IIIa CHL (nodular sclerosis) and left axillary vein thrombosis who presented for evaluation of a week history of worsening exertional shortness of breath associated with pleuritic chest pain and a 1-day history of painful left leg swelling. Of note, seven years ago, the patient was diagnosed with CHL, nodular sclerosis and received six cycles

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of doxorubicin hydrochloride, bleomycin sulfate, vinblastine sulfate, and dacarbazine (ABVD) therapy. The patient was found to have recurrent disease a year prior to presentation but deferred treatment due to financial challenges. She developed left axillary DVT shortly after and was treated with warfarin due to financial constraints for 3 months as per guidelines. She eventually underwent Carmustine, etoposide, cytarabine and melphalan (BEAM) conditioning therapy, followed by allogeneic stem cell transplant (ASCT) 6 months prior to the current presentation. Bone marrow started to recover about 4 weeks after transplant, but the patient continues to have recurrent B symptoms with radiological evidence of unchanged lymphadenopathy before and after BEAM, ASCT with residual cancer. The patient declined to undergo any chemotherapy or cancer treatment during the time since the transplant due to financial challenges.

Upon arrival in the Emergency department (ED), she was found to be hemodynamically stable. Her left lower extremity was swollen with positive Homans sign of the left lower extremity. Labs revealed, elevated D-dimer 4638 ng per milliliter (ng/mL) (<500), and Partial thromboplastin time (PTT) of 90.6 s (sec) (26–36). Lower extremity doppler ultrasound revealed acute unprovoked DVT involving the left common Iliac, common femoral, femoral, deep femoral, popliteal, and posterior tibial veins. Chest Computed tomography (CT) with Intravenous contrast (IV) revealed Bilateral lower lobe pulmonary emboli, as seen in Fig. 1. Echocardiogram revealed a large right well-circumscribed mass consistent with a thrombus on the atrial side of the valve, as seen in Fig. 2. Vascular and cardiothoracic surgery were consulted.

The patient received IV thrombolytic therapy, and the repeat echocardiogram revealed persistence of the right atrial thrombus. She subsequently



Fig. 1. Chest CT with IV contrast revealing bilateral lower lobe pulmonary emboli.



Fig. 2. Echocardiogram revealing a large right atrial thrombus.

underwent right atrial thrombectomy, suction thrombectomy of the left common iliac to common femoral veins, and Inferior vena cava filter (IVC) placement that she tolerated well. She was then placed on Apixaban. Patient has a low risk for bleeding without any underlying bleeding disorder with VTE BLEED score and IMPROVE bleeding risk of 2.

After 8 days of hospitalization, the patient was discharged in stable condition with instructions to follow up with Hematology/oncology.

3. Discussion

VTE is a known risk of cancer and varies in frequency with the primary tumor type and is especially high with certain solid tumors such as pancreatic cancer and brain tumors.⁷ Furthermore, approximately 20 % of all cases of VTE occur in patients with cancer.⁸ Nevertheless, for ambulatory patients with cancer at low risk for thrombosis receiving systemic therapy, the American Society of Hematology (ASH) recommends no thromboprophylaxis.⁸ For the short-term treatment of VTE (3–6 months) for patients with active cancer, the ASH guideline panel suggests DOAC (Direct oral anti-coagulant) (apixaban, edoxaban, or rivaroxaban).⁸

Our patient with active cancer suffered a right axillary DVT and was treated with a DOAC (apixaban) for 3 months with subsequent resolution of the symptomatology. She was not started on any thromboprophylaxis per ASH guidelines; she then developed a severe life-threatening right atrial thrombus complicated with bilateral pulmonary emboli. This life-threatening VTE could have been

prevented if our patient was on thromboprophylaxis following the initial DVT. Thus, we propose indefinite thromboprophylaxis in patients with active cancer and previous VTE, with low risk of bleeding.

According to Nobuhiro Hera et al., recurrence of VTE is low in cancer remission patients, unlike in active cancer, if anticoagulation is terminated after a certain period.⁹ One systematic literature showed an increased risk of recurrent VTE between 6 and 12 months, mainly in those who discontinued anticoagulation. Which supports extending anticoagulation beyond 6 months in active cancer with VTE after an individualized risk-benefit ratio. Also, the risk of bleeding was reported to be low in the population of extended coagulation use¹⁰

With this case report, we hope to encourage more physicians to report similar cases to strengthen this recommendation.

For patients with cancer and recurrent VTE despite anticoagulation treatment, the ASH guideline panel suggests not using an inferior vena cava (IVC) filter over using a filter.⁸ Our patient was previously successfully treated with anticoagulation for upper extremity DVT. Nevertheless, she developed VTE following completion of therapy. According to the ASH guidelines, our patient should not receive an IVC filter. However, given the recurrence and the severity of the VTE, our clinical judgment, in conjunction with the vascular surgery team, we opted for an IVC filter, with a plan to remove the filter at later time. According to Mithil B. Pandhi et al. massive pulmonary embolism is one of the indications for IVC filter placement in cancer patients.¹¹

4. Conclusion

VTE is a common complication among cancer patients, although the ASH panel had recommendations on VTE management in active cancer patients, the indication for thromboprophylaxis remains unclear. We presented a young patient with active NHL and previous DVT, not on thromboprophylaxis per ASH guidelines, who developed a life-threatening right atrial thrombus with bilateral pulmonary emboli. We propose indefinite thromboprophylaxis

in patients with active cancer and previous DVT, and with low risk of bleeding. With this case report, we hope to encourage more physicians to report similar cases to strengthen this recommendation.

Conflict of interest

No conflict of interest.

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