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Case Report

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EARLY DETECTION AND ASSESSMENT OF SPECIFIC RISK FACTORS FOR RECURRENCE OF DEEP VEIN THROMBOSIS: A CASE REPORT.

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ABSTRACT

Introduction: Venous thromboembolism is an important cause of hospital acquired morbidity and mortality. Episodes of deep vein thrombosis successfully treated with anticoagulant therapy may still result in venous valvular incompetence and lead to post phlebitic syndromes, characterized by ulceration, varicosities and edema. Upto 70% of patients diagnosed with PE (Pulmonary embolism) had an existing lower extremity DVT (Deep vein thrombosis), emphasizing the significance of accurately diagnosing DVTs in patients and securing early intervention. **Case history:** A 50 years old male patient, presented with complaints of pain and swelling in the left lower limb with bluish discoloration of feet, had a history of acute myocardial infarction, chronic pulmonary hypertension, right lower limb DVT and amputation of right leg above knee. Doppler ultrasound of left leg confirmed extensive deep vein thrombosis, which was done in the later hospitalization and was treated with anticoagulants. **Conclusion:** Reasons for complications could be prevailing risk factors, lack of early detection of his condition and non-adherence to treatment. Early detection of deep vein thrombosis can prevent its complications and recurrence. Counselling can help in improving adherence to treatment.

KEYWORDS: Deep Vein Thrombosis, Anticoagulant, Venous Doppler, Pulmonary Embolism.

INTRODUCTION

Deep vein thrombosis (DVT) is the formation of blood clots (thrombus) within the deep veins of any part of the body. It most commonly affects deep veins of lower limbs or pelvis. Clinical features include localized swelling, redness and calf muscle tenderness. Major complication of venous thrombosis is disabling post thrombotic syndrome and acute death from a pulmonary embolism (PE) that occur in 20% and 1-2% of patients, respectively.[1] Episodes of deep vein thrombosis successfully treated with anticoagulant therapy may still result in venous valvular incompetence and lead to post phlebitic syndromes, characterized by ulceration, varicosities and edema. Studies of these agents suggest that early use of these drugs were extensive, venocclusive diseases may preserve venous valvular competence and produced a more rapid resolution of pulmonary emboli.[2,3] Our case involves the development of large proximal deep vein thrombosis with pulmonary embolism in a patient who had received approximately one year of anticoagulation therapy for deep vein thrombosis of right lower limb. Traditional risk factors include history of falls, acute myocardial infarction, ischemic cardiomyopathy and amputation of right leg above knee.

CASE HISTORY

A 50 year old male patient presented with complaints of pain and swelling in the left lower limb with bluish discoloration of feet. He had significant past medical history of anterolateral wall myocardial infarction (MI), with chronic pulmonary hypertension and history of deep vein thrombosis of right lower limb and had amputation of right leg above knee was done. Two weeks prior to this event, patient was admitted to hospital with similar complaints for approximately a week and was discharged with tablet warfarin 2mg once daily for 6 days.

On laboratory investigation a complete blood count, platelet count, prothrombin time (PT), activated partial thromboplastin time (aPTT), international normalized ratio (INR) was done. On day 1, prothrombin time (PT), activated partial thromboplastin time (aPTT), international normalized ratio (INR) was normal. On day 4, activated partial thromboplastin time (aPTT) was increased, i.e. 34 seconds and on day 6 it was 56 seconds and prothrombin time (PT) time was 17 seconds. On day 7, venous Doppler of left lower limb was done which showed acute thrombus in the anterior tibial artery and posterior artery up to the ankle. Bolus dose of heparin was administered and followed by continuous infusion at the rate of 2ml per minute and then continued with injection heparin 5000 units 4 times a day till discharged.

On day 2, left leg trial embolectomy was done. On day 3, pedal edema and peripheral pain was decreased. On day 6, there was swelling in the foot along with calf muscle pain. The patient continued to improve clinically and was discharged home on day 10 of hospitalization.

DISCUSSION

Virchow triad as first formulated (venous stasis, vessel wall injury and hypercoagulable state) is still the primary mechanism for the development of venous thrombosis. Risk factors for deep vein thrombosis include age older than 50 years, prolonged immobilization, malignancy and hypercoagulable state.[4] Anticoagulation remains the mainstay of initial treatment for DVT. Low molecular weight heparin (LMWH) prevents extension of the thrombus but didn't eliminate the incidence of fatal and non-fatal pulmonary emboli, as well as recurrent thrombosis. The primary reason for this is that heparin has no effect on pre-existing non-adherent thrombus.[5] In our case, the patient presented with complaints of pain and swelling in the left lower limb with bluish discoloration of feet. He had experience of immobilization for approximately 2 weeks after amputation of right limb. In this patient main risk factor for deep vein thrombosis was age, previous history of deep vein thrombosis, right lower limb amputation and non- adherence to treatment given on discharge after 1st hospitalization. The patient was discharged with antiplatelet (aspirin 150mg once daily) and anticoagulant (warfarin 2mg once daily) and the patient was interviewed during 2nd hospitalization and it was found that the patient was non adherent to the treatment after 1st hospitalization. The reasons for non-adherence could be inconvenienced of frequent blood monitoring and clinic visit, anxiety related to potential and actual side effects of warfarin. Venous Doppler ultrasound using venous compression is relatively inexpensive, widely available and rapidly deployable tool with excellent diagnostic reliability and validity for deep vein thrombosis.[6, 7]. In this patient venous Doppler was not done in 1st hospitalization. This could help with early recognition and treatment of deep vein thrombosis, preventing further complication including pulmonary embolism.

CONCLUSION: Reasons for complications could be prevailing risk factors, lack of early detection of his condition and non-adherence to treatment. Early detection of deep vein thrombosis can prevent its complications and recurrence. Counselling can help in improving adherence to treatment.

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