

Idiopathic Upper Extremity Deep Vein Thrombosis (UEDVT): Case Report

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Abstract: Upper extremity deep venous thrombosis (UEDVT) accounts for the minority of all thrombotic events. However, UEDVT has become more common recently; this is due to increasing use of central venous catheters for chemotherapy, dialysis and parenteral nutrition. Although most UEDVT are secondary to central venous catheters, allowing for early diagnostic recognition, Primary UEDVT has also been reported. Due to its rarity, UEDVT does propose a diagnostic challenge in the general practice and emergency department setting. A case of a healthy young 45 year old female, with no thrombotic risk factors, is diagnosed with UEDVT extending into the internal jugular vein, is presented in this report.

Keywords: Upper extremity deep venous thrombosis (UEDVT), DVT, Primary.

INTRODUCTION

Primary UEDVT is a rare disorder with an incidence of 3 per 100,000 per person per year [1]. The majority of UEDVT arise secondary to central venous catheters or access devices. Primary UEDVT can be idiopathic or from rare disorder known as Paget-Schroetter syndrome, which is formation of venous thrombosis due to mechanical compression due to anatomical abnormalities, typically occurring in young healthy males. Primary UEDVT can go unrecognized and can result in serious complications if diagnosis is delayed.

The incidence of thrombosis in the upper extremity is seen most in the subclavian (18-67%), followed by axillary (5-25%) and the brachial (4-11%) veins [2, 3].

CASE REPORT

A 45 year old lady presented to hospital following GP referral with 2 week history of left arm pain and new onset upper arm swelling. There was no history of trauma, fever or strenuous exercise. The patient was previously well with no recent weight loss, change in bowel habit, respiratory symptoms or abnormal bleeding. The patient was not on any regular medications and there was no past medical history of note. The patient was a non-smoker, no recent immobilisation or injury, no previous history of thrombosis and was not taking the oral contraceptive pill. On examination, the patient was found to have a swollen, tender left upper arm above the elbow and with significant erythema. The patient subsequently underwent venous Doppler ultrasonography, which

showed thrombosis in the left brachial, axillary and subclavian veins, extending superiorly into distal internal jugular veins (Fig. 1). The vessels were noncompressible and there was no demonstrable flow on Doppler examination. Patient was treated with therapeutic low molecular weight heparin (LMWH). Vascular surgeons were consulted and the patient underwent CT venography which confirmed the extensive thrombus in the left upper limb of the left subclavian vein and also involving left internal jugular vein (Fig. 2). The scans were reviewed by the surgical team who advised against thrombolysis or surgical intervention. Patient was treated medically with warfarin and will be followed up by vascular surgery.



Fig. 1: Thrombus occluding left internal jugular vein on ultrasound scan



Fig. 2: Coronal CT venogram showing extensive thrombus in left subclavian and internal jugular veins

DISCUSSION

UEDVT accounts for up to 10% of all deep vein thrombosis (DVT), occurring at an incidence of about 3 per 100,000 in general population [1]. The incidence of UEDVT is much less than that of lower extremity DVT possibly due to fewer and smaller valves present in veins of upper extremity, immobile patients generally have less limited arm movements as compared to leg movements, and an increased fibrinolytic activity has been seen in the endothelium of the upper arm compared to lower arm [3]. UEDVT has been classified into Primary (Idiopathic, Paget-Schroetter syndrome) and Secondary (cancer, central venous catheter, etc). Girolami A *et al.*, 25% of patients with idiopathic UEDVT were diagnosed with cancer (most commonly lung cancer and lymphoma) within 1 year of follow-up [4].

Axillary or subclavian vein thrombosis may occasionally be asymptomatic. However it can present with vague shoulder or neck discomfort and arm swelling [2]. Systemic thrombolysis for fully obstructed segments of veins with DVT, does not offer much therapeutic efficacy due to decreased diffusion of thrombolytic agent into thrombus [5]. The RIETE registry found that patients with arm DVT have less clinically overt PE than those with lower limb DVT, however their 3-month clinical outcome was similar. This suggests that appropriate therapy (drug, intensity, duration) should not differ [6].

CONCLUSION

Prompt diagnosis and treatment is needed to manage serious implications of UEDVT. Further research should assess the efficacy and optimal duration of anticoagulation in UEDVT. Multimodal treatment practice with thrombolysis and surgical intervention should be evaluated critically with further trials.

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