

## Spontaneous Thrombosis of above knee perforator veins of the lower limb: A Case Report

Adil Mahmud Ali\*, Shanker Prasad Sinha\*\*, Subhash Chandra Sharma\*\*\*

\*Senior Resident, Department of Surgery Teerthankar Medical College and Hospital, Moradabad, Uttar Pradesh.

\*\*Professor and Head of department, Department of Surgery Teerthankar Medical College and Hospital, Moradabad, Uttar Pradesh

\*\*\*Assistant Professor, Department of Surgery Teerthankar Medical College and Hospital, Moradabad, Uttar Pradesh

### ABSTRACT

Varicose veins have troubled mankind for thousands of years, and their various treatments and complications have been documented from the times of Hippocrates. Although thrombophlebitis is a relatively common condition in the superficial veins of the upper or lower limbs, it usually follows some intravenous intervention or trauma. Thrombosis followed by thrombophlebitis in varicose veins has seldom been reported in literature but the occurrence of spontaneous thrombosis in only the above knee perforator veins of the lower limb has been seldom mentioned. We report the case of a patient with long standing varicose veins of the left lower limb presenting with spontaneous thrombosis of only the above knee perforators and our subsequent management.

**Key Words:** Above knee perforators, Thrombosis, Varicose veins.

### INTRODUCTION

Varicose veins have troubled mankind for thousands of years. Varicose veins are mentioned as early as 1550 B.C. in the Ebers papyrus, where it was recommended not to treat them. Varicose veins were also mentioned in ancient Greece manuscripts. The role of varicose veins and venous hypertension in creating venous ulcers was recognized as early as the days of Hippocrates. Compression therapy, still in use today for the treatment of varicose veins and venous ulcers, was also recommended by Hippocrates. Also, the name 'varicose veins' is derived from the Latin word 'varix' which means twisted.<sup>[1]</sup>

They are dilations and tortuosity of the normal course of the veins usually due to incompetence of the valve at the saphenofemoral junction or due to incompetence of the valves of the perforating veins connecting the superficial veins to the deep veins. The resulting venous hypertension in the veins causes them to get tortuous and dilate.<sup>[2]</sup> Although superficial thrombophlebitis is a relatively common condition in the superficial veins of the upper or lower limbs, it usually follows some intravenous intervention or trauma.

Thrombosis followed by thrombophlebitis in varicose veins has been reported in literature but the occurrence of spontaneous thrombosis in only the above knee perforator veins of the lower limb has seldom been mentioned. The clinical tests like Perthes test for deep venous occlusion and Brodie-Trendelenburg test of axial reflux have been replaced by in-office use of the continuous wave, hand-held Doppler instrument supplemented by duplex evaluation.<sup>[2]</sup> The probe of a duplex scanner contains multiple emitting and receiving crystals. These allow a grey-scale image to be obtained in which the veins are seen as a black void in the subcutaneous and deep tissues. Directional flow can be shown as a colour image (red or blue) superimposed on the grey-scale image of the vessel.<sup>[3]</sup>

Clinicians tried to compare the use of clinical and doppler evaluation with duplex scanning and reported reduced recurrence with routine duplex scanning.<sup>[4]</sup>

### CASE REPORT

A 60 year old male, teacher by occupation, with long standing history of varicose veins of the left lower limb presented with sudden onset pain and swelling in the region above the left knee joint. On examination there was erythema and inflammation over the region of the above knee perforators of the left lower limb with increased tortuosity and a palpable tender thrombus in the veins [Figure 1]. The patient did not give any history of trauma of intravenous intervention to the left lower limb.

A duplex scan revealed incompetent saphenofemoral junction valve with incompetence of the above knee

#### **Name & Address of Corresponding Author**

Dr. Adil Mahmud Ali  
Senior Resident, Department of Surgery,  
Teerthankar Medical College and Hospital,  
Moradabad, Uttar Pradesh, India.  
E mail: adilgoa1985@gmail.com.



**Figure 1:** Preoperative photo showing thrombosed and erythematous above knee perforating veins



**Figure 2:** Intraoperative photo showing thrombosed and tortuous above knee perforating veins



**Figure 3:** Dissected thrombosed and tortuous above knee perforating veins

and below knee perforators of the left lower limb with evidence of a 2x1 cm thrombus in the perforating veins. The deep venous system was patent. His PT(INR), APTT, BT,CT were within normal limits.

The patient was started on oral antibiotics and painkillers and after 3 days, ligation of the above knee perforating veins with extraction of the thrombus was done along with stripping of the long saphenous vein [Figure 2,3]. The patient had an uneventful postoperative stay and was discharged with advice to wear compression stockings.

## DISCUSSION

Superficial thrombophlebitis is a relatively common condition and even a slight injury can cause a vein to become inflamed. Any condition that causes the blood to slow down increases the chance of thrombus formation, hence varicose veins have an increased chance of thrombus formation. Unlike deep vein thrombosis, which causes very little inflammation, superficial venous thrombosis involves an acute

inflammatory reaction that causes the thrombus to adhere firmly to the vein wall and lessens the likelihood that it will break loose. Unlike deep veins, superficial veins have no surrounding muscles to squeeze and dislodge the thrombus; hence thromboembolism is rare from superficial veins as compared to deep veins.<sup>[5]</sup>

Treatment of superficial thrombophlebitis mainly involves oral antibiotics and NSAIDs with warm compressions and don't require anticoagulants, however progression of thrombosis from the superficial saphenous system to the deep venous system has been reported, David L et al reported in their study from January 1992 to January 1996, thirty (11%) out of 263 patients had documented progression to deep venous involvement and serial duplex scans should be done to rule out this serious complication and LMW Heparin and anticoagulants should be added immediately on suspicion.<sup>[6]</sup>

The main modalities for treating of lower limb varicosities can be conservative with compression stocking and limb elevation to operative procedures like strip ligation of the long saphenous vein, or individual perforator ligation (phlebectomies), newer less invasive therapies are becoming popular like USG guided foam sclerotherapy and Endovascular Laser Ablation (EVLA) and radio frequency ablation. In our patient we used saphenous vein strip ligation with phlebectomy of the thrombosed perforators.

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