



Stripping And Ligation Of Left Lower Limb Varicose Veins By Using Break Wire Cable

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ABSTRACT-

Varicose veins of the lower limb are a common vascular disorder resulting from valvular incompetence and venous reflux, most frequently involving the great saphenous vein. Among the various treatment modalities, stripping and ligation remains a well-established and effective surgical technique, particularly in resource-limited settings. This procedure involves high ligation of the saphenofemoral junction to eliminate reflux, followed by removal of the incompetent vein using a break wire cable (vein stripper). The break wire cable facilitates controlled stripping of the vein, ensuring effective removal with minimal residual segments. This method provides good symptomatic relief, reduces recurrence rates when performed adequately, and is cost-effective compared to newer endovenous techniques. Despite the increasing use of minimally invasive procedures such as laser and radiofrequency ablation, stripping and ligation continues to play a significant role in the management of varicose veins, especially in patients with extensive disease or where advanced facilities are not available.

INTRODUCTION-

Varicose veins are dilated, tortuous, and elongated superficial veins, most commonly affecting the lower limbs due to venous valve incompetence and reflux, particularly in the great saphenous vein (GSV) system. They present clinically with visible swelling, pain, heaviness, edema, skin changes, and in advanced cases, ulceration.

Surgical management remains an important treatment modality, especially in resource-limited settings or in patients with extensive disease. Stripping and ligation of varicose veins is a time-tested and effective procedure aimed at eliminating reflux at its source and removing the incompetent vein.

The procedure involves high ligation of the saphenofemoral junction (SFJ) to disconnect the refluxing superficial vein from the deep venous system, followed by stripping of the great saphenous vein using a specialized instrument such as a break wire cable (vein stripper). The break wire cable is passed through the lumen of the vein, secured at the distal end, and then withdrawn, thereby removing the diseased segment of the vein.

This technique offers several advantages, including complete removal of the incompetent vein, reduced recurrence when performed properly, and cost-effectiveness compared to newer endovenous procedures. It is particularly useful in settings where advanced technologies like laser or radiofrequency ablation are not readily available.

Despite the advent of minimally invasive techniques, stripping and ligation using a break wire cable continues to be widely practiced and remains a gold standard in many surgical centers for the management of primary varicose veins.

CASE PRESENTATION-

Chief Complaints-

A 57 years old male patient visited OPD of our hospital for pain at left lower limb ,tortuous veins at left lower limb ,blackish discoloration at left ankle joint

History of present illness-

Approximately since 2 years the patient has pain at left lower limb ,tortuous veins at left lower limb ,blackish discoloration at left ankle joint.

For which she visited our OPD for surgical intervention.

History of past illness-

No any past history

Laboratory examinations-

Hb- 12.6 gm/dl

WBC- 7548/cmm

Plat- 2.54 lakh/cmm

Sr Creat- 0.72 mg/dl

Imaging Examination-

Colour doppler Of left lower limb venous system

No E/O thrombosis

Left saphenofemoral junction is incompetent and shows continuous reflux

Saphenopopleteal junction also shows minimal reflux .Multiple varicose veins are noted in the medial lower thigh and calf . 2 to 3 incompetent perforators are seen in the calf on left side at the level below knee mid calf and above ankle level

Impression- left saphenofemoral incompetence with varicocities . Saphenopopleteal junction also shows minimal incompetence 3 incompetent perforators located in the calf

FINAL DIAGNOSIS-

Physical ,and Imaging findings are indicate that Diagnosis is Left lower limb varicose veins .

TREATMENT-

After diagnosing, intravenously administered antibiotics- Inj Cefuroxime 1.5 gm IV BD , Inj Pantoprazole 40 mg IV BD

Stripping and ligationof left lower limb varicose veins

Position - Supine

Anaesthesia – spinal Anaesthesia

PROCEDURE

Under all aseptic precautions painting and drapping done .An oblique incision taken 4 cm below and lateral to pubic tubercle after Palpating femoral artery layerwise dissection done skin fat till cribriform fascia . All tributaries of saphenous vein skeletonized all lighted nearer to saphanous vein in order to avoid sephano varix. Greater saphenous vein transfixied at SF junction using vicryl 2.0 . Using break wire cable stripping done by making anterior small incision taken just above knee joint greater saphenous vein stripped out . Another small incision taken above ankle joint dilated tortuous veins clamped and excised through its length. Multiple phlebotomy done at perforators. Layerwise closure done using vicryl 2.0 haemostasis achieved skin closed using Ethilon 2.0 Dressing done crepe bandage applied procedure went uneventful. Patient shifted to ward in good condition.



Fig 1- Preoperative Image.

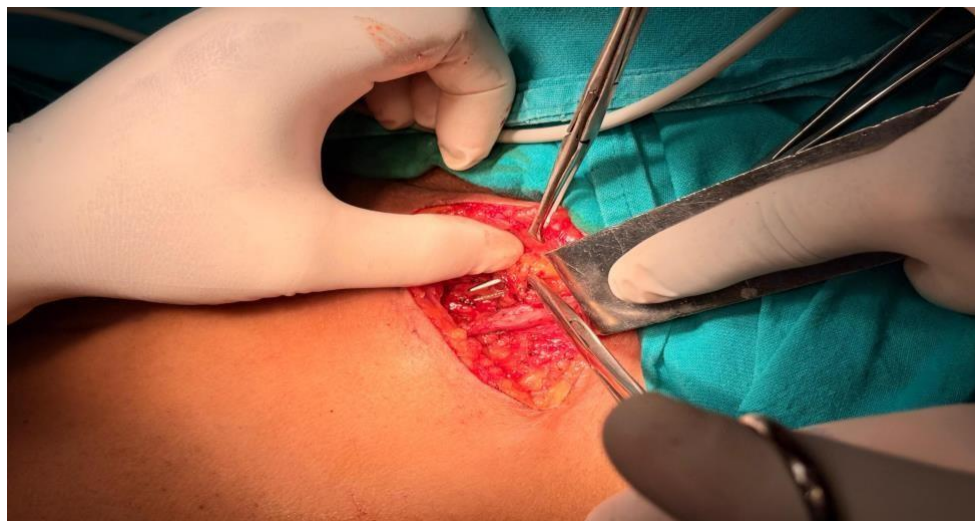


Fig 2 – Dissection

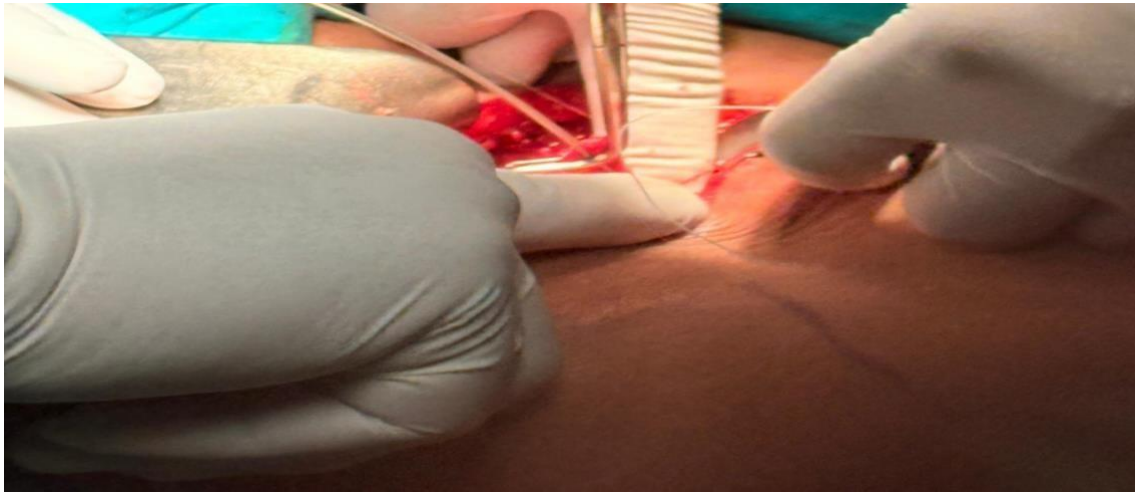


Fig 3 - Intra Operative Images



Fig 4- Specimen Great saphenous vein

On POD - 5 Dressing of Operative site done.

On POD - 12 All skin sutures removed.

Outcome and Follow up-

The patient experienced no complications during the early postoperative period. Six days after surgery the patient recovered and discharged. The patient was able to carry out daily activities without any post operative complications.

DISCUSSION-

Varicose veins of the lower limb are a common manifestation of chronic venous insufficiency, most frequently involving incompetence of the great saphenous vein (GSV) and its tributaries. Surgical management remains an important modality, particularly in resource-limited settings or in patients where endovenous techniques are not feasible.

Stripping and ligation using a break wire cable is a modification of conventional vein stripping techniques. The principle of the procedure is to eliminate venous reflux by high ligation at the saphenofemoral junction combined with removal (stripping) of the incompetent segment of the vein. The break wire cable acts as a flexible yet sturdy guide that facilitates controlled stripping of the vein with minimal fragmentation.

One of the key advantages of using a break wire cable is improved maneuverability through tortuous venous segments, which is often encountered in advanced varicosities. It allows smoother passage compared to rigid strippers and reduces the risk of vein avulsion or incomplete stripping. Additionally, controlled traction helps in minimizing trauma to surrounding tissues, thereby potentially reducing postoperative complications such as hematoma, bruising, and nerve injury (especially saphenous nerve damage).

However, despite these advantages, the technique is not without limitations. In cases of highly fragile or thrombosed veins, there may still be a risk of vein breakage, leading to incomplete removal and possible recurrence. Moreover, as with all stripping procedures, patients may experience postoperative pain, ecchymosis, and temporary sensory disturbances. Careful patient selection and meticulous surgical technique are therefore essential.

When compared to modern endovenous procedures such as laser ablation and radiofrequency ablation, stripping with break wire cable is more invasive and associated with longer recovery time. Nevertheless, it remains cost-effective and widely applicable, particularly in developing regions. Long-term outcomes are generally favorable when combined with proper ligation and perforator management.

In conclusion, stripping and ligation using a break wire cable is a reliable and effective surgical technique for the management of left lower limb varicose veins. It offers a balance between efficacy and affordability, with acceptable complication rates when performed with proper expertise. Continued refinement in technique and postoperative care can further enhance patient outcomes and reduce recurrence rates.

CONCLUSION-

Stripping and ligation of left lower limb varicose veins using a break wire cable is an effective and practical surgical technique for managing chronic venous insufficiency. The procedure successfully eliminates venous reflux by combining high ligation with controlled stripping of the incompetent vein segment. The use of a break wire cable enhances the ease and completeness of vein removal, particularly in tortuous veins, while minimizing tissue trauma.

Despite the emergence of minimally invasive endovenous therapies, this technique remains highly relevant due to its cost-effectiveness, accessibility, and reliable outcomes, especially in resource-limited settings. With proper patient selection, meticulous surgical technique, and adequate postoperative care, it provides good symptomatic relief, low recurrence rates, and acceptable complication profiles.

Overall, stripping and ligation with break wire cable continues to be a dependable and valuable option in the surgical management of varicose veins.

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