



Great saphenous vein stripping using nasogastric tube

Ademola SA, Adekolujo OS, Iyun AO, Yunusa-Kaltungo Z,
Nnadozie UU, Michael A, Oluwatosin OM.

Department of Plastic Surgery,
University College Hospital, Ibadan, Nigeria.

Correspondence:

Dr. A.O. Iyun

E mail: olukayodele@yahoo.com

Submitted: 14 March 2012

Accepted: 25 March 2012

Summary

Background; Crossectomy and Great Saphenous Vein (GSV) stripping remains the gold standard of treatment for great saphenous varicose vein. Many techniques of GSV stripping have been described. However, very few hospitals in developing countries are equipped with a vein stripper.

Method and result: We describe the use of nasogastric tube in the stripping of GSV. This simple technique has been successfully applied in three patients.

Conclusion: There is a need to carry out a prospective study regarding the application of this technique of GSV stripping

Key words: Great saphenous vein, crossectomy, vein stripper, nasogastric tube.

Introduction

A venous leg ulcer represents the severe end of the spectrum of chronic venous disease¹. Venous disease remains the most common cause of leg ulcer worldwide and it leads to significant impairment in quality of life and work productivity². For primary great saphenous varicose veins, crossectomy (disconnection of incompetent saphenous-femoral junction) combined with surgical stripping remains the gold standard of treatment against which the results of newer techniques of varicose vein treatment, such as endovenous laser therapy and radiofrequency ablation must be judged³. In developing countries, not only are the above newer techniques un-available, but very few hospitals are equipped with a stripper⁴. Thus there is a need to develop other means of stripping which are compatible with the local situation. Previous attempts at stripping the GSV without a stripper include tunneling around the GSV, with an additional incision above the knee⁴. This method has the disadvantage of increased operation time and postoperative pain. We commenced the use of a nasogastric tube in saphenous venous stripping and hereby present a preliminary report.

Technique

With the patient under spinal or general anaesthesia, a 4-6cm incision was made at the groin crease medial to the pulsation of the femoral artery and sapheno-femoral junction and all the tributaries of the great saphenous vein (GSV) were identified with careful dissection. Once the anatomy was demonstrated beyond doubt, double- ligation of the sapheno-femoral junction was performed with 0-silk. The tributaries of GSV were ligated beyond their first branch. A size 14 nasogastric tube was then passed through the lumen of the GSV from the groin to the knee, figure 1.

The nasogastric tube was identified by palpation at the knee and a transverse, 3-4 cm incision was made to identify the GSV with nasogastric tube in-situ figure 2.



Figure 1: Groin crease wound with the nasogastric tube already inserted into the vein.



Figure 2: Distal wound around the knee showing vein already secured to the tube just before stripping

The GSV was then transected distal to the tube and anchored with 0-silk to the end of the tube at three points. Blunt dissection was carried out for a short distance proximally and distally around the GSV to provide the plane of separation of the vein from surrounding tissue. Then a swift force was applied proximally with the GSV and the nasogastric tube held together with resultant stripping of the GSV, figure 3. Sterile elasticated bandage was then rapidly applied to the thigh exposing the wounds at the groin and knee. Subsequent wound closure was achieved in one layer with 4-0 nylon in simple interrupted technique.



Figure 3: Stripped vein and tube in situ

We applied this technique successfully on three consecutive patients for great saphenous varicose vein. The first was a 26 year old man with chronic left leg ulcer of six year duration. Preoperative evaluation revealed sapheno-femoral incompetence and incompetent left leg perforators. He had crosssectomy, GSV stripping using a nasogastric tube, sub-fascial ligation of perforators, ulcer excision and split-thickness skin graft. The post-operative period was uneventful.

The second patient was a 44 year old man with right great saphenous varix who presented for cosmetic reason. He had crosssectomy and GSV stripping as described above and the postoperative period was satisfactory.

The third patient was a 65 year old man with chronic left leg venous ulcer of 20 year duration. Preoperative evaluation revealed GSV incompetence. He had crosssectomy, GSV stripping, wound excision and split thickness skin graft. Postoperative period was satisfactory.

There was no incidence of haematoma collection or sensory abnormalities related to the saphenous nerve after ten months of follow-up.

Discussion

Crosssectomy and GSV stripping remain the gold standard in the management of great saphenous varicose vein. Evidence suggests that GSV ablation is important in the

treatment and prevention of recurrence of leg ulcers due to varicose veins⁶. Many techniques of GSV stripping have been described³. Perhaps the most well-known are the perforate invagination stripping (PIN, Credenhill, Ltd, Derbyshire, UK) and the conventional stripping (Astratech AB, Sweden). However, most hospitals in developing countries are not equipped with a stripper and thus the need to develop another means of stripping the GSV that is adaptable to the local situation.

We hereby describe this simple, cost saving technique which is applicable to any locality where a stripper may not be available. The technique can be applied in reasonable time without unduly prolonging the operation time. The size of the nasogastric tube may be critical as we used size 12 nasogastric tube, rather than size 14, in one of the patient initially resulted in snapping when the swift force was applied.

While complications such as sensory impairment from saphenous nerve injury have been reported with the use of the conventional stripper⁵, there was no such complication in the three patients who had this procedure. There is a need to carry out a prospective study regarding the application of this technique of GSV stripping.

References

1. Van Geng WB, Wilschut ED, Whittens C. Management of venous ulcer disease. British Medical Journal 2010; 341
2. Patel NP, Labropoulos N, Pappas PJ. Current management of venous ulceration. Plast. Reconstr. Surg. 2006; 254S-260S.
3. Winterborn RJ, Earnshaw JJ. Crossectomy and great saphenous vein stripping. J Cardiovasc Surg. 2006; 47:19-33.
4. Singh DR, Shrestha SK. Stripping without a stripper. Kathmandu Univ Med J (KUMJ).2004; 2(2):124-126.
5. Subramonian S, Lees T. Sensory abnormalities and bruising after long saphenous vein stripping: impact on short term quality of life. J Vasc Surg 2005; 42(3):510-514.
6. O'Donnell T.F. Jr. The present status of the surgery of the superficial venous system in the management of venous ulcer and the evidence for the role of perforator interruption. Journal of Vascular Surgery 2008; 48: 1044-1052.