



A PROSPECTIVE RANDOMISED STUDY COMPARING EVLT WITH OPEN PERFORATOR LIGATION AND STRIPPING FOR VARICOSE VEIN

General Surgery

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ABSTRACT

INTRODUCTION Varicose veins are a common problem that affects approximately 25% of Indian adults. The condition is most often caused by great saphenous vein (GSV) insufficiency. varicose veins may be asymptomatic, common associated problems include pain, itching, night cramps, fatigue, heaviness, and in a proportion of patients, chronic venous insufficiency characterized by ankle edema, eczema, hyper pigmentation, and leg ulceration.

AIM AND OBJECTIVES To compare between endovenous laser therapy (EVL) with open perforator ligation and stripping for varicose vein in term of post operative complication and recurrences of symptoms

MATERIAL AND METHODS The study was conducted in the department of general surgery, LLR & Associated Hospitals, GSVM Medical College, and Kanpur from December 2019 to October 2021 on all patients of varicose vein who would be admitted in our ward. Criteria for selection of patients were based on varicose veins caused by incompetence of SFJ or SPJ with GSV or SSV as demonstrated by bidirectional continuous wave Doppler and duplex US imaging and Age at least >18 yrs.

RESULT Varicose vein mostly occur due to involvement of saphenofemoral junction leading to great saphenous vein dilation. In our study maximum no. of patients were found in 35-45 age group with male prevalence (93.11%). Most no. of patients presented with complaints of dilated veins. Right limb involvement was most prevalent (81.48%). In our study bruise, hematoma, post op infection, post op paraesthesia was less common in EVLT group than stripping and ligation (p value < .005). hospital stay also less in EVLT group.

CONCLUSION EVLT is better than stripping and ligation in term of post procedure complication and hospital stay & time to return the routine normal activity.

KEYWORDS

EVLT, OPEN PERFORATOR LIGATION and STRIPPING FOR VARICOSE VEIN

INTRODUCTION

Varicose veins are a common problem that affects approximately 25% of Indian adults. The condition is most often caused by great saphenous vein (GSV) insufficiency. varicose veins may be asymptomatic, common associated problems include pain, itching, night cramps, fatigue, heaviness, and in a proportion of patients, chronic venous insufficiency characterized by ankle edema, eczema, hyper pigmentation, and leg ulceration.

Endovenous laser (EVL) ablation of the great saphenous vein (GSV) is thought to minimize postoperative morbidity and reduce work loss compared with high ligation and stripping (HL/S). However, the procedures have not previously been compared in a randomized trial with parallel groups where both treatments were performed in tumescent anesthesia on an out-patient basis.

AIM AND OBJECTIVES

To compare between endovenous laser therapy (EVL) with open perforator ligation and stripping for varicose vein in term of recurrences and post operative complication

MATERIAL AND METHODS

The study was conducted in the department of general surgery, LLR & Associated Hospitals, GSVM Medical College, and Kanpur from December 2019 to October 2021 on all patients of varicose vein who would be admitted in our ward.

Criteria for selection of patients were based on—

Inclusion Criteria

1. Varicose veins caused by incompetence of SFJ or SPJ with GSV or SSV as demonstrated by bidirectional continuous wave Doppler and duplex US imaging
2. Age at least >18 yrs.

Exclusion Criteria

1. Non-palpable pedal pulses.
2. Deep vein thrombosis
3. General poor health

4. Secondary varicose vein

METHOD

All patients will be examined with bidirectional continuous wave Doppler examination and duplex US to identify sources of venous incompetence and precisely map out abnormal venous pathways. Transverse measurements of the GSV will be made 2 to 3 c.m. below SFJ in the standing position. Physical finding and appearance of varicose veins were documented with photographs.

Observation -

Table : Complications

	EVLT (n=40)	Stripping & ligation (n=18)	Z value P value
post op Bleeding complication	2 (5%)	6 (33.33%)	1.72 <0.05
Post op infection	0 (0%)	8 (44.44%)	1.70 <0.05
post op paraesthesia	0 (0%)	4 (22.22%)	1.60 <0.05
Bruise / pigmentation	2 (5%)	6 (33.33%)	1.72 <0.05
Recurrence	3 (7.5%)	1 (5.5%)	0.52 >0.05

Table:-2

S.No.	Treatment	Hospital stay duration in Days(mean)
1.	EVLT	1 day
2.	Ligation&stripping	4 Days

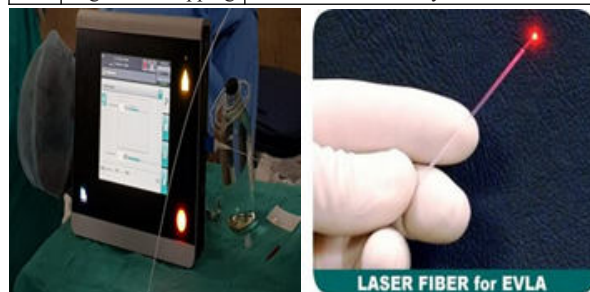


Fig8. EVLT – Duplex USG machine (A) and laser fiber (B)



Fig-EVLT- preoperative intraoperative postoperative(pod 4)

RESULT AND ANALYSIS:-

We showed in our study varicose veins are more prevalent in male gender (93.11%) than female gender (6.89%).

Most prevalent risk factor in our study was prolonged standing 45 (80.35%). In our study most no. of patients had gsv involvement. In our study right limb involvement was most prevalent (81.48%). In our study most no. of patients has gone under EVLT 40 (67.85%). In our study hematoma was present in 5% patients of EVLT and 33.33% patients of stripping and ligation (p value- < .005). In our study post op infection was present in 44.44% patients of stripping and ligation while no patient of EVLT had post op infection. (p value- < .005). In our study no patient of EVLT had complaint of paresthesia while 22.22% patients of stripping and ligation had paresthesia. (p value- < .005). In our study recurrence rate was with EVLT (7.5%) than ligation and stripping (5.5%) which was insignificant need larger population to study and longer time to follow up. In our study hospital stay was minimum with evlt (mean-1 days) followed by ligation & stripping (mean-4day).

DISCUSSION:-

Total of 58 cases were included in present study and informed written consent was obtained from all the cases. Patients from 18 years to 70 years were taken. Varicose diseases were most common during the 35-45 and 18-30 age group accounting for 47.5% and 20% of cases in the study. Males are affected more (93.11%) than female. A Similar study was estimated that 41% of all women will suffer from abnormal leg veins by the time they are in fifties. The general view is that men are affected to the lesser extent by this condition. However the recent Edinburgh vein study shows that 40% of man examined had varicose veins (compared with 32% of women). Past studies was similar to our studies the overall complications are less with EVLT compared to ligation and stripping.

Similar to past studies was showed **Rautio T et al (2002)** reported that endovenous obliteration may offer advantages over the conventional stripping operation in terms of reduced postoperative pain, shorter sick leaves, and faster return to normal activities, and it appears to be cost-saving for society, especially among employed patients. Because the procedure is also associated with shorter convalescence, this new method may potentially replace conventional varicose vein surgery. Our study also support that evlt have lesser post op complication than conventional ligation and stripping.

varicose vein recurrence, defined as the proportion of patients seeking further treatment after apparently adequate surgery, is seen in at least 20% to 30% of the cases and tends to increase over time. This causes an extra financial burden on general surgical units and induces costs for society. Endovenous obliteration omits high ligation and leaves accessory tributaries of the SFJ, which can be regarded as a risk for recurrence. However, with Closure treatment without SFJ ligation, the normal venous drainage of the lower abdominal and pudendal tissues is preserved. This may reduce the stimulus for neovascularization. Because angiogenesis is regarded as an important cause of recurrent reflux, endovenous obliteration may actually reduce the risk of recurrent varicosities. Long-term follow-up periods are, however, needed to better evaluate.

Thenard A, et al, Kanter A, (1998). **Agus GB et al (2006)** stated that the first important Italian experience with EVL based on preoperative, perioperative and postoperative duplex control and which is also based on the satisfaction of the patient at mid-term or long-term has indicated number of advantages over the standard treatment as stripping method. In terms of reduced postoperative pain, shorter sick leave, a faster resumption of the normal activities, and, in particular, the total absence of DVT, we can conclude that EVL is a good solution for all patients with anatomic and hemodynamic patterns for saphenous vein surgery. **Mundy L, et al (2005)** concluded

that Thirteen studies met the inclusion criteria. Self-limiting features, such as pain, ecchymosis, induration and phlebitis, were commonly encountered after treatment. Deep vein thrombosis and incorrect placement of the laser in vessels were uncommon adverse events. No study has yet assessed the effectiveness of laser therapy in comparison to saphenofemoral junction ligation with saphenous vein stripping. Occlusion of the saphenous vein and abolition of venous reflux occurred in 87.9-100 per cent of limbs, with low rates of re-treatment and recanalization. From the low-level evidence available it seems that EVLT benefits most patients in the short term, but rates of recanalization, re-treatment, occlusion and reflux may alter with longer follow-up.

CONCLUSION

- Varicose vein mostly occur due to involvement of saphenofemoral junction leading to great saphenous vein dilation.
- In our study maximum no. of patients were found in 35-45 age group and male prevalence (93.11%) were more than female prevalence (6.89%). Most no. of patients presented with complaints of dilated veins. Right limb involvement was most prevalent (81.48%) followed by left limb (18.5%).
- in our study hematoma was present in 5% patients of EVLT and 33.33% patients of stripping and ligation (p value- < .005).
- In our study post op infection was present in 44.44% patients of stripping and ligation while no patient of EVLT had post op infection. (p value- < .005).
- In our study no patient of EVLT had complaint of paresthesia while 22.22% patients of stripping and ligation had paresthesia. (p value- < .005)
- Duration of hospital stay in patients of EVLT was less (mean -1 day) than stripping and ligation (mean- 4 days).
- According to the above results EVLT is better than stripping and ligation in term of post procedure complication and hospital stay & time to return the routine normal activity.

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