Comparision of Hook Phlebectomy and Endovenous Laser Therapy for Below Knee Varicose Veins.

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Background: Varicose vein is a common surgical problem having multiple modalities available for their treatment. We studied the treatment modalities available for the below knee varicose veins comparing Endovenous Laser Therapy (EVLT) and Hook Phlebectomy at Acharya Vinoba Bhave Rural Hospital, Sawangi (Meghe), Wardha.
Methods: All patients with varicose veins presenting to our hospital were included in the study. All the patients in our study were assessed by clinico-etiological anatomical and pathological (CEAP) classification. Diagnosis was further confirmed by Duplex ultrasonography.
Results and Conclusions: of the 76 patients studied in this study, 15 patients underwent EVLT whereas 55 patients underwent Hook Phlebectomy for below knee varicose veins. 6 patients underwent EVLT for above knee varicose veins in combination with Hook Phlebectomy for below knee varicose veins.
Conclusions: We find Hook Phlebectomy to be much better option than EVLT for below knee varicose veins.

Introduction

Varicose Veins are present in 20 to 25% of adult females and 10 to 15 % of men in western countries[1]. This disease has attained national and industrial importance in western world because of its high prevalence. The disease is neglected by Indians. Moreover, dark complexion, costume habits of covering legs and disregard for aesthetic appearance and delay in seeing medical help add to low incidence of reporting and protracted morbidity.

Patients and Methods

All patients with varicose veins presented to our hospital were included in the study. All patients in our study were assessed by clinico-etiological anatomical and pathological (CEAP) classification[2]. Diagnosis was further confirmed by Duplex ultrasonography. Pre-operatively, the varicose veins were marked by Duplex Doppler. The above knee varicose veins were treated by any one of Trendelenburg procedure, Stripping, Endovenous Laser Therapy (EVLT). The below knee varicose veins were treated by either Hook Phlebectomy or EVLT. The patients could not be randomized into the two groups of hook phlebectomy or EVLT as economic factor played an important obstacle.

Results

Of the 55 patients that underwent Hook Phlebectomy for below knee varicosities, 3 (5.45%) had recurrence which had to be treated by the end of one year. Of the 15 procedures in which EVLT was performed, 2 (13.33%) were complicated by recurrence which was eventually treated by Hook Phlebectomy (Figure 1). Of the 6 patients who underwent EVLT for Above Knee varicose veins and Hook Phlebectomy for below knee varicose veins, no patient had any recurrence.

Duplex ultrasound examination was invariably used in all the 76 patients having below knee varicose veins and perforators incompetence was seen in all the patients involving the Great Saphenous System and 5 patients had additional short saphenous system involvement. Hand held Doppler is a simple

inexpensive and can be used in outpatient department but, the review of literature shows that taking help of the hand held Doppler may be inaccurate as compared to the standard Doppler[3,4]



Figure 1. Hook Phlebectomy



Figure 2. Varicose Ulcer

In our study, 12 patients had varicose ulcer (Figure 2).Of these, 8 were treated by Hook Phlebectomy and 4 were treated by EVLT. Of the 8 patients with varicose ulcer treated by hook phlebectomy, 7 showed decrease in the size of ulcer; where as the 1 remaining ulcer underwent Sub-fascial Endoscopic Perforator Surgery (SEPS). Of the 4 patients with varicose ulcer treated by EVLT, all patients showed signs of healing and reduction in size.

Commonest complications for Hook Phlebectomy in our series were stitch abscess seen in 2 patients. The commonest complaint of the patients undergoing EVLT was Cord Like feeling in the lower limb after the procedure seen in 3 patients, but that was seen only upto 1 month. Immediate success was noted in 100% of patients treated with both the procedures. We have not used stripping of the veins in the below knee area in view of high chances of damage to the cutaneous nerves and lymphatics[5].

Discussion

Varicose vein is a common surgical problem. The incidence of varicose veins varies among different populations. This condition is considered a national health problem in western countries. According to Callam[1], prevalence of varicose veins is 10-15% in men and 20-25% in women. We do not have statistical data of varicose veins in India but incidence in India is on the rise. This could be because of environmental factors and increasing awareness.

Patients with large varicose veins or patients with skin changes should be offered treatment specifically designed to avoid future ulceration. Peripheral arterial disease should be ruled out as a cause of patient's symptoms. Successful treatment of varicose veins requires a balance between their complete removal with treatment of underlying etiology and an optimal cosmetic outcome. So complete treatment of clinically symptomatic varicose veins must involve treatment of saphenous vein reflux as well as the varicosities[6]. Superficial veins acts as collaterals in DVT. So, DVT is absolute contraindication to varicose vein surgery.

The presence of symptoms such as heaviness, aching or swelling and clinical or ultrasound evidence of saphenous vein reflux is generally accepted as indications for surgery. Obvious indications for surgery are skin changes ascribed to varicose veins, superficial thrombophlebitis and bleeding. According to British Vascular Surgical Society, the commonest indications are symptomatic and complicated varicose veins, 55% surgeons also perform surgery for cosmetic reasons[5].
Trendelenburg' procedure is an essential component of all varicose vein surgery and is done by flush ligation and division of tributaries. Stripping doesn't treat varicosities of tributaries and also causes increased chances of injury to the cutaneous nerves and lymphatics in the below knee varicose veins[5]. Recurrence of reflux in a previously operated great saphenous vein is due to revascularization of the strip track leading to further venous disease[8]. Hence Hook Phlebectomy was developed as a quick, easy, economical and cosmetic procedure which can be used as a 'Day Care' procedure as an alternative to stripping in the below knee area and also for the varicosities of the tributaries, a common problem in the below knee area[9]. EVLT can be used for varicose veins of whole of the lower limb[10]. The long term results EVLT are not available.

In our study, out of 55 patients that had undergone hook phlebectomy for below knee varicose veins, 52 reported back for follow up for up to 12 months. 3(5.45%) patients had recurrence. Of the 15 cases who underwent EVLT for below knee varicose veins, 2(13.33%) had recurrence whereas, the patients who had undergone EVLT for varicose veins in the above knee area and Hook Phlebectomy for varicose veins in the below knee area had no recurrence.

All the cases on follow up were evaluated with color Doppler ultrasound studies. In recurrent cases, perforator incompetence was documented.In cases with varicose ulcers, 8 patients were treated with Hook ph lebectomy while 4 were treated by EVLT. Of the 8 patients with varicose ulcer treated by hook phlebectomy, 7(87.5%) patients had signs of healing of ulcer, 1(12.5%) had to undergo SEPS. Of the 4 patients having varicose ulcer treated by EVLT, 100% showed signs of healing of the ulcer.

The 3 cases with recurrence after hook phlebectomy, the incompetent perforators were marked by color Doppler and underwent sub-fascial ligation of perforators. Of the 2 cases with recurrence after EVLT was treated with Hook Phlebectomy. EVLT in the below knee varicose veins was difficult at times due to difficulty in cannulation of the tributaries. It also required experienced personnel which are few in the rural hospital setup in our area and has a definite learning curve. The cost of therapy is also a factor. EVLT in the above knee varicose veins with hook phlebectomy for below knee varicose veins is a relatively simple and effective procedure which can be used with good results comparable to the standard surgical procedures. It is a relatively easy procedure as, cannulation of above knee varicose vein is simple and phlebectomy takes care of the varicosities of the below knee area including the tributaries.

Conclusion

Varicose vein is a chronic morbid condition. Most people present to us only after complications like pigmentation, eczema, lipodermatosclerosis and ulcer development. Preoperative evaluation by colour Doppler ultrasound is essential and should be routinely done as it helps in planning surgery and reducing incidence of recurrence.

Meticulous clinical examination and surgical treatment followed by closely monitoring post operative management is required to reduce morbidity of varicose veins. Hook phlebectomy has a definite advantage over EVLT for below knee varicose veins having less recurrence rates. Hook phlebectomy is relatively simple, operator independent and cost effective and can be done with ease even for varicosities of the tributaries as compared to EVLT. Both EVLT and Hook Phlebectomy can be used as 'Day Care' procedure. EVLT in the above knee varicose veins with Hook Phlebectomy for the below knee varicose veins has results comparable to the standard procedures and devoid of the other complications of surgery like complications of the wound, limb elevation, post operative pain and bed

rest. In cases of varicose ulcer, EVLT has a similar result to the Hook Phlebectomy. Patient should always be followed up for detection of any recurrent or residual varicose veins.

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