Original Research

Efficacy of sclerotherapy in managing varicose veins

Dr. Esther Nimisha

Associate Professor, Department of Dermatology, Narayana Medical College, Nellore, India

Corresponding Author
Dr. Esther Nimisha
Associate Professor, Department of Dermatology, Narayana Medical College, Nellore, India

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Abstract

Background: Usually appearing blue or dark purple, varicose veins are twisted, bulging, and swollen. The legs and feet are where they are most frequently found. The present study was conducted to evaluate efficacy of sclerotherapy in managing varicose veins.

Materials & Methods: 70 cases of varicose veins of both genders were selected. Sclerotherapy was administered to patients using 0.3–0.5% sodium tetradecyl sulphate. After the sclerosant was injected, an elastic compression bandage was put on. For the following three months, the patient was instructed to wear the compression bandage.

Results: Out of 70 patients, 40 were males and 30 were females. Symptoms were pain in 47, pigmentation in 41, eczema in 32, limb edema in 17, ulcer in 15, lipodermatosclerosis in 8, and others (Telangiectasia) in 3 patients. Complications of sclerotherapy was pigmentation in 2, deep vein thrombosis in 4, thrombophlebitis in 11, bruising in 2, skin necrosis in 5 and recurrence in 2 patients. The difference was significant ($P < 0.05$).

Conclusion: Sclerotherapy is a rapid, secure, and effective way to treat varicose veins in the lower legs. The procedure is particularly effective for varicosities that persist after surgery and for smaller varicosities that emerge early, which may help prevent the development of skin changes.

Keywords: sclerotherapy, sapheno-femoral junction, Varicose veins

Introduction

Usually appearing blue or dark purple, varicose veins are twisted, bulging, and swollen. The legs and feet are where they are most frequently found.[1] This disorder is brought on by improperly functioning vein valves that aid in blood flow to the heart, which causes blood to pool in the veins.[2] Skin abnormalities may be seen in approximately 17–50% of patients with varicose veins.[3] Ankle oedema, recurrent cellulitis, lipodermatosclerosis, spontaneous bleeding, spontaneous thrombophlebitis, stasis dermatitis, and foot and ankle ulcers are some of the serious complications that can result from varicose veins. In the dermatology clinic, varicose veins and the issues they cause are common.[4]

Sclerotherapy, endovenous occlusion using lasers or radiofrequency, surgery (stripping, ambulatory phlebectomy, high ligation), and other techniques are available for treating varicose veins.[5] Preventing issues, reducing symptoms, and improving look are the goals of any varicose vein treatment.[6] The procedure known as "sclerosing therapy" involves inserting a sclerosing solution into the lumen of a vessel, which damages the endothelium and eventually causes thrombosis and fibrosis. It has been widely used by dermatologists to treat venous issues such superficial varicose veins.[7]The present study was conducted to evaluate efficacy of sclerotherapy in managing varicose veins.

Materials & Methods

The present study was carried out on 70 cases of varicose veins of both genders. All were informed regarding the study and their written consent was obtained.

Data such as name, age, gender etc. was recorded. Incompetence of the sapheno femoral and sapheno popliteal junctions, perforator incompetence, deep vein system, and presence of aberrant or unidentified veins or perforators were evaluated in patients undergoing venous doppler. Sclerotherapy was administered to patients using 0.3–0.5% sodium tetradecyl sulphate. After the sclerosant was injected, an elastic compression bandage was put on. For the following three months, the patient was instructed to wear the compression bandage.Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

Results

Table: I. Distribution of patients

Total- 70		
Gender	**Males**	**Females**
Number	40	30

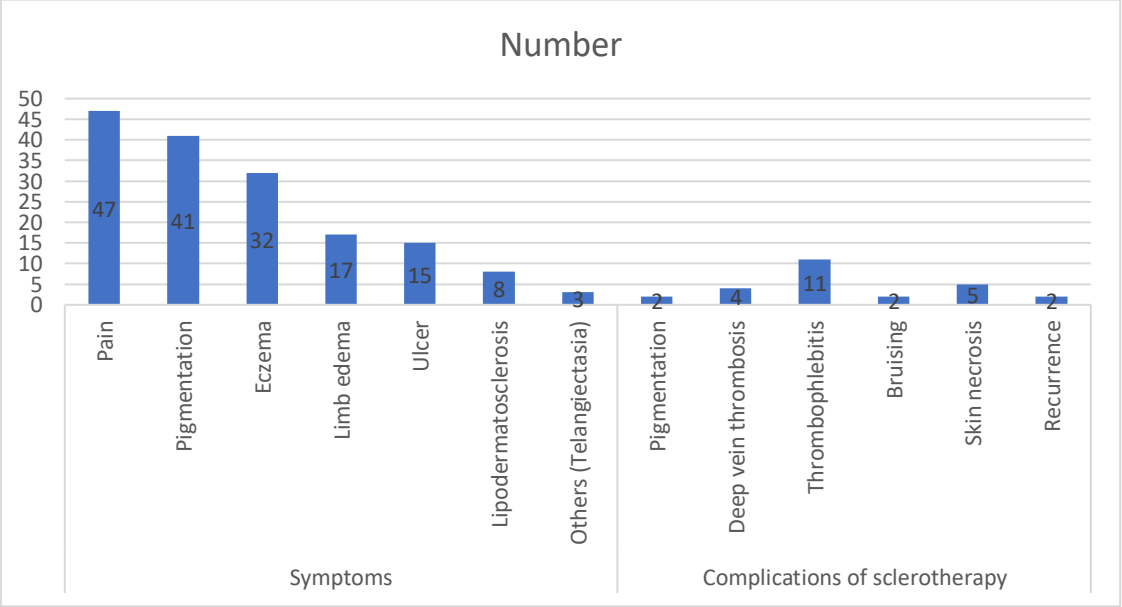
Table I shows that out of 70 patients, 40 were males and 30 were females.

Table: II . Assessment of parameters

Parameters	Variables	Number	P value
Symptoms	Pain	47	0.05
	Pigmentation	41	
	Eczema	32	
	Limb edema	17	
	Ulcer	15	
	Lipodermatosclerosis	8	
	Others (Telangiectasia)	3	
Complications of sclerotherapy	Pigmentation	2	0.61
	Deep vein thrombosis	4	
	Thrombophlebitis	11	
	Bruising	2	
	Skin necrosis	5	
	Recurrence	2	

Table II, graph I shows that symptoms were pain in 47, pigmentation in 41, eczema in 32, limb edema in 17,ulcer in 15, lipodermatosclerosis in 8, and others (Telangiectasia) in 3 patients. Complications of sclerotherapy was pigmentation in 2, deep vein thrombosis in 4, thrombophlebitis in 11, bruising in 2, skin necrosis in 5 and recurrence in 2 patients. The difference was significant (P< 0.05).

Graph: I. Assessment of parameters



Discussion

Lower limb superficial veins that have permanently lost their capacity to contract are known as varicose veins. Venous hypertension causes these veins to become dilated, convoluted, and thicker when standing. Since varicose veins have a complicated etiology, current therapies including sclerotherapy and surgery are palliative rather than curative.[8,9] Varicose veins and related dermatological issues are commonly seen in the dermatology outpatient department (OPD). Surgical procedures including stripping and ligation are the recommended course of treatment. Sclerotherapy is one of the most popular treatments used by dermatologists in the west to treat patients with varicose veins in their lower legs.[10]Chemical irritants, osmotic agents, and detergent agents are the three groups of sclerosing solutions based on how they work. The various sclerosants include STS, polidocanol, sodium morrhuate, and hypertonic saline. It damages the endothelium by altering the surface tension around the endothelial cells by a process called the protein theft mechanism.[11]The present study was conducted to evaluate efficacy of sclerotherapy in managing varicose veins.

We found that out of 70 patients, 40 were males and 30 were females. Kahle et al[12] conducted a blinded, randomized study to determine the efficacy of sclerotherapy for varicose veins. Twenty-five patients (C(2-4), E(P), A(SP), and P(R)) had varicose veins. Standard saline injections were administered to eleven participants, and polidocanol (Aethoxysklerol) was administered to fourteen. Compression was applied for a week. Controls were performed one, four, and twelve weeks later using duplex ultrasonography. Compared to group 2, 76.8% of the veins treated with polidocanol were completely occluded ($p<0.0001$). In group 1, the venoarterial flow index decreased from 1.45+/-0.66 to 1.06+/-0.2 ($p=0.05$). The venoarterial flow index decreased from 1.5+/-0.07 to 0.98+/-0.12 ($p<0.05$), a vein's competency threshold, in the first set of 14 obstructed veins. In group 2, the venoarterial flow index rose gradually. An efficient injection sclerotherapy drug for obliterating varicose veins and enhancing venous hemodynamics is polidocanol, sometimes referred to as aethoxysklerol.

We found that symptoms were pain in 47, pigmentation in 41, eczema in 32, limb edema in 17, ulcer in 15, lipodermatosclerosis in 8, and others (Telangiectasia) in 3 patients. Complications of sclerotherapy was pigmentation in 2, deep vein thrombosis in 4, thrombophlebitis in 11, bruising in 2, skin necrosis in 5 and recurrence in 2 patients. Cabrera et al[13] evaluated the safety and efficacy of sclerosant in microfoam for the treatment of venous leg ulcers. Over the course of 115 months, 12 116 consecutive patients (mean age [range], 57 [25-85] years) received ultrasound-guided polidocanol microfoam (UIPM) injections. At the 6-month follow-up, 83% of patients (96/116) who received UIPM treatment had fully healed, with a median healing length of 2.7 months; 7 patients never recovered, and 1 patient was lost to follow-up. Recurrences occurred in ten of the cases. Even in elderly patients, UIPM is very helpful in promoting stable ulcer healing with minimal invasion when used to gradually and selectively sclerose incompetent veins brought on by venous hypertension. Recurrences can be treated with ease with this method. This method might be used as the initial course of treatment for the management of leg venous ulcers.

Sclerotherapy's effectiveness and safety in treating varicose veins and their dermatological consequences were investigated by Subbarao et al.[14] The patients received sclerotherapy using sodium tetradecyl sulphate at different concentrations based on the size of the vessel following a comprehensive clinical, laboratory, and radiographic examination. After that, the patients were monitored for any problems, ulcer and eczema healing, and vein absence. Patients responded favorably to sclerotherapy treatment. Seventy to eighty percent of patients experienced clinical relief, vein removal, and ulcer and eczema healing. The majority of the issues were minor and went away in a few weeks.

The shortcoming of the study is small sample size.

Conclusion

Authors found that sclerotherapy is a rapid, secure, and effective way to treat varicose veins in the lower legs. The procedure is particularly effective for varicosities that persist after surgery and for smaller varicosities that emerge early, which may help prevent the development of skin changes.

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