ISSN: 0975-3583, 0976-2833 VOL15, ISSUE12, 2024

Original Research Article

To Assess the Diagnosis and Treatment of Varicose Veins

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Abstract

Background & Methods: The aim of the study is to assess the diagnosis and treatment of varicose veins. A total of 100 patients were included in this study and various general, demographic, clinical and surgical data outcomes.

Results: We found maximum no. of symptoms in Pain 63% followed by 22% in Edema. We found maximum no. of Complications of the disease in Pigmentation 31%. Complications of surgery association chi-square statistic is 3.1855. The p-value is .047294. The result is significant at $p < .05$.

Conclusion: Varicose veins are a frequent occurrence. Commonly affect middle aged males, required to work standing for prolonged hours. The great saphenous and the communicating systems are most commonly involved, followed by great saphenous system alone. Pain is the most common presenting symptom and pigmentation the most common complication of the disease. The treatment depends on the site of incompetence and should hence be tailor-made for each case. These surgical procedures are associated with complications, seroma being the commonest. Our experience had a recurrence rate of 07%; these patients may require additional surgeries.

Keywords: Diagnosis, Varicose & Veins.

Study Design: Observational Study.

1. INTRODUCTION

Chronic venous disorders (CVD) are defined as the full spectrum of morphological and functional abnormalities of the venous system, from telangiectasia to venous ulceration. Different forms of CVD may have a great impact on patients' quality of life and therefore CVD represents an important social as well as economic burden [1]. The incidence of CVD increases with age, except for congenital venous malformations.

CVD may start with minor symptoms and/or appearance of varicose veins. Long-standing CVD may slowly progress over time, leading to oedema and skin changes such as pigmentation, "atrophy blanche" (white atrophy), lipodermatosclerosis and finally leg ulceration. Chronic venous insufficiency (CVI) is a part of CVD where the function of the venous system is disturbed and leads to clinical complications [2]. These more advanced stages are classified in the CEAP classification as C3 to C6. Other clinical manifestations of

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE12, 2024

advanced CVD are varicose veins, blow outs, nail changes, subcutaneous calcifications, induration, pachyderma and eczema.

Veins return the deoxygenated blood from the tissues to the heart. In the upright position, especially when standing still, gravitation has to be overcome, to ensure venous flow. Among different mechanisms for the venous return, the muscle pump function is the most important. Deep intramuscular veins are being compressed during muscle contraction. In addition, valves play a major role in maintaining the right flow direction, from the extremities towards the heart. After compression of the muscle the blood flows though the perforator veins to the deep system [3]. The most important pump in the lower extremity is the calf muscle pump, followed by the compression of the plantar plexus during walking. In standing position, with open valves, the pressure in the veins is around 90 mmHg. After activation of the muscle pumps this pressure decreases to 20 mmHg. However, when there is valve incompetence or severe venous insufficiency, due to deep venous thrombosis, the pressure will decrease less. This condition is called increased ambulant venous pressure or venous hypertension [4]. The high venous pressure will be transferred, to the venular side of the skin microcirculation. Capillary hypertension causes capillary leakage of fluid which is responsible for oedema, and erythrocytes migrating from the capillaries leading to iron deposition and -hyper pigmentation. Leakage of plasmaproteines induces an inflammatory reaction resulting in lipodermatosclerosis. Capillary hypertension also leads to dilation of capillaries that cause decrease of the blood flow velocity with deposition of fibrin and thrombocytes and leukocyte adhesion, leading to microthombosis, with atrophy blanche as a result[5]. These skin changes lead to skin that is vulnerable to venous ulcerations.

2. MATERIAL AND METHODS

This Observational study on varicose vein surgery was conducted in department of surgery at for 01 Year, during this period 100 patients having primary varicose veins were selected randomly. All cases of varicose veins presenting to the OPD were subjected to duplex scan to rule out secondary causes. Patients admitted with varicose vein who satisfied the inclusion and exclusion criteria were included in the study. All the required data was collected from patients during their stay in the hospital, during follow up at regular intervals and from medical records.

Inclusion Criteria

All patients clinically diagnosed of symptomatic or complicated primary lower limb varicose veins with saphenofemoral and/or saphenopopliteal incompetence with or without perforator incompetence.

Exclusion Criteria

- Patients presenting with recurrent varicose veins.
- Patients with concurrent deep venous thrombosis.
- Patients having secondary varicosities.
- Patients less than 18 years of age.
- Patients not fit for surgery

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3. RESULT

Table No. 1: Gender Distribution

S. No.	Gender	No.	Percentage	P Value
1	Male	71	71	.756047
2	Female	29	29	

Mean: 44.9±3, we found 71% males where 29% females. The chi-square statistic is 0.0965. The p-value is .756047. The result is not significant at $p < .05$.

Table No. 2: Symptoms

S. No.	Symptoms	No.	Percentage	P Value
1	Pain	63	63	.031935
2	Edema	22	22	
3	Cramps	-	-	
4	Disfigurement	08	08	
5	Asymptomatic	07	07	

We found maximum no. of symptoms in Pain 63% followed by 22% in Edema. The chi-square statistic is 2.675. The p-value is .031935. The result is significant at $p < .05$.

Table No. 3: Complications of the Disease

S. No.	Symptoms	No.	Percentage	P Value
1	Haemorrhage	-	-	.00001
2	Thrombophlebitis	02	02	
3	Pigmentation	31	31	
4	Dermatitis	17	17	
5	Ulcer	06	06	

We found maximum no. of Complications of the disease in Pigmentation 31%. The chi-square statistic is 27.8359. The p-value is < .00001. The result is significant at $p < .05$.

Table No. 4: Complications of Surgery

S. No.	Symptoms	No.	Percentage	P Value
1	Hematoma	04	04	.047294
2	Seroma	11	11	
3	Wound infection	03	03	
4	Recurrence	07	07	
5	Neuropathy	06	06	

We found maximum no. of Complications of surgery in Hematoma i.e. 11%. The chi-square statistic is 3.1855. The p-value is .047294. The result is significant at $p < .05$.

4. DISCUSSION

Varicose veins and their treatment have been commented upon since antiquity. Although the surgical treatment of ligation and stripping of the greater saphenous veins has been fairly

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standard for nearly the last 100 years, more recent studies have questioned this approach. It is the purpose of this study is to review the pathophysiology, diagnosis, surgical treatment of varicose veins, and their outcomes [6].

In 1978 Widmer reported data from a defined population of factory workers'. He found a higher incidence of varicose veins in men (5.2%) than in women (3.2%), with the overall incidence of varicose veins being 4.2 %. The prevalence of venous disease increases with age [7].

Varicose veins are a known occupational disease, found in people required to stand for prolonged periods. We found that our study had 47.14% farmers, who admitted that their occupation required standing for long intervals. Also worth noticing was the fact that the other people affected were policemen and teachers, jobs associated with prolonged standing?

Analysing the data regarding systems involved, we derive that the great saphenous system is the most commonly involved (75.71%), the communicating system is the next commonest (60%), the small saphenous is the least involved system. Two or more systems were seen to be involved frequently than isolated system insufficiency [8]. In accordance with other studies we too noted that pain was the commonest presenting symptom and pigmentation was the commonest presenting complication.

Surgeries were based on the site of incompetence, junctional reflux noted on duplex scanning was treated by either by Trendelenberg's procedure (flush ligation of the SFJ) or by ligation of the SPJ, whichever was involved. The GSV was stripped, interrupted or preserved as per surgeons' preference. The perforator incompetence was dealt by sub-fascial ligation. The blowouts and tributaries were stab avulsed using a small incision overlying the area with a stab knife. Multiple such avulsions were carried out depending on the size and extension of the varicosities [9]. When each component is considered alone, Trendelenberg's procedure was done in 62 (88.57%) limbs, stripping was done for 46 (65.71%), SPJ ligation was done in 13 (18.57%) limbs and perforators were ligated in 40 (57.14%) limbs. So, Trendelenberg's surgery amounts for the maximum number of cases, followed by stripping, perforator ligation and SPJ ligation, in that order of frequency. It should be borne in mind that procedures are combined based on the patient's requirements [10]. Hence multiple combinations of the above mentioned procedures are done to alleviate the patient's symptoms.

5. CONCLUSION

Varicose veins are a frequent occurrence. Commonly affect middle aged males, required to work standing for prolonged hours. The great saphenous and the communicating systems are most commonly involved, followed by great saphenous system alone. Pain is the most common presenting symptom and pigmentation the most common complication of the disease. The treatment depends on the site of incompetence and should hence be tailor-made for each case. These surgical procedures are associated with complications, seroma being the commonest. Our experience had a recurrence rate of 07%; these patients may require additional surgeries.

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