

Original research article**A PROSPECTIVE COMPARATIVE STUDY OF CONSERVATIVE AND SURGICAL MANAGEMENT OF VARICOSE VEINS**

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ABSTRACT

Introduction : Varicose Veins are Defined as “ Permanently Elongated, Dilated vein/veins with tortuous path causing pathological circulation”.Varicose veins can develop anywhere in the body but are most commonly seen in the lower limbs. A detailed knowledge of the mechanism of hemodynamic failure and the underlying anatomy is important in deciding treatment of the patient with chronic venous disease.

Methodology : The aim of this study was to determine the correlation between different complications of varicose veins and Recurrence rate of Complications with the treatment undergone by the patient. Total 30 patients were randomly assigned to Conservative management (i.e. Limb End Elevation, Elastic Stockings Application & Intermittent Bed rest to avoid prolonged Standing) or Surgical management (i.e. Trendelenburg Operation with Great Saphenous Vein Stripping).

Special focus was given to the follow-up visit of the patients who were asked to be present for review every week, till two months so as to be vigilant regarding the occurrence of complications.

Results : Out of 30 patients, 15 were treated surgically while 15 were treated conservatively. Eleven (11) patients in total developed some complications in post treatment part. The commonest complication observed in post surgical patients was haematoma. Recurrence of Varicosity was seen in 4 patients who were previously managed conservatively. A single case of wound infection and ulcer formation were observed in each respectively. Out of the 11 patients who had developed some complications, 5 patients had undergone surgical management, while 6 patients had undergone conservative management.

Conclusion : Surgical Intervention is better than conservative management in Varicose veins. The rate of complications / recurrence over a 2 months period was less in the surgical group than in the group managed by conservative therapy.

INTRODUCTION:

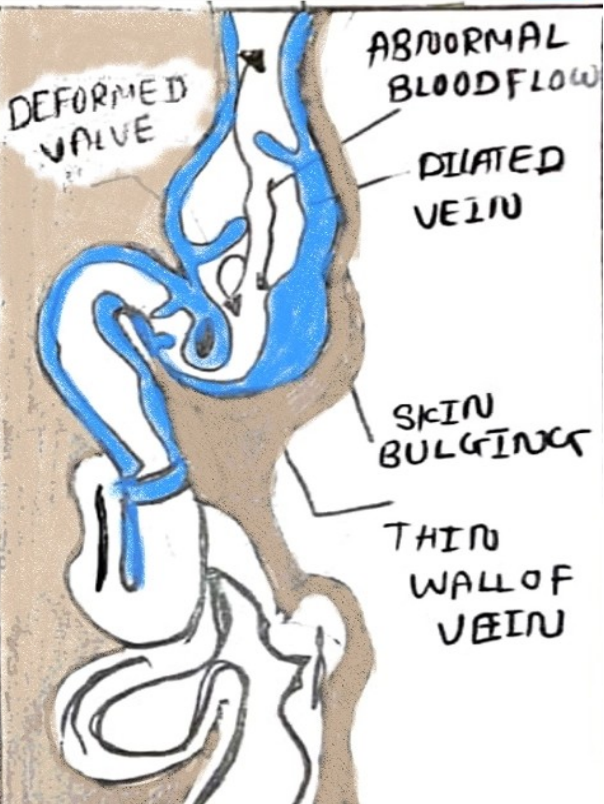
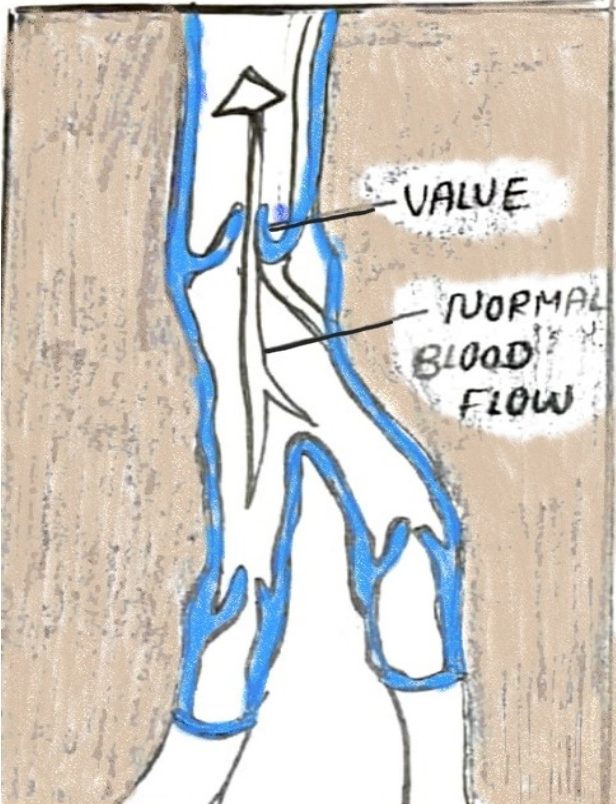
Varicose Veins are Defined as “Permanently Elongated, Dilated vein/veins with tortuous path causing pathological circulation”^[1, 2]. Varicose veins can develop anywhere in the body but are most commonly seen in the lower limbs. The anatomy of the lower limb venous system is complex and highly variable. Primary varicose veins are associated with several changes in vein wall architecture that may precede the development of reflux giving rise to several weak wall hypotheses. There is Reversal of blood flow through its faulty valves. The manifestations of chronic venous diseases result from a complex interaction of anatomy and hemodynamic failure. Detailed knowledge of the mechanism of hemodynamic failure and the underlying anatomy is important in deciding treatment of the patient with chronic venous disease.

Various modalities of treatment are available for varicose veins. Conservative Treatment includes Limb End Elevation, Elastic Bandage Application, Intermittent bed Rest to avoid prolonged Standing along with medical treatment, While Surgical Treatment Modalities include Trendelenburg Operation with/without GSV Stripping, Perforator Ligation, Sclerotherapy, Minimally Invasive Methods (SEPS, RFA). Commonly used modalities of treatment in GCS Hospital, Ahmadabad include Conservative and Surgical management.

A common perception among the general population of Ahmadabad is that as long as the varicose veins do not give rise to any significant symptoms, there is no need for treatment. People do not consider treatment of varicose veins for cosmetic reasons only. Most of the people still prefer to opt for conservative management over surgical management. So, the objective of the study was to compare the conservative and surgical treatment of varicose veins with respect to complications and recurrence rate observed during respective management.

Normal vein

Varicose Veins



METHODOLOGY

This was a prospective study conducted on patients diagnosed with varicose veins at GCS Hospital, Ahmadabad. This study included patients of OPD as well as Indoor patients at GCS Hospital who were diagnosed with varicose veins between the months of August 2020 and July 2021.

All the patients were randomly assigned to Conservative management (i.e., Limb End Elevation, Elastic Stockings Application & Intermittent Bed rest to avoid prolonged Standing) or surgical management (i.e. Trendelenburg Operation with Great Saphenous Vein Stripping) with maintenance of proper standards of patient care. Special focus was given to the follow-up visit of the patients who were asked to be present for review every week, till two months so as to be vigilant regarding the occurrence of complications.

Inclusion criteria

- All the patients diagnosed with Primary Varicose veins.

Exclusion criteria

- Patients with varicose veins as well as Peripheral vascular disease (PVD)
- Patients having lower limb ulcerations due to varicose veins
- Patients having thrombophlebitis.
- Patients already having deep vein thrombosis (DVT).
- Patients with bleeding disorder.
- Patients with widespread malignancy.
- Patients with uncontrolled Diabetes Mellitus.

Statistical Analysis

The data collected was analyzed using descriptive statistical principles (like mean, proportions and percentages).

RESULT

Thirty (30) patients with primary varicose veins who were treated at GCS Hospital, Ahmadabad between the months of August 2020 and July 2021 were included in this study. The age group of the patients ranged from 35 to 80 years. The commonest age group was from 50-70 years of age showing the maximum incidence. Out of 30 patients in the study, 11 patients were female while 19 were male. In both groups (conservative and surgical), patients were divided equally, precluding any chance of treatment group bias in the results.

Out of 30 patients, 15 were treated surgically while 15 were treated conservatively. Eleven (11) patients in total developed some complications in post treatment part. The commonest complication observed in post-surgical patients was hematoma; Recurrence of Varicosity was seen in 4 patients who were previously managed conservatively. A single case of wound infection and ulcer formation were observed in each respectively (Table1). Out of the 11 patients who had developed some complications, 5 patients had undergone surgical management, while 6 patients had undergone conservative management. (Table 1)

Table1. Complications noted according to Treatment

Complications	No. of Cases(n=30)	Surgical	Conservative	Percentage
Hematoma	3	3	-	10%
Ulcer Formation	1	-	1	3.33%
Delayed Healing	1	1	-	3.33%
Lip dermatosclerosis	1	-	1	3.33%
Recurrence of Varicosity	4	-	4	13.33%
Wound Infection	1	1	-	3.33%
Total	11	5 (16.65%)	6 (20%)	36.65%

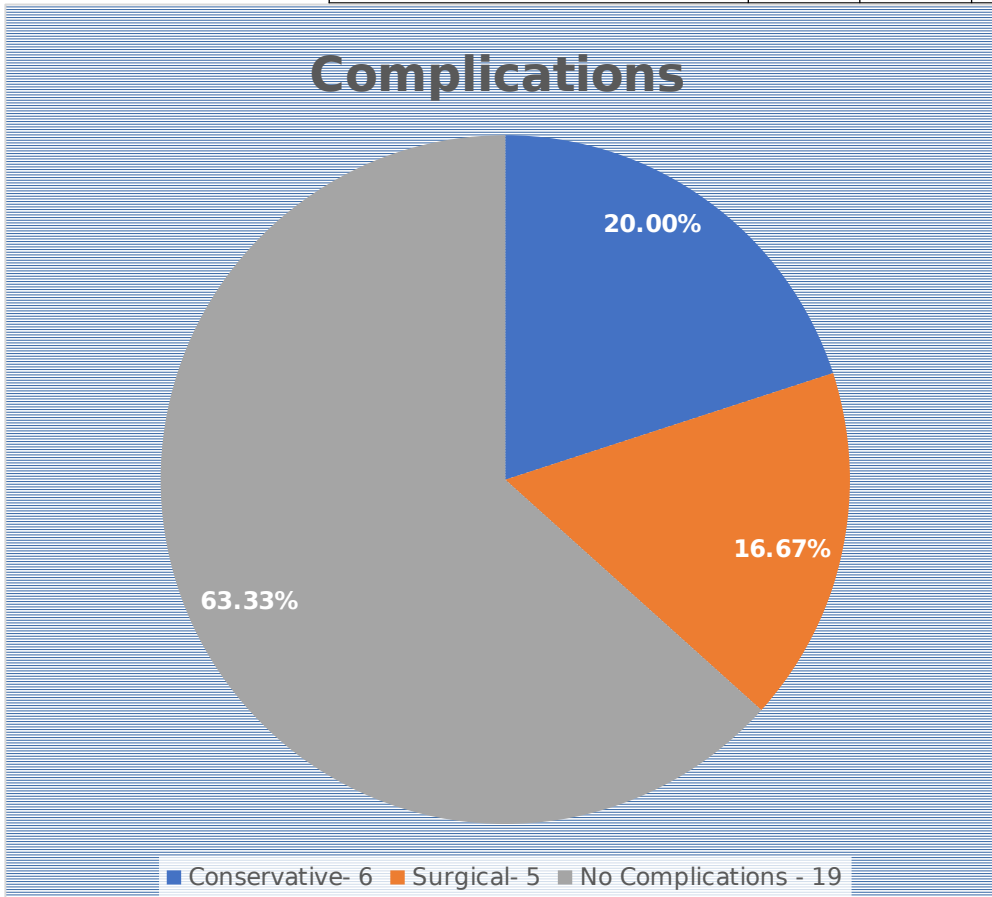
DISCUSSION

In our study, a total of 30 patients were included irrespective of the type of management they underwent, and these patients were diligently followed up for a period of two months. The youngest patient in this study was 35 years and the oldest was 80 years. In previous studies, the age ranges were from the teens to the aged group^[4, 5]. The major difference was seen in the minimum age of the patient, which in the present study was higher (i.e., 35 Years). In the present study the ratio of M: F was 2:1 that is for every 2 males, 1 female was affected by varicose veins. The disparity can be explained by the fact that the majority of women from the Ahmadabad region presented in the study come from middle income or lower income classes and as such were also less prone to look for treatment for cosmetic reasons. Out of 30 patients, 15 patients underwent surgical management while 15 patients were candidates for conservative management, which were randomly chosen. No significant correlation was found between the type of management of feared to the patient and the presence of complication (Table 2). However, 40% of patients offered conservative treatment options and 33% of patients offered surgical management showed the presence of complications. Out of 15 patients who underwent surgical management, five patients developed complications among which three of the patients suffered from mild hematoma formation which was resolved with conservative management. One patient developed wound infection and needed further treatment with antibiotics and daily dressing. 1 patient had delayed healing time after surgery. so, 33% developed minor complications which were managed without any extra major treatment. No major complications or recurrence of varicosity were seen in post-surgical patients. On the other hand, out of 15 patients who underwent various conservative management options, six developed complications. Out of these six patients, four (66.6%) developed Recurrence of Varicosity, which was managed by surgical intervention in the form of Trendelenburg Operation with Stripping of Great Saphenous Vein. 1 patient developed lipodermatosclerosis but required no further intervention and was treated conservatively. One patient developed skin changes and ulcer formation. The patient was treated conservatively with regular dressing.

Table2.

Treatment group	Complications		Total
	Yes	No	
Count	6	9	15
% Within Conservative Group	40%	60%	100%
% Of Total	19.2%	34.6%	53.8%
Count	5	10	15
% Within Surgery Groups	33.3	66.7	100%

	%	%	
% Of Total	15.4 %	30.8 %	46.2 %
Count	11	19	30
% Of Total	36.6 %	63.4 %	100%



Thus, by analyzing the treatment undergone by the patient with emphasis on the complication and recurrence showed that the patients undergoing surgical treatment had better prognosis than the conservative line of treatment. This result was in complete agreement with the study of Michaels et al ^[11], which concluded that patients of uncomplicated varicose veins undergoing surgical management had a definitely better prognosis than patients undergoing conservative treatment. Comparing the surgically and the conservatively managed patients of this study, the complications of the surgical line of treatment were minor in nature and did not require any

major treatment and did not involve much discomfort to the patient. Also the rate of complications was relatively low when compared to other postsurgical studies^{8, 9, 11, and 12}. While for the patients treated with conservative methods, the complications were all based on the further progression of the disease. The number of cases reporting to the hospitals is much lower than the real number of patients because, in the absence of symptoms, patients with varicose veins do not seek medical treatment in Ahmadabad. Hence, Based on the results of the present study it is apparent that in the management of Varicose veins, Surgical line of treatment is better than conservative management.

Limitations of this study: The limitation of this study was that long-term follow-up (>2months) to check for other complications and the types of the conservative as well as surgical management offered to the patients were not carried out.

CONCLUSION

- Surgical Intervention is better than conservative management.
- The rate of complications / recurrence over a 2 months period was less in the surgical group than in the group managed by conservative therapy
- The commonest age group of patients suffering from varicose veins was from 50-70 years of age.
- The majority of the patients were male.

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