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Original Research Article

TO STUDY TREATMENT OUTCOME OF ENDOVASCULAR PROCEDURES IN VARICOSE VEINS PATIENTS TREATED WITH SURGERY

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Abstract

Background & Methods: The aim of the study is to study treatment outcome of endovascular procedures & in varicose veins patients treated with surgery. Patients were kept in nil per oral for a minimum of 8 hours prior to surgery. Both sets of patients underwent surgery under spinal anaesthesia. Surgery was carried out by an experienced surgical team, which included the investigator, guides and the co - investigators.
Results: The postoperative VCSS scores 2 month were compared within the two groups, which gave the P value of 0.277, which were all statistically insignificant, which implies there is no statistical significance in comparing the two techniques.
Conclusion: The efficacy and safety of endovenous laser procedure treatment of varicose veins, compared with conventional surgery, have been well demonstrated in a number of studies. But none have showed clinical significance for the same. In our study we have found that patients undergoing Radio Frequency Ablation fared slightly better clinically than the ones undergoing conventional surgery but results were statistically insignificant.

Keywords: outcome, endovascular, varicose veins & surgery.
Study Design: Prospective Comparative Study.

1. Introduction

Chronic venous insufficiency is a major health and socioeconomic issue the world over, causing long term morbidity and high cost of treatment. The definition of chronic venous leg ulcer is "An area of discontinuity of the epidermis of the skin of the lower leg, persisting for more than 4 weeks, occurring as a consequence of chronic venous hypertension and calf muscle pump insufficiency"(1) .
It is clinically, a common problem in the Western world. From reports confined to active venous leg ulcers, the point prevalence was estimated to be 0.06-0.1% (2, 3) . It is a chronic, non - fatal condition that mainly affects the elderly(2).
In the "Ebers Papyrus," written under the rule of Amentohep, i t was advised against treating varicose veins as early as 1550 B.C. Ancient Greece also made reference to them. Leg ulcers

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were treated with linen bandages and plasters in ancient Rome, according to "Celsus and Galen." Galen's "black bi le theory" and his false but tenacious beliefs about venous blood flow, nevertheless, formed the philosophy of venous ulcer treatment up until the middle ages(3).

These doctors believed that the collect ion of menstrual blood, black bi le, and feculent humours caused leg ulcers and that their repair would be disastrous, resulting in "melancholy, madness, palpitation, and other things."

The lower limb major deep veins follows the major arteries. The deep venous system consists of the tibial veins, peroneal veins, soleal veins and the gastrocnemial vein. The venae commitantes of the corresponding arteries namely anterior tibial, posterior tibial and peroneal veins form a plexiform arrangement around the arteries(4).

2. Material and Methods

Our study was conducted at MGM Medical College Indore and MY Hospital Indore for 01 Year. Both the surgical methods used in the study are approved throughout the world. 50 Patients were included in the study, splitting them into group ‘A ’and group ‘B ’using systematic randomization technique.

• After enrolment of the patient into the groups, Group A Open surgery- 25 patients of which one patient had bi lateral varicose veins.

• Group B – radio frequency ablation -25 patients of which 3 patients had bilateral varicose veins.

• Patients were kept in nil per oral for a minimum of 8 hours prior to surgery. Both sets of patients underwent surgery under spinal anaesthesia. Surgery was carried out by an experienced surgical team, which included the investigator, guides and the co - investigators.

INCLUSION CRITERIA

1. Patient of both sexes.
2. Patients with duplex study suggestive of perforator incompetence of lower limb.
3. Patients were explained in detail about the study and patients who gave informed consent were included in the study

EXCLUSION CRITERIA

1. Ulcers of other etiology
2. Patients with deep vein thrombosis or peripheral vascular diseases
3. Patients with recur rent varicose veins
4. Other surgical modalities like cryosurgery/ endovenous laser therapy/ sclerotherapy

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3. Result

Table 1: Analysis of age in Open and RFA groups

Group	Mean (in years)	Standard Error	p Value
Open technique	47.8	1.83	0.301
RFA	43.71	2.77	

Of the 100 patients who underwent the study, the average age of the patients was 45.88, where the mean of the ones undergoing open surgery was 47.8 and in the RF group was 43.71. The p value was 0.301, which is statistically insignificant. Hence the age of patients undergoing the procedure are comparable and there is no select ion bias with respect to age

Table 2: Analysis of mean VCSS score in Open group over time

Time of assessment	Mean VCSS	Standard Error	p Value
Pre-operative	13.22	1.37	0.0336
Post-operative 1 Week	12.65	2.57	
Post-operative 1 month	9.81	2.84	
Post-operative 2 month	8.17	1.13	

The post-operative VCSS scores of 1 week, 1 month and 2 month was 12.65, 9.81 and 8.17, respectively. The scores began to reduce postoperatively and the patients were becoming symptomatically better with time. The *p* value was 0.0336, hence the study was statistically significant showing the patient was getting better with time after open surgery.

Table 3: Analysis of mean VCSS score in RFA group over time

Time of assessment	Mean VCSS	Standard Error	p Value
Pre-operative	15.71	2.78	0.0481
Post-operative 1 Week	12.08	3.02	
Post-operative 1 month	9.19	1.47	
Post-operative 2 month	8.01	1.71	

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When the same Mean VCSS scores were compared within the RF group, the pre-operative score was 15.71, the post-operative scores were reducing with time. The P value was 0.0481, hence the study was statistically significant and patients who underwent Radio Frequency Ablation improved postoperatively

Table 4: Analysis of mean VCSS (post- operative - 2 month) in Open and RFA groups

Time of assessment	Mean VCSS	Standard Error	p Value
Open technique	8.73	2.47	0.277
RFA	8.16	1.35	

The postoperative VCSS scores 2 month were compared within the two groups, which gave the P value of 0.277, which were all statistically insignificant, which implies there is no statistical significance in comparing the two techniques.

4. Discussion

Our study was a prospective comparative study of Radio Frequency Ablation vs open surgical techniques in varicose vein patients with venous clinical severity score, of 100 patients with duplex scan confirmation of venous incompetence(5). After obtaining consent from the patients to be included in the study the patients were assessed on VCSS score preoperatively, 1 week, 1 month and 2 months postoperatively and the results were compared for its significance(6).

Also, we didn't encounter any major complications like DVT or saphenous nerve damage. The minor complications encountered were post-operative pain, paraesthesia, hematoma or serous wound discharge. But as our study was done with only a short term follow-up, they cannot be compared with previous studies which assessed the morbidity of the procedure. Most studies which showed recurrences were on a long term basis as stated by Winterborn et. al. (7), Morrison et . al. (8) and Kaczorowski et. al. (9).

Similarly, in the Radio Frequency Ablation technique, the VCSS score decreased progressively during the post-operative period and the results were statistically significant. Patients also had a good post-operative quality of life and early return to work which were similar to previous studies enumerating the advantages of RF technique. In our study done over a short follow up period patients had very few minor complications like pain and paraesthesia. We did not encounter any skin burns or DVT or saphenous nerve injury.

5. Conclusion

Our study was done with a short term follow up period. On comparison with similar studies i t is suggested that the short term efficacy including quality of life were similar in both studies and the need for long term follow up is emphasized.

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The efficacy and safety of endovenous laser procedure treatment of varicose veins, compared with conventional surgery, have been well demonstrated in a number of studies. But none have showed clinical significance for the same. In our study we have found that patients undergoing Radio Frequency Ablation fared slightly better clinically than the ones undergoing conventional surgery but results were statistically insignificant.

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