

Original Research Article

Varicose veins: our experience in KVG Medical College and Hospital, Karnataka

Abhirup H. Ramu^{1*}, Priyanka Kenchetty², Aishwarya K. Chidananda³

¹Department of General Surgery, ²Department of Dermatology, ³Department of Radiology, KVG Medical College and Hospital, Karnataka, India

Received: 31 August 2021

Revised: 30 September 2021

Accepted: 02 October 2021

***Correspondence:**

Dr. Abhirup H. Ramu,

E-mail: abhirup05@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: The varicose veins is the most common vascular disorder of the lower extremities. It affects more than 5% of adult population but in India incidence of varicose veins seems to be far less common because patients come for complications such as pain, oedema, pigmentation and ulceration leading to tip of Iceberg phenomenon. This study will help in finding epidemiology, mode of presentation and effect of surgery on venous ulcers and recurrence. The aims and objectives of the study was to study the incidence of varicose veins according to age, sex and occupation with spectrum of clinical presentation in varicose veins. To determine effect of surgery in healing of varicose ulcers if present and study of recurrence upto 6 months.

Methods: This prospective study involved 50 patients admitted in KVG Medical College and Hospital, Sullia with clinical diagnosis of varicose veins. The study period was 18 months inclusive of a 6 month follow up period.

Results: Most patients was between 41 to 50 years (26 %.), males (74%), left side involvement in (70%) and farmer by occupation (40%) with pain as most common presenting symptom in (76%). Long saphenous system involvement in (94%). 6 patients out of 50 showed recurrence of varicose veins. 4 patient showed recurrence out of 21 venous ulcer patients.

Conclusions: For varicose veins saphenofemoral junction ligation with stripping of vein with perforator ligation showed good outcome. Venous ulcers heal well after surgery with few recurrences.

Keywords: Varicose vein, Venous ulcer

INTRODUCTION

“Varicosity is the penalty against gravity”. The term varicose is derived from the latin word meaning dilated, tortuous and elongated vein. Physiologically speaking varicose veins is the one which permits flow of blood through faulty valves. The varicose vein and their associated symptoms and complications constitute the most common vascular disorder of the lower extremities. According to western countries it affects more than 5% of adult population but in India incidence of varicose veins seems to be far less common because in India most of the patient never come for varicose veins as such, they come

for complications of varicose veins such as pain, oedema, pigmentation and ulceration. That’s the reason varicose veins in our India remains as tip of Iceberg phenomenon. The varicose veins were recognised in the pre history in the present century considerable knowledge has been gained concerning anatomy, pathophysiology and clinical management of varicose veins. As in the past attention is directed towards the mechanical effect of varicosity rather than basic causes. In the recent times attempts are made regarding the study of the aetiological factors 1. This study will throw light on epidemiology, mode of presentation, effect of surgery on venous ulcer and recurrence upto 6 months.

Aim of the study

To study the incidence of varicose veins according to age, sex and occupation. To study spectrum of clinical presentation in varicose veins. To study effect of surgery in healing of varicose ulcers if present. Study of recurrence upto 6 months.

METHODS

After obtaining approval form Institutional Ethical Committee approval, our study was carried out. The present study is a cross sectional study, done in KVG Medical College and Hospital, Sullia during the period between July 201 to July 2020.

Source of data

During this period 50 number of cases of varicose veins were studied, which were admitted in Department of General Surgery at KVG Medical College and Hospital, Sullia and selected by random sampling.

Method of collection data

The study data is collected as per the proforma prepared for study of varicose veins. The clinical finding with coexisting medical illness was recorded in detail. The routine investigations and pre-operative marking of perforators with Doppler scan were done. The pre-operative treatment, operative findings and post-operative outcome are documented. The details of cases of varicose veins were drawn as a master chart with record of only relevant and positive findings. All the cases were given tetvac injection and xylocaine test dose before surgery. The parts and spine were prepared. On table, thorough preparation of the part was done with iodine scrub and spirit after giving anaesthesia and surgical procedure done. Routine follow up was done during the immediate post-operative period and every day till discharge. Attention was paid to note the development of any complications. Treatment was administered from time to time according to the needs of patients. Most of patients who underwent surgery received IV fluids for a day, antibiotics and analgesics.

After removal of sutures and improvement of general condition, the patients were discharged from the hospital with an advice regarding diet, rest, type of work to done, drugs to be taken and to prevent long standing, and usage of elastic crepe bandage, etc and with a further advice to come to check up once in 7 days for 2 weeks and further once in a month. The general condition and examination of operated limb were carried out to find out the healing of wounds, any presence of tenderness and recurrence.

Statistical analysis will be made using descriptive statistic and Statistical package for social sciences (SPSS) version 21 was used for analysis.

Inclusion criteria

All varicose veins cases involving large and short saphenous vein.

Exclusion criteria

Varicose veins due to deep vein thrombosis. Recurrent varicose veins.

RESULTS

The age of these patients ranged from 20 years to 69 yrs. The commonest age group of over patients was between 41 to 50 years (26 %.). Out of 50 patients, 37 were male and 13 were female.

Table 1: Age distribution with gender.

Age in years	Number of patients	%
11-20	2	4.0
21-30	10	20.0
31-40	12	24.0
41-50	13	26.0
51-60	8	16.0
61-70	5	10.0
Total	50	100.0

Mean \pm SD: 42.14 \pm 13.58

Table 2: Occupation and side effects.

Occupation	No. of cases	Percentage
Farmer	20	40
Shopkeeper	10	20
Others	07	14
House wife	06	12
Bar tender	03	06
Masons	03	06
Traffic police	01	02
Total	50	100

Table 3: symptomatology.

Symptom	No. of patients	%	95% CI
Pain	38	76.0	62.59-85.70
Dilated veins	36	72.0	58.33-82.53
Ulcer	21	42.0	27.86-53.85
Edema	10	20.0	11.24-33.04

Most patients were farmers 20 (40%).

Our patents presented with varied symptoms, out of which pain was most common 38 (82%) patients followed by dilated veins 36 (72%) patients.

Table 4: Venous tree involvement.

System involved	No. Of patients	Percentage	95% CI
Only LSV	45	90.0	78.24-95.69
Only SSV	2	4.0	1.86-14.13
LSV+SSV	3	6.0	2.06-16.22
SFJI	44	88.0	76.20-94.38
SPJI	5	10.0	4.35-21.36
PI	44	88.0	76.20-94.38

Table 5: Treatment (n=50).

Procedure done	No. of patients	Percentage
SFJL+S+PL	28	56.0
SFJL+PL	7	14.0
SFJL	6	12.0
SFJL+SPJL+S+PL	3	6.0
PL	4	8.0
SPJL+PL	2	4.0

SFJL- Sapheno-femoral junction ligation. PJL- Sapheno-popliteal junction ligation. PL- Perforator ligation. S-Stripping of vein.

Table 6: Complications.

Complications	No. of cases	Percentage
Bleeding	01	02
Haematoma	04	08
Wound infection	02	04

Table 7: Duration of hospital stay.

No. of days	No. of patients	Percentage
2-3	17	34.0
4-5	26	52.0
6-7	4	8.0
>7	3	6.0
Total	50	100.0

Only Long saphenous system is the most common venous system affected by varicosity (90%) with CI – (78.24-95.69). SFJ Incompetence is seen in (88%) patients with CI – (76.20-94.38).

Table 8: Correlation of age with recurrence of varicose of veins.

No. of days	No. of patients	Percentage
2-3	17	34.0
4-5	26	52.0
6-7	4	8.0
>7	3	6.0
Total	50	100.0

Table 9: Correlation of type of surgery with recurrence of varicose of veins.

Type of surgery	No. of patients	Number of patients with recurrence of Varicose of veins	% of recurrence of varicose of veins
SFJL+S+PL	28	0	0.0
SFJL+PL	7	2	28.6
SFJL	6	3	50.0
SFJL+SPJL+S+PL	3	0	0.0
PL	4	1	25.0
SPJL+PL	2	0	0.0
Total	50	6	12.0

Incidence of recurrence of varicose of veins is significantly more associated with only SFJL, followed by SFJL+SFPL, and SFPL with p=0.005**

Table 10: Correlation of type of surgery with recurrence of ulcers.

Type of surgery	No. of pts	Number of patients with recurrence of ulcer	% recurrence of ulcer
SFJL+S+PL	16	2	12.5
SFJL+PL	1	1	100
SFJL	0	0	0.0
SFJL+SPJL+S+PL	2	0	0.0
PL	2	1	50.0.
SPJL+PL	0	0	0.0
Total	50	4	8.0

A total of 7 pts developed complications. 4 (8%) patients had hematoma, followed by 2 (4%) patients with wound infection and 1 (2%) patient bleeding.

Mean duration of hospital stay with standard deviation was 4.16±1.92 days.

DISCUSSION

In present study, totally 50 patients with primary varicose veins were admitted, investigated, operated and followed up. In our study the range of age was from 20 to 69 years. In a study comprising 677 patients by Malhotra et al had an age range of 18-65 years.² In the West Wright et al in their study of 1338 patients in England had an age range of 20-75 years.³ In my series male to female ratio was found to be 3:1. Widmer in Switzerland recorded a ration of 1:1.⁴ Callam et al in England and also Leipnitz et al 6

documented a ratio of 1:2.⁵ Less occurrence of disease in females in our set up may be due to women not being worried about the cosmetic appearance. In our study majority affected were farmers (40%) followed by shopkeepers (20%), bar tenders (6%) and manual labourers (6%) who involved in long standing work hours. In our study, left lower limb involvement was found in 35 (70%) cases and right lower limb involvement in 15 (30%) cases. Dur et al elicited left sided predominance (51.45%) in varicose disease in his study.⁷ In this study, the commonest symptom in 38 (76%) cases was pain. Totally, 36 (72%) cases had complaints of dilated veins in the affected limb and 10 (20%) cases had limb edema, venous ulcer was present in 21 (42%) of cases. Campbell et al, in his study showed that cosmetic symptoms were 90% and aching pain 57% and in our country patients come to hospital for worrying symptom rather than cosmetic appearance. In our study perforator involvement is 88% as compare to Labropoulos et al in which they found it 68%.⁸ In present study, long saphenous vein was involved in 90% of cases (45 patients), the short saphenous vein in 4% (2 patients) and both long and short in 6% (3 patients). Delbe and Mocquet documented in their study about involvement of long saphenous vein in 98% and only 2% in short saphenous vein.⁹ Incompetent perforators were noted in 44 (88%) cases in our study. In 50 cases, saphenofemoral junction ligation with ligation of anatomically constant named tributaries at its termination with stripping of long saphenous vein by Mayo's stripper and ligation of incompetent perforator was done in 28 cases. Saphenopopliteal flush ligation were done in 5 cases, SFJ and SPJ ligation with stripping of LSV in 3 cases, isolated SFJ ligation done in 6 cases. SSV wasn't stripped in full length to avoid nerve injury. Flush ligation of SFJ with incompetent perforator ligation were done in 7 cases. Only incompetent perforator were ligated were done in 4 cases. In our series recurrence seen after only SFJ ligation is 50% which is slightly more than Sarin et al that is 45% in Indian population.¹⁰ In our study, recurrence was 0% with combined SFJ ligation and stripping as compared to Sarin et al who had 18 % recurrence. Above difference could be because of long follow up in their study as compared to ours that is 6 months to 1 year.¹⁰ In our study, SFJ ligation with perforators ligation had less recurrence of 7.1% as compared to 18.5% of Sarin et al.¹⁰ In our study, we found ulcer recurrence in 4 (20%) patients out of 21 patients presenting with venous ulcer. We encountered 07 patients with complications, the commonest being hematoma in 04 cases in our study. There was no incidence of any deep vein thrombosis. In literature, the incidence of DVT was found to be very low at 0.01%.

CONCLUSION

The commonest age group of patients suffering from varicose veins is 41 to 50 years. Most of the patient presented to the hospital for one or the other complications not for the cosmetic purpose. The majority

of the patients were male. A definite relationship exists between the occupation and the incidence of varicose veins as most of our patient belongs to workers standing for longer duration. The involvement of long saphenous system is more common than the short saphenous system. Left limb is affected more common. The cause for the same is not known but could be attributed to the longer course traversed by the left iliac veins. Operative line of treatment is a primary procedure in the management of varicose veins of lower limbs. Saphenofemoral junction ligation with LSV stripping with perforator ligation and non-stripping of SSV is associated with no recurrence and morbidity. Venous ulcer heal well after surgery. Surgery is a quality modality for varicose veins patients with ulcer with low recurrence rate. Complications are negligible if cases are meticulously selected and operated. The present procedures enable the patient to lead almost normal life after surgery with few recoverable morbidities.

ACKNOWLEDGEMENTS

This research was partially supported by My parents (H S Ramu and K Parimala) and Dr K V Chidananda (Prof in Dept of General Surgery, KVG Medical college and Hospital). I would like to thank my teacher, Dr Aishwarya K C (Prof and HOD of Dept of Radio-Diagnosis) from KVG Medical college and hospital who provided insight and expertise that greatly assisted the research.

Funding: Biocell Pharmaceuticals Pvt Ltd, Chandigarh

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Johnson G. Management of Venous Disorders'. In Vascular surgery by Rutherford RB, 4thEdn. Vol II, W.B. Saunders company. 1995;1671-862.
2. Malhotra SL. An Epidemiological Study of Varicose Veins in Indian Railroad Workers from the South and North of India, with Special Reference to the Causation and Prevention of Varicose Veins". International J. Of Epidemiology. 1972;(1):177-83.
3. Wright W. The prevalence of venous disease in a west London population. In: Davy A, stemmer R, Eds. Phlebology. Paris: libbey Eurotext. 1989: 176-8.
4. Widmer LK. Peripheral venous disorders prevalence and socio-medical importance. Bern: Hans Huber. 1978:1-90.
5. Callam MJ. Epidemiology of varicose veins. British Journal of Surgery. 1994;81:167-73.
6. Leipnitz. Prevelence of venous disease in the population: first results from a prospective study carried out in greater Aachen" In Davy A, Stemmer R, Eds, phlebology. Paris: John Libbey Eurotext. 2006: 169-171.

7. Dur AHM, Mackay AJC. Duplex assessment of clinically diagnosed chronic venous insufficiency. *Br J Surg.* 1992;79:155-61.
8. Labropoulos N. Where does venous reflux start? *J Vasc Surg.* 1997;26(S):738-42.
9. Masuda EM, Kistner RL. Prospective comparison of Duplex scanning and descending venograph. *Am J Surg.* 1992;164(3):254-9.
10. Sarin S, Scurr JH, Smith PDC. Assessment of stripping the long saphenous vein in the treatment of primary varicose veins. *Br J Surg.* 2004;889-990.

Cite this article as: Ramu AH, Kenchetty P, Chidananda AK. Varicose veins: our experience in KVG Medical College and Hospital, Karnataka. *Int Surg J* 2021;8:3392-3396.