



General Surgery

A CLINICAL STUDY OF VARICOSE VEINS IN ASRAM MEDICAL COLLEGE, ELURU : A RANDOMIZED PROSPECTIVE OBSERVATIONAL STUDY

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| Dr. N. V. Pradeep Kumar | Assistant Professor, Department of General Surgery, Alluri Sitarama Raju Academy of Medical Sciences, Eluru, Andhra Pradesh 534005. |
| Dr. Kurella Naga Shraavan Kumar* | Assistant Professor, Department of General Surgery, Alluri Sitarama Raju Academy of Medical Sciences, Eluru, Andhra Pradesh 534005. *Corresponding Author |
| Dr. T. Abhilash | Postgraduate, Department of General Surgery, Alluri Sitarama Raju Academy of Medical Sciences, Eluru, Andhra Pradesh 534005. |
| Dr. G. Ganesh | Postgraduate, Department of General Surgery, Alluri Sitarama Raju Academy of Medical Sciences, Eluru, Andhra Pradesh 534005. |

ABSTRACT **Background:** Varicose vein are abnormally dilated, tortuous, elongated veins of lower limbs which have permanently lost their valvular efficiency. objectives of our study was to study clinical profile, complications and different modalities utilized in our institute and to assess and study final outcome in patients included in our study.

Methods: This study was a prospective observational and analytical study of 50 patients. Patients within age group of 15 to 75 years and patients with varicose vein complications were included in our study whereas patients with age less than 15 years and more than 75 years, patients with deep vein thrombosis, chronic debilitated and immune-compromised patients were excluded.

Results: 50 patients were treated for varicose veins of lower limb in our institute. Average age of the patients was 36 years. The youngest patient was of 21 years and oldest patient was 73 years old. Commonest presentation was dilated veins with itching and pigmentation in 65% of patients. Long saphenous vein was involved in 96% of limbs. Most common valve involved was SFJ. SFJ flush ligation and stripping of GSV was done in 70% of the cases and SFJ flush ligation and subfascial perforator ligation was done in 60%. 8 patients were treated by sclerotherapy, residual varicosity seen in 3 patients. only 1 patients developed residual varicosity after residual operative procedure.

Conclusions: The database of our retrospective study regarding age & sex incidence, clinico-pathological features and therapeutic outcome was comparable to other studies in various literatures.

KEYWORDS : Varicose veins, Long and short saphenous venous system, Sclerotherapy, Stripping and flush ligation, Subfascial ligation.

INTRODUCTION

The term varicose vein refers to abnormally dilated, tortuous, elongated, friable superficial veins, usually of lower limbs. These varicose veins have permanently lost their valvular efficiency. Varicose veins are a major health problem in the western countries, being more common in females. In India, incidence is comparatively low, more common in males and presents late with associated complications.

AIMS OF THE STUDY

To study the varicose veins with particular reference to their Clinical presentation and to find out the Common sites of incompetence, the involvement of perforators, Surgical management of varicose veins by different modalities and the response to treatment.

METHODS

The study was a prospective observational and analytical study of 50 patients which was conducted in our institute. Patients within age group of 15 to 75 years and patients with varicose vein complications were included in our study whereas patients with age less than 15 years or more than 75 years, patients with deep vein thrombosis, chronic debilitated and immune-compromised patients were excluded.

Every patient was studied as per the following strategy:

- Detailed history and clinical examination (tests like Brodie: Trendelenburg test, Multiple Tourniquet test, Fegan's test, Schwartz test, Perthe's and Modified Perthe's test etc).
- Routine investigations like CBC, Serum creatinine, blood urea nitrogen, electrolytes, Liver function tests, blood sugar level also specialized investigations like venous colour Doppler of lower limbs, ultrasonography (abdomen+pelvis).

Management (conservative, sclerotherapy, surgical) and follow up.

RESULTS

AGE DISTRIBUTION

| AGE (IN YEARS) | NO. OF PATIENTS | % |
|----------------|-----------------|-----|
| 15-25 | 1 | 2% |
| 26-35 | 9 | 18% |

| | | |
|-------|----|------|
| 36-45 | 17 | 34% |
| 46-55 | 12 | 24% |
| 56-65 | 7 | 14% |
| 66-75 | 4 | 8% |
| TOTAL | 50 | 100% |

SEX INCIDENCE

| SEX | NO OF PATIENTS | % |
|---------|----------------|------|
| MALES | 35 | 70% |
| FEMALES | 15 | 30% |
| TOTAL | 50 | 100% |

Males are more commonly involved than females with ratio of 2.3:1

RELATION OF VARICOSE VEINS WITH OCCUPATION

| OCCUPATION | NO OF PATIENTS | % |
|--|----------------|------|
| Occupations involving prolonged standings | 42 | 84% |
| Occupation not involving prolonged standings | 8 | 16% |
| TOAL | 50 | 100% |

MODE OF CLINICAL PRESENTATION

| CLINICAL PRESENTATION | NO OF PATIENTS | % |
|--|----------------|------|
| Dilated veins | 50 | 100% |
| Dilated veins + pain | 45 | 90% |
| Dilated veins + edema | 24 | 48% |
| Dilated veins + itching and pigmentation | 15 | 30% |
| Dilated veins + ulceration | 8 | 16% |
| Dilated veins + bleeding | 4 | 8% |

Pain and dilated veins being the major modalities of presentation with eczema and itching being the second major modalities

INCIDENCE BASED ON RIGHT OR LEFT LIMB INVOLVEMENT

| Affected lower limbs | Right lower limb | Left lower limb | Total no of lower limbs |
|------------------------------|------------------|-----------------|-------------------------|
| Only one lower limb affected | 18 | 12 | 30 |
| Both lower limbs affected | 20 | 20 | 40 |
| Total | 38 | 32 | 70 |

Right lower limb is affected more commonly.

ANATOMICAL INVOLVEMENT OF VENOUS SYSTEM

| VENOUS SYSTEM | NO. OF CASES | % |
|------------------------------|--------------|-----|
| LONG SAPHENOUS SYSTEM | 49 | 98% |
| SHORT SAPHENOUS SYSTEM ALONE | 1 | 2% |
| BOTH THE SYSTEMS | 4 | 8% |
| PERFORATOR SYSTEM | 34 | 68% |

INCIDENCE BASED ON SAPHENO FEMORAL/SAPHENO POPLITEAL/PERFORATOR INVOLVEMENT

| INCOMPETENCE | NO OF PATIENTS | % |
|------------------|----------------|-----|
| SFJ INCOMPETENCE | 35 | 70% |
| SPJ INCOMPETENCE | 12 | 24% |
| PERFORATORS | 34 | 68% |

DIFFERENT TREATMENT MODALITIES GIVEN

| TREATMENT GIVEN | No PATIENTS | % |
|--|-------------|-----|
| SFJ flush ligation with stripping of gsv | 22 | 44% |
| SFJ flush ligation with subfascial perforator ligation | 30 | 60% |
| SFJ flush ligation with stripping of gsv + phlebectomies | 6 | 12% |
| SFJ & SPJ ligation with stripping of GSV only | 4 | 8% |
| SPJ ligation without stripping of SSV | 1 | 2% |
| Subfascial perforator ligation only | 11 | 22% |
| Subfascial endoscopic perforator ligation | 3 | 6% |
| Conservatively managed | 4 | 8% |

AVERAGE POST OPERATIVE HOSPITAL STAY

| OPERATED PATIENTS | NO OF PATIENTS | AVG. NO. OF DAYS POST OPERATIVE STAY |
|--|----------------|--------------------------------------|
| WITH IMMEDIATE POST OP. COMPLICATIONS | 2 | 15 |
| WITHOUT IMMEDIATE POST OPERATIVE COMPLICATIONS | 12 | 7 |

EARLY AND LATE COMPLICATIONS

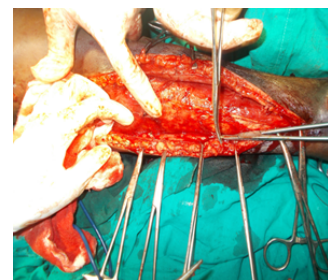
| COMPLICATIONS | No. OF PATIENTS | % |
|----------------------------|-----------------|-----|
| EARLY – HEMATOMA | 2 | 4% |
| LATE – RESIDUAL VARICOSITY | 8 | 16% |
| SUTURE SITE ABCESS | 1 | 2% |
| SAPHENOUS NEURITIS | 3 | 6% |



VENOUS ULCER



TRENDELENBERG PROCEDURE



SUB FASCIAL LIGATION OF PERFORATORS



PHLEBECTOMIES DISCUSSION

In the present study a total of 50 patients were taken into consideration for the treatment of varicose veins in the Asram Medical College, Eluru from March 2018 to march 2019. Preoperative workup was done as mentioned before.

In the present study a comparison of the distribution in relation to the age of incidence and in relation to the incidence in both the sexes were compared and the following findings were observed

There is a greater incidence of varicose veins in the middle aged working population associated to their long standing hours and the numbers accounting to as high as 29 of the fifty people taken up for the study, males showed a greater preponderance owing to their occupational hazards most of them being daily laborers in the agricultural sectors, which is the main mode of livelihood in this geographical area.

Which summarizes as a ratio of **M:F** being **2.3 : 1** the results may vary in different regions.

The Modes of clinical presentation are also evaluated in the present study group and the following points are noted

A 100% presentation of Dilated veins, A 90 % incidence of Pain as the mode of presentation along with dilated veins, Edema accounted to 48%, Itching and pigmentation was noted in 30% of the cases. And ulceration to a number of 8 which accounted to 16% of the cases, And

bleeding was noted in 8% of the cases.

Affected limb is also studied and right to left limb is compared to incidence of both the limbs and the results are as follows Right limb alone is affected in 18 patients, Left limb alone in 12 patients, Both the limbs affected in almost 40 patients.

Nextly the anatomical involvement is noted and the following findings are seen Long Saphenous involvement – 98% of cases, Short saphenous system alone – 2%, Involvement of both long (GSV) and short saphenous system (SSV) – 8%, Perforator system involvement – 68%, Incompetence at the level of SPJ and SFJ are as follows-SFJ – 70%, SPJ – 24%.

Modalities of management as related to SFJ flush ligation and stripping and sub facial flush ligation is as follows SFJ flush ligation with stripping of GSV – 44%, SFJ flush ligation with subfascial perforator ligation – 60%, SFJ flush ligation with stripping of GSV + phlebectomies – 12%, SFJ & SPJ ligation with stripping of GSV only – 8%, SPJ ligation without stripping of SSV - 2%, Subfascial perforator ligation only - 22%, Subfascial endoscopic perforator ligation – 6%.

- 45–55 is found to be the commonest age group to be affected.
- A male preponderance is noted with an incidence of -2.3:1
- As the study was done in West Godavari where agriculture is vastly practiced occupation the farmers are affected due to their long standing occupational needs
- Dilated tortuous veins being the major complaint
- 16% presented with venous ulcers
- And a greater percentage of the population presented with skin changes and pigmentation accounting to an incidence of 46%
- Long Saphenous is most commonly involved –98%
- Saphen-femoral junction in competence was found in 70% cases and a meger 24% noted in the the sapheno-popliteal junction
- Perforator incompetence accounting to a 68% incidence
- Trendelenberg operation is used in treatment of majority of the cases and cases involving only the perforator system Sub fascial ligation and sub-fascial endoscopic perforator ligation is found to confer satisfactory results

CONCLUSIONS

50 cases of varicose veins of lower limbs were presented and analyzed in the study.

It was found that varicose veins and their associated symptoms and complications constitute the most common chronic-vascular disorders leading to surgical treatment. The incidence is on rise. The majority of the patients were males in the study. Patients presented with spectrum of symptoms and signs, dilated veins being the most common presenting symptom with or without pain. Most of the patients were presented to the hospital with complications rather than the cosmetic purpose. Long saphenous system was the most common venous system affected with above ankle (lower leg) perforators being the most common in competent perforators.

Operative line of treatment is a primary procedure in the management of varicose veins of lower limb. Accurate assessment of the underlying anatomy reduces the risk of recurrent varicose veins. There was no recurrence in our study, during follow up period of 6 months.

REFERENCES

1. K. Rajgopal Shenoy. Varicose veins and deep vein thrombosis, Manipal manual of surgery, 4th edition, 2009.
2. Venous disorders, in Bailey and Love's Short practice of surgery, Ch.57; 26th Edn; Arnold publications; 2012.
3. Patrick H carpentier.—Prevalence, risk factors, and clinical patterns of chronic venous disorders of lower limbs: A population-based study in France, Journal of Vascular Surgery, 2004.
4. Johnson G, Jr. „Management of Venous Disorders“. In Vascular surgery by Rutherford RB, 8th Edn. W.B. Saunders company.
5. J Vasc Bras. 2006;5 (4):295-302 Article submitted August 24, 2006, accepted November 21, 2006.
6. Dodd H.J, Cockett F.B. The Pathology and Surgery of the veins of the lower limb. 5nd Edn, Churchill Livingstone.
7. Abramowitz. Veins and great lymph vessels, Mc.Gregor's Synopsis of Surgical anatomy, 12th edition
8. Petor L. Williams.—Grays Anatomy, 39th edition, ELB Swith Churchill Living stone
9. Richard S. Snell,—Clinical Anatomy For Medical Students Lippincott Williams Publications Ch.10., 8th Edition
10. Tibbs DJ, Scurr JH. Venous disorders, Vascular malformations, and chronic ulceration in lower limbs in Oxford Text book of Surgery, 2nd Edition.
11. Sinnatamby CS, —Lower limb Anatomy: regional and applied, Churchill Livingstone publications, 12th Edition.
12. William F. Ganong. Dynamics of blood and lymph flow, —Review of Medical Physiology, 24th Edition.

13. Sabiston text book of surgery, “venous disease“ 19th edition vol. 2.
14. Venous disorders, in Bailey and Love's Short practice of surgery, Ch.57; 26th Edn; 2012.
15. Venous disorders. —Bailey and love's short practice of surgery, 26th edition, 2012.
16. A.W.Bradbury, J.A.Murie and C.V.Ruckley. —Role of the leukocyte in the pathogenesis of vascular disease, Br.J.Surg. 1993.
17. Das S, Disease of veins, in Textbook of Das, S B publications, Edn.8th. 2008.
18. Das S, Examination of Varicose Veins, in Clinical Das. S B publications, Ch.7; 11th Edn..
19. Amjid. A. Riazi; Rajeev shukla; K.L.Ng. Michael. —Use of hand held Doppler to Identify venous tributaries. ANZ J. Surg. 2009.
20. Chan A, Chisholm and Royle J P "The use of Directional Doppler —Ultrasound in the Assessment of Saphen of emoral Incompetence". Aust N.Z. J.Surg. 1983.
21. J.H. Orbell; A. Smith; K.G. Burnard— mri imaging of dvtbjs; 2008.
22. J.F.F. Somerville et al. —The effect of elastic stockings on superficial venous pressures in patients with venous insufficiency, Br. J. Surg. 1974.
23. Figueiredo M; Araujo S; Barros N jr; Mirandar F jr ;— Results of surgical treatment Compared with ultrasound -guided foam sclera therapy for varicose veins. European J. Endo vascul surgery 2009.; Sep.
24. Corol E.H.Scott-Conner, David L. Dawson. Ligation, stripping and harvestin The sphenous vein., Operative Anatomy, 2nd Edition