

ORIGINAL RESEARCH

An observational study for evaluating the prevalence of varicose veins: An observational study

Dr. Jayesh Sharma

Assistant Professor, Department of General Medicine, N C Medical College & Hospital, Panipat, Haryana, India

Corresponding Author

Dr. Jayesh Sharma

Assistant Professor, Department of General Medicine, N C Medical College & Hospital, Panipat, Haryana, India

Received: 25 February, 2022

Accepted: 27 March, 2022

ABSTRACT

Background: The present study was conducted for assessing the prevalence and risk factors for varicose veins. **Materials & methods:** The current study included 100 patients in total. All of the patients' demographic and clinical information was obtained, along with their anthropometric variables. The method used for the examination and classification of venous disease in the Edinburgh Vein Study was modified for this study. SPSS software was used to record and analyze the data. **Results:** A total of 100 subjects were analyzed. Mean age of the patients was 43.8 years. Among them, varicose veins were found to be present in 33 percent of the patients. Trunk varices, Hypheweb varices and reticular varices were seen in 13 percent, 10 percent and 10 percent of the patients respectively. **Conclusion:** Changes in lifestyle or other factors might be contributing to an alteration in the epidemiology of venous disease.

Key words: Varicose vein, Risk factors

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution- Non Commercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

INTRODUCTION

Varicose veins are dilated branches of the great saphenous vein and small saphenous vein; the incidence of varicose veins varies from 10% to 30%.¹ Risk factors of varicose veins include family history, age, and pregnancy; a possible risk factor is standing for a long period of time.¹⁻³ High ligation and stripping is the traditional approach for varicose veins, yet a variety of alternative options have been used in recent decades, such as endovenous laser ablation (EVLA), endovenous radiofrequency ablation (RFA), foam sclerotherapy (FS), or TriVex.^{4, 5} The precise place of laser and radiofrequency ablation remains uncertain. They require dedicated equipment and use of intraoperative duplex ultrasonography, and they take longer to do than conventional surgery in experienced hands. The amount of benefit for patients is variable: obvious varicose veins still need to be treated, and phlebectomies of large veins are often the main cause of bruising and discomfort after the operation—not the groin incision. Varying longer term results (two to three years) have been reported, but in general outcomes seem similar to those of surgery.⁶⁻⁸ Hence; the present study was conducted for assessing the prevalence and risk factors for varicose veins.

MATERIALS & METHODS

The present study was conducted for assessing the prevalence of varicose veins. The current study included 100 patients in total. All of the patients' demographic and clinical information was obtained, along with their anthropometric variables. The method used for the examination and classification of venous disease in the Edinburgh Vein Study was modified for this study.⁵ SPSS software was used to record and analyze the data. All the results were recorded and analyzed using SPSS software.

RESULTS

A total of 100 subjects were analyzed. Mean age of the patients was 43.8 years. Among them, varicose veins were found to be present in 33 percent of the patients. Trunk varices, Hypheweb varices and reticular varices were seen in 13 percent, 10 percent and 10 percent of the patients respectively.

Table 1: Prevalence of varicose veins

Varicose veins	Number	Percentage
Present	33	33
Absent	67	67
Total	100	100

Table 2: Types of varicose veins

Varicose veins	Number	Percentage
Trunk varices	13	13
Hypheweb varices	10	10
Reticular varices	10	10
Total	33	33

DISCUSSION

Varicose veins are caused by poorly functioning valves in the veins, and decreased elasticity of the vein wall, allowing pooling of blood within the veins, and their subsequent enlargement. Varicose veins affect up to 40% of adults, and are more common in obese people, and in women who have had more than two pregnancies. Venous blood from the lower limbs returns to the right heart against gravity through the superficial and deep venous systems. The superficial venous system comprises the great saphenous veins (GSV) and small saphenous veins (SSV) and their tributaries. The GSV originates from the medial end of the dorsal venous arch, passes anterior to the medial malleolus, and continues up the medial aspect of the calf and then the thigh to enter the common femoral vein in the groin at the saphenofemoral junction (SFJ). The SSV originates from the lateral end of the dorsal venous arch, passes posterior to the lateral malleolus and then continues up the back of the calf between the heads of gastrocnemius to enter the popliteal fossa. It is joined variably by gastrocnemius veins and then usually enters the popliteal vein at the saphenopopliteal junction (SPJ).⁸⁻¹¹ Hence; the present study was conducted for assessing the prevalence and risk factors for varicose veins.

A total of 100 subjects were analyzed. Mean age of the patients was 43.8 years. Among them, varicose veins were found to be present in 33 percent of the patients. Trunk varices, Hypheweb varices and reticular varices were seen in 13 percent, 10 percent and 10 percent of the patients respectively. Ebrahimi H et al determined the prevalence and associated risk factors of varicose veins in female hairdressers. Data were collected by demographic information form. Proportional odds model for ordinal logistic regression was used to assess the relationship between risk factors and status of varicose disease in subjects. Prevalence of varicose veins was 47.7%. Varicose veins were significantly associated with age; family history of varicose disease, blood pressure; and duration of standing. Varicose veins in the legs of female hairdressers had a high prevalence, and it was associated with increasing age, family history of varicose disease, high blood Pressure, and prolonged standing.¹²

Sisto Tet al studied the prevalence and risk factors of clinically important varicose veins in the lower extremities. 8000 people from 40 geographical areas representing the adult population aged 30 years and over. The prevalence of varicose veins diagnosed by a physician was 25% in women and 7% in men. Twenty-nine per cent of the men and 53% of the

women with diagnosed varicose veins had been treated surgically. Age, height, body mass index (weight/height²), standing at work, and the number of births were expected risk factors associated with varicosities. Unexpectedly, signs of osteoarthritis were positively, and diabetes negatively, associated with varicose veins. Urban dwelling and high income correlated positively with varicose veins treated surgically in women. Varicose veins in the lower extremities are common, and demand considerable health service resources.¹³ Ahti TM et al compared prevalence rates with incidence rates from longitudinal follow-up study to find out whether there is a difference due to the methodology. A validated questionnaire was used in 3 middle-aged cohorts. Positive family history was more common both in men and women with varicose veins compared to those without. However, positive family history was linked much less with the incidence of varicose veins than the prevalence of varicose veins in women and men 1.4. There is likely to be a hereditary component of varicose veins, but it is substantially less than usually proposed in literature.¹⁴ Carpentier PH et al documented the prevalence of varicose veins, skin trophic changes, and venous symptoms in a sample of the general population. Prevalence of varicose veins, skin trophic changes, and venous symptoms was not statistically different in the 4 locations. In contrast, sex-related differences were found: varicose veins were found in 50.5% of women versus 30.1% of men ($P < .001$); trophic skin changes were found in 2.8% of women versus 5.4% of men ($P = NS$), and venous symptoms were found in 51.3% of women versus 20.4% of men ($P < .001$). Main risk factors for varicose veins were age and family history in both sexes, and pregnancy in women. Female sex was a significant factor only for non-saphenous varicose veins. Varicose veins, age, and pitting edema were the most significant risk factors for trophic skin changes. The risk factors for venous symptoms were female sex, varicose veins, and prolonged sitting or standing. A negative relationship with age was found in women. Their results showed a high prevalence of chronic venous disorders of the lower limbs in the general population of France, with no significant geographic variations.¹⁵

CONCLUSION

The epidemiology of venous disease may be changing as a result of lifestyle modifications or other causes.

REFERENCES

1. Stvrtinová V, Kolesár J, Wimmer G. Prevalence of varicose veins of the lower limbs in the women working at a department store. *Int Angiol.* 1991;10(1):2-5.
2. Evans CJ, Fowkes FG, Ruckley CV, Lee AJ. Prevalence of varicose veins and chronic venous insufficiency in men and women in the general population: Edinburgh Vein Study. *J Epidemiol Community Health.* 1999;53(3):149-153.

3. Ren S, Liu P, Zou N, Tan X. Better outcomes of varicose veins with EVLT alone than in combination with Trivex by GRA. *J Grey Syst.* 2008;20(3):195–204.
4. Liu P, Ren S, Yang Y, Liu J, Ye Z, Lin F. Intravenous catheter-guided laser ablation: a novel alternative for branch varicose veins. *Int Surg.* 2011;96(4):331–336.
5. Biemans AA, Kockaert M, Akkersdijk GP, van den Bos RR, de Maeseneer MG, Cuypers P, et al. Comparing endovenous laser ablation, foam sclerotherapy, and conventional surgery for great saphenous varicose veins. *J Vasc Surg.* 2013;58(3):727–734.e1.
6. Widmer LK, ed. *Peripheral venous disorders - prevalence and socio-medical importance.* Bern:Hans Huber, 1978
7. Willenberg T, Smith PC, Shepherd A, Davies AH. Visual disturbance following sclerotherapy for varicose veins, reticular veins and telangiectasias: a systematic literature review. *Phlebology.* 2013;28(3):123–131.
8. Harlander-Locke M, Jimenez JC, Lawrence PF, Derubertis BG, Rigberg DA, Gelabert HA. Endovenous ablation with concomitant phlebectomy is a safe and effective method of treatment for symptomatic patients with axial reflux and large incompetent tributaries. *J Vasc Surg.* 2013;58(1):166–172.
9. Abela R, Liamis A, Prionidis I, et al. Reverse foam sclerotherapy of the great saphenous vein with sapheno-femoral ligation compared to standard and invagination stripping: a prospective clinical series. *Eur J Vasc Endovasc Surg* 2008;36:485–490.
10. Goldman MP. Treatment of varicose and telangiectatic leg veins: double blind prospective comparative trial between aethoxyskerol and sotradecol. *Dermatol Surg* 2002;28:52–55
11. Labas P, Ohradka B, Cambal M. Long term results of compression sclerotherapy. *Bratisl Lek Listy* 2003;104:78–91
12. Ebrahimi H, Amanpour F, Bolbol Haghghi N. Prevalence and risk factors of varicose veins among female hairdressers: a cross sectional study in north-east of Iran. *J Res Health Sci.* 2015;15(2):119-123.
13. Sisto T, Reunanen A, Laurikka J, et al. Prevalence and risk factors of varicose veins in lower extremities: mini-Finland health survey. *Eur J Surg.* 1995;161(6):405-414.
14. Ahti TM, Mäkivaara LA, Luukkaala T, Hakama M, Laurikka JO. Effect of family history on the incidence of varicose veins: a population-based follow-up study in Finland. *Angiology.* 2009;60(4):487-491. doi:10.1177/0003319709335510
15. Carpentier PH, Maricq HR, Biro C, Ponçot-Makinen CO, Franco A. Prevalence, risk factors, and clinical patterns of chronic venous disorders of lower limbs: a population-based study in France. *J Vasc Surg.* 2004;40(4):650-659. doi:10.1016/j.jvs.2004.07.025