

Original article:

**Analysis of Prevalence and Risk Factors for Varicose Veins:
An Institutional Based Study**

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ABSTRACT

Background: Varicose veins are tortuous, widened veins in the subcutaneous tissues of the legs and are often easily visible. The relation between lower limb symptoms and varicose veins is not just of academic interest but is of direct clinical and economic importance. Hence, the present study was conducted for assessing the prevalence and risk factors for varicose veins.

Materials & Methods: A total of 400 patients were enrolled in the present study. Complete demographic and clinical details of all the patients were obtained. Anthropometric variables were recorded separately. The method of examination and classification of venous disease used in the Edinburgh Vein Study was adapted from the method. All the results were recorded and analyzed using SPSS software.

Results: A total of 400 subjects were analyzed. The mean age of the patients was 41.3 years. Among them, varicose veins were found to be present in 25.25 percent of the patients. Trunk varices, hyphen web varices and reticular varices were seen in 8.25 percent, 9.75 percent and 7.25 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.

INTRODUCTION

Varicose veins are tortuous, widened veins in the subcutaneous tissues of the legs and are often easily visible. Their valves are usually incompetent so that reflux of blood occurs, and the resulting venous hypertension can cause symptoms. Varicose veins are widely seen as medically unimportant and deserving low priority for treatment. They are common, affecting nearly a third of adults in Western societies, and few people with varicose veins are ever harmed by them.^{1, 2} Bleeding, skin changes, and ulcers are the complications of varicose veins that mandate consideration of treatment. They are all associated with high venous pressure in the upright position, as a result of incompetent venous valves. Bleeding is uncommon and usually occurs from a prominent vein on the leg or foot with thin, dark, unhealthy skin overlying it. "Skin changes" range from eczema, through brown discoloration, to florid lipodermatosclerosis with induration of the subcutaneous tissues.³ The relation between lower limb symptoms and varicose veins is not just of academic interest but is of direct clinical and economic importance. Although varicose vein surgery is generally straightforward, complications can occur,

including recurrence, and it should not be performed for inappropriate indications.⁴⁻⁶ In many countries "varicose veins are probably the commonest disorder presenting to general surgeons" and an average of 30% of district nursing time is estimated to be spent caring for patients with venous ulcers. For the patient with varicose veins or leg ulceration, there is often persistent discomfort and disability extending over long periods of time. Despite this, little epidemiological research has been carried out on venous disease, perhaps partly because of society's perception that venous disease is not a major problem, and it is not normally a cause death.⁴⁻⁷ Hence; the present study was conducted for assessing the prevalence and risk factors for varicose veins.

MATERIALS & METHODS

The present study was conducted in the Department of General Medicine, Santosh Medical College & Hospital, Ghaziabad, Uttar Pradesh (India) for assessing the prevalence and risk factors for varicose veins. A total of 400 patients were enrolled in the present study. Only those subjects were enrolled which came for routine medical checkup. Pregnant subjects and subjects under the age of 18 years were excluded. Complete demographic and clinical details of all the patients was obtained. Anthropometric variables were recorded separately. The method of examination and classification of venous disease used in the Edinburgh Vein Study was adapted from the method used in the Basle Study, as this was considered to be the best available and to provide the most detailed classification for the different degrees of varicose veins.⁸ All the results were recorded and analyzed using SPSS software.

RESULTS

A total of 400 subjects were analyzed. The mean age of the patients was 41.3 years. Among them, varicose veins were found to be present in 25.25 percent of the patients. Trunk varices, hyphen web varices and reticular varices were seen in 8.25 percent, 9.75 percent and 7.25 percent of the patients respectively.

Table 1: Prevalence of varicose veins

Varicose veins	Number	Percentage
Present	101	25.25
Absent	299	74.75
Total	400	100

Table 2: Types of varicose veins

Varicose veins	Number	Percentage
Trunk varices	33	8.25
Hyphen web varices	39	9.75
Reticular varices	29	7.25
Total	101	25.25

DISCUSSION

Varicose veins may cause the legs to feel heavy and swell up, especially around the ankles. The skin may also feel tight or itch. The symptoms usually get worse towards the end of the day – especially after sitting or standing for long periods of time. Varicose veins sometimes cause pain or cramps in the calf muscles at night too. Warm weather often makes the symptoms worse. The appearance of the varicose veins doesn't always indicate how severe the symptoms are: For example, varicose veins that don't look bad might actually cause a great deal of discomfort, while ones that are very large and bumpy may not cause any noticeable symptoms. Varicose veins can affect your wellbeing too. Some people are so bothered by what the veins look like that they don't want to show their legs in public. They stop wearing shorts and don't go to swimming pools, for example. Even if varicose veins aren't causing any other problems, if someone is very troubled by the appearance of their legs, it might be worth considering treatment.^{7,8} Hence; the present study was conducted for assessing the prevalence and risk factors for varicose veins.

A total of 400 subjects were analyzed. Mean age of the patients was 41.3 years. Among them, varicose veins were found to be present in 25.25 percent of the patients. Trunk varices, hyphen web varices and reticular varices were seen in 8.25 percent, 9.75 percent and 7.25 percent of the patients respectively. A study of people aged 35 to 70 years in London in 1992 concluded that the prevalence of varicose veins in men and women was 17% and 31% respectively. Although varicose veins have traditionally been considered commoner in women, a recent study from Edinburgh of people aged 18 to 64 years found that the prevalence of trunk varices was 40% in men and 32% in women. Over 80% of the total population had reticular varicosities or telangiectasia.⁹

Bradbury, A et al defined the relations between age, sex, lower limb symptoms, and the presence of trunk varicose veins on clinical examination. An age stratified random sample of 1566 people (699 men and 867 women) aged 18-64 selected from the computerized age-sex registers of participating practices. Women were significantly more likely than men to report lower limb symptoms such as heaviness or tension, swelling, aching, restless legs, cramps, and itching. The prevalence of symptoms tended to increase with age in both sexes. In men, only itching was significantly related to the presence and severity of trunk varices (linear test for trend, $P=0.011$). In women there was a significant relation between trunk varices and the symptoms of heaviness or tension ($P\leq 0.001$), aching ($P\leq 0.001$), and itching ($P\leq 0.005$). However, the level of agreement between the presence of symptoms and trunk varices was too low to be of clinical value, especially in men. Even in the presence of trunk varices, most lower limb symptoms probably have a non-venous cause. Surgical extirpation of trunk varices is unlikely to ameliorate such symptoms in most patients.¹⁰ Evans et al determined the prevalence of varicose veins and chronic venous insufficiency (CVI) in the general population. In 1566 subjects examined, the age adjusted prevalence of trunk varices was 40% in men and 32% in women ($p < \text{or} = 0.01$). This sex difference was mostly a result of higher prevalence of mild trunk varices in men. More than 80% of all subjects had mild hyphen web and reticular varices. The age adjusted prevalence of CVI was 9% in men and 7% in women ($p < \text{or} = 0.05$). The prevalence of all categories of varices and of CVI increased with age ($p < \text{or} = 0.001$). No relation was found with social class. Approximately one third of men and women aged 18-64 years had trunk varices. In contrast with the findings in most previous studies, mainly conducted in the 1960s and 1970s, chronic venous insufficiency and mild varicose veins were more common in men than women. No evidence of bias in the study was found to account for this sex difference.¹¹ The prevalence of varicose veins of

the lower limbs and their risk factors were investigated in another study conducted by Stvrtinová V et al; in the group of 696 women working at a large department store. It was found that 421 of them suffered from varicose veins with the following prevalence of individual clinical types: trunk varices--14.4%, reticular varices--15.4%, and hyphen webs--30.7%. In our study women with VV of all types compared to women without VV were older (p less than 0.05), more often obese (p less than 0.05), had the positive family history for VV (p less than 0.01), higher systolic and diastolic blood pressure and lower levels of physical activity (not significantly). Women with at least one pregnancy had significantly higher prevalence of VV (p less than 0.001) and women standing at their work had a higher prevalence of trunk varices than those who were sitting at the work (p less than 0.05).¹²

CONCLUSION

Changes in lifestyle or other factors might be contributing to an alteration in the epidemiology of venous disease.

REFERENCES

1. National Institute for Clinical Excellence. Referral advice for varicose veins. London: NICE, 2001.
2. Michaels JA, Brazier JE, Campbell WB, MacIntyre JB, Palfreyman SJ, Ratcliffe J. Randomised controlled trial comparing surgery with conservative treatment for uncomplicated varicose veins. *Br J Surg* 2006;93: 175-81.
3. Goodwin H. Litigation and surgical practice in the UK. *Br J Surg* 2000;87: 977-9.
4. Chant ADB, Magnussen P, Kershaw C. Support hose and varicose veins. *BMJ* 1985;290: 204.
5. Fowkes FGR. Epidemiology of venous disease. *Phlebology*. 1996;11:2-5.
6. Nelzen O, Bergqvist D, Lindhagen A. The prevalence of chronic lower-limb ulceration has been underestimated: results of a validated population questionnaire. *Br J Surg*. 1996;83:255-58.
7. Nelzen O, Bergqvist D, Fransson I, Lindhagen A. Prevalence and aetiology of leg ulcers in a defined population of industrial workers. *Phlebology*. 1996;11:50-4.
8. Widmer LK, ed. *Peripheral venous disorders - prevalence and socio-medical importance*. Bern:Hans Huber, 1978.
9. London, N. J., & Nash, R. ABC of arterial and venous disease. Varicose veins. *BMJ (Clinical research ed.)* 2000; 320(7246): 1391-94.
10. Bradbury, A., Evans, C., Allan, P., Lee, A., Ruckley, C. V., & Fowkes, F. G. What are the symptoms of varicose veins? Edinburgh vein study cross sectional population survey. *BMJ (Clinical research ed.)* 1999; 318(7180): 353-6.
11. Evans, C. J., Fowkes, F. G., Ruckley, C. V., & Lee, A. J. Prevalence of varicose veins and chronic venous insufficiency in men and women in the general population: Edinburgh Vein Study. *Journal of epidemiology and community health* 1999; 53(3): 149-53.
12. 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.