

Epidemiologic profile of patients who underwent varicose vein surgery of the lower limbs

Perfil epidemiológico de pacientes submetidos a tratamento cirúrgico de varizes de membros inferiores

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Abstract

Background: Chronic Venous Insufficiency of the lower limbs has a high prevalence, and its surgical treatment is one of the most frequently performed by vascular surgeons. However, the epidemiologic profile of the patients who underwent this surgery in the municipality of Recife has not yet been reported.

Objective: The aim of this study was to evaluate the epidemiologic profile of patients who underwent varicose vein surgery of the lower limbs.

Material and methods: The study evaluated 201 patients who underwent varicose vein surgery of the lower limbs at the Vascular Surgery Service at the Instituto de Medicina Integral Professor Fernando Figueira (IMIP) from August 2006 to April 2007. All patients were evaluated considering the following parameters: gender, age, sedentarism, overweight, obesity and the report of long hours in standing position on work days.

Results: Among all patients evaluated, 175 (87.1%) were female and 26 (12.9%) male. The most affected age group was aged from 41 to 50 years (32.3%), overweight was found in 38.8% of the patients, and obesity in 7.5% of the cases. Prolonged orthostatism at work was reported by 82.1% of the patients, and the most common level of education, found in 83.2% of the patients, was in average, 8 years or study or less. Sedentarism was found in 69.2% of the patients.

Conclusion: Most patients evaluated in the present study were female and older than 40 years old, reported sedentarism, did not have overweight or obesity and reported prolonged orthostatism on working days.

Keywords: varicose veins; lower extremity; epidemiology.

Resumo

Contexto: A Doença Venosa Crônica (DVC) dos membros inferiores apresenta uma alta prevalência, estando a cirurgia para cura das varizes dos membros inferiores entre as mais frequentemente realizadas pelos cirurgiões vasculares. Apesar disso, não foi estabelecido, na cidade de Recife e zona metropolitana, o perfil epidemiológico dos pacientes que são submetidos a essa modalidade terapêutica.

Objetivo: O objetivo deste trabalho foi avaliar o perfil epidemiológico dos pacientes submetidos à cirurgia para a cura das varizes dos membros inferiores.

Material e métodos: Foram avaliados 201 pacientes submetidos ao tratamento cirúrgico de varizes dos membros inferiores, no Serviço de Cirurgia Vascular no Instituto de Medicina Integral Professor Fernando Figueira (IMIP), no período de agosto de 2006 a abril de 2007. Foram avaliados os seguintes parâmetros: sexo, idade, sedentarismo, sobrepeso e obesidade, e presença de ortostatismo prolongado durante atividade laboral.

Resultados: Do total de pacientes avaliados, 175 (87,1%) eram do sexo feminino e 26 (12,9%) do masculino. A faixa etária mais acometida foi a de 41 a 50 anos (32,3%), o sobrepeso estava presente em 38,8% dos pacientes, e a obesidade em 7,5% dos casos. O ortostatismo prolongado, durante a atividade laboral, estava presente em 82,1% dos pacientes avaliados. O grau de escolaridade mais comum, observado em 83,2% dos pacientes, foi de até oito anos de tempo de estudo. O sedentarismo foi encontrado em 69,2% dos pacientes.

Conclusão: A maioria dos pacientes avaliados no presente estudo era do sexo feminino com idade maior que 40 anos, era sedentária e não apresentava sobrepeso ou obesidade, e desenvolvia atividades laborais com ortostatismo prolongado.

Palavras-chave: varizes; extremidade inferior; epidemiologia.

Study carried out at the no Serviço de Cirurgia Vascular do Instituto de Medicina Integral Professor Fernando Figueira (IMIP) – Recife (PE), Brazil.

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Introduction

Chronic venous disease (CVD) of the lower limbs (LL) is characterized by signs and symptoms produced by venous hypertension resulting from structural or functional changes in the veins of the lower limbs. These abnormalities range from telangiectasia, reticular veins, varicose veins and changes in the trophic skin and subcutaneous tissue of the lower limbs¹⁻³.

CVD has a high prevalence worldwide, but it has a large range of incidence depending on the factors considered. When the presence of LL varicose veins is taken into account, the world prevalence ranges from 1 to 73% in women and from 2 to 56% in men, while in Brazil the prevalence ranges from 41.25 to 62.79% in women and from 13.97 to 37.9% in men⁴⁻⁹.

A CVD is classified according to clinical, etiologic, anatomic and pathophysiologic factors (CEAP). Patients with reticular veins and varicose veins are clinically classified as class 1 and 2, respectively. The most widely used treatment for these classes is the surgical mini-incisions for collateral and perforating veins, and partial saphenectomy when indicated, in addition to treating the saphenous arch when insufficient¹⁻³.

Regarding the epidemiology of patients with CVD, several factors have been attributed to the appearance of varicose veins in the lower limbs, among which stand out: pregnancy and obesity in women (not well characterized in men yet), older age, family history of varicose veins of the lower limbs, use of estrogens and labor activities in orthostatism⁴⁻¹⁰.

Despite the high prevalence of LL varicose veins in the population of the municipality of Recife and metropolitan area, there are no reports of studies assessing its epidemiological profile. Thus, the aim of this study was to assess the epidemiological profile of patients operated for varicose veins in the Vascular Surgery Service at the Instituto de Medicina Integral Professor Fernando Figueira (IMIP).

Material and methods

We prospectively evaluated 201 patients undergoing treatment for cure of varicose veins of the lower limbs, in the Vascular Surgery Service at Instituto de Medicina Integral Professor Fernando Figueira (IMIP), in the period of August, 2006 and April, 2007. The following parameters were analyzed: sex, age, physical inactivity, overweight, obesity, and presence of prolonged orthostatic labor activity. The type of study was cross-sectional observational. The

sample size was calculated using the Hypothesis Test for a Ratio (considering a ratio of 60% of the population, an estimate ratio of 50%, level of significance of 5% and power of 90%).

The patients included on this study were classified as C2 and C3 according to the CEAP classification¹. Patients who did not perform any type of physical activity (including light physical exercises) were considered sedentary. The classification of patients into obese or overweight was made by the Body Mass Index (BMI: those with a BMI equal or greater than 30 were considered obese and those with BMI greater than 24 and lower than 30 were considered overweight. We considered prolonged orthostatism standing for at least 4 hours during the work shift. This study was approved by the Human Research Ethics Committee of the Instituto de Medicina Integral Professor Fernando Figueira (IMIP).

Results

Among the patients analyzed, 175 (87.1%) were female and 26 (12.9%) male. The most affected age group was 41-50 years (32.3%) (Table).

Overweight was present in 38.8% of patients, and obesity in 7.5% of cases. Regarding the long orthostatism, during labor activity, it was present in 82.1% of patients.

The most common level of education, observed in 83.2% of patients, was of 8 years of education or less. A sedentary lifestyle was found in 69.2% of patients.

Discussion

Among the various risk factors associated with the development of primary lower limbs varicose veins, the present study evaluated sex, age, presence of overweight or obesity and the occurrence of prolonged standing position during labor activity. The higher prevalence of LL varicose veins in females has been widely reported by several authors, ranging in proportion between men and women in the ratio of 1:2 until 1:4⁸⁻¹⁰.

Similarly to the literature, the present study found a higher prevalence of LL varicose veins, in females, but the

Table. Distribution of patients with varicose veins of the lower limbs according to age.

Age	Percentage
<30 years	14
31-40	25
41-50	32
51-60	22
>60 years	7

male/female ratio was of 1:6.7. This higher ratio found in females is due to cultural characteristics of the region of the study, that lead male patients to seek an angiologist only in severe cases of CVD⁸⁻¹⁰.

The prevalence of LL varicose veins increases gradually after puberty, it is rare in children, and more common in people over 70s. In this study, the most affected age group was 41 - 50 years (32.3% of patients). This probably occurred because the patients included in this study underwent surgical treatment of CVD, which excluded older patients; still, more than 60% of the patients assessed were older than 40 years⁸⁻¹².

Although obesity has been considered by some authors as a relevant factor for the development of LL varicose veins, its role in the pathogenesis of CVD is still controversial¹³⁻¹⁶.

In this study, obesity was identified only in 7.5% of patients, however, when the overweight patients were considered, more than 46% of cases presented high levels of Body Mass Index (BMI). It is also important to consider that most obese patients are not referred for surgical treatment of CVD, being primarily referred for treatment for endocrinology or by bariatric surgery, which may have contributed for the low prevalence of obesity in this study.

It is likely that in obese patients, as well as in overweight patients, in addition to the higher compression of the abdominal veins by increased abdominal volume, sedentary life habits that might also be related to the development of LL varicose veins due to inefficiency of the calf muscle pump. This was demonstrated by Alberti et al., in 2010, when they assessed 100 adult patients of both sexes and found no prevalence of LL varicose veins in sedentary people, who, however, presented higher prevalence of more severe forms of CVD¹⁷.

In this study, about 69% of patients were sedentary, which can be explained by the fact that patients selected for surgery of varicose veins of the lower limbs are those who have developed the most advanced stages of CVD.

Similar to obesity, the role of posture at work is still a matter of discussion. Maffei et al.,⁹ in 1986, found no difference in the prevalence of varicose veins among individuals who worked most of the time standing, sitting or walking, but reported that it was probably the most common severe chronic venous insufficiency in those who remained most of the time standing or sitting.

Differently, Kontosic et al.,¹⁸ in 2000, found a prevalence of LL varicose veins significantly higher in patients who remained most of the time standing at work, when compared to those who remained seated most of the time, while Belczak et al.,¹⁹ in 2008, reported the influence of the

working shift in the onset of edema of the lower limbs even when there is no apparent venous disease.

On the other hand, Eifell et al.,²⁰ in 2006, reported that patients with CVD remained seated longer during the work period, while compared to normal individuals.

In this study, 82.1% of patients reported prolonged standing position during labor activity; and the period set for the characterization of long standing position was the same used by Belczak et al.,²¹ in 2004, when the influence of daily activity on volumetry of the lower limbs was investigated in 28 patients.

The high prevalence of prolonged orthostatism found may be related to the low education level of the sample evaluated, since 83.2% of patients presented a low level of education (up to 8 years of study). This low level of education, in turn, probably reflects the location of data collection, which was a hospital in the Brazilian Unified Health System (SUS).

Conclusion

Most patients assessed in the current study were female and older than 40 years. It was also found that most patients were sedentary, did not present overweight or obesity, and developed work activities with prolonged standing position and had low education.

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