

Epidemiological Study on Chronic Venous Disease in Belgium and Luxembourg: Prevalence, Risk Factors, and Symptomatology

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WHAT THIS PAPER ADDS

This study shows that the prevalence of chronic venous disease (CVD) is high, is currently underestimated and that prevalence increases with age. Risk factors and symptomatology were evaluated. CVD results in impaired quality of life and losses in productivity. Awareness of this disease must be improved among patients, healthcare professionals, and authorities.

Objective: This epidemiological study measured the prevalence of chronic venous disease (CVD) in Belgium and Luxembourg. Possible risk factors and the symptomatology were evaluated.

Material and methods: A survey was carried out in Belgium and Luxembourg between May and September 2013. Patient recruitment was carried out by 406 general practitioners (GPs). Each GP screened 10–20 consecutive patients older than 18 years, and in total 6009 patients were included. Patient characteristics, prevalence of risk factors, symptomatology, and C-classification were noted. The GPs diagnosed CVD and measured the need for treatment. Patients with diagnosed CVD completed a questionnaire about their history of leg problems and a quality of life score (CIVIQ-14). These data were converted into a CIVIQ Global Index Score (GIS).

Results: The mean age of the patients was 53.4 years, and they were predominantly female (67.5%). Among the 3889 symptomatic patients, heavy legs, pain, and sensation of leg swelling were the most common complaints. Among the included patients, 61.3% of patients were classified within C1–C6; however, only 45.9% of these patients were considered by the GPs to be suffering CVD. Treatment was offered to 49.5% of patients. Age and female gender correlate with a higher C-class ($p < .001$). Patients with a higher C-class (C3–C6) have significantly more pain, sensation of swelling and burning, night cramps, itching, and the sensation of “pins and needles” in the legs.

Patients taking regular exercise and without a family history had a lower C-class. Higher BMI, age, female gender, family history, history of thrombophlebitis, and a higher C-class correlated with a lower GIS ($p < .001$). Of the patients with CVD, 10.4% had lost days of work because of their venous leg problems.

Conclusion: CVD is a very common disease, which is underestimated. The prevalence increases with age, generates incapacity to work, and worsens the patients' quality of life.

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INTRODUCTION

Chronic venous disease (CVD) is one of the most common disorders in northern and western Europe.^{1–4} Estimates of its prevalence vary based on population, selection criteria, disease definition, and imaging techniques; however,

prevalence has been shown to increase with age.^{1–3} In a population based study (Bonn Vein Study^{5,6}), classification levels (CEAP-classification) were 59.0% C1, 14.3% C2, 13.5% C3, 2.9% C4, and 0.7% C5–C6. The estimated prevalence in the UK adult population ranges from 20% to 40%.⁷ The age stratified prevalence of truncal varicose veins measured in the Edinburgh Vein study was 11.5% in the 18–24 age group, increasing to 55.7% in the 55–64 age group.^{2,8}

The etiology of varicose veins remains unclear,³ but is likely to be multifactorial and includes, although unproven,^{1,9} a moderate to strong genetic component.¹⁰ Valve damage and abnormal elastic properties, leading to

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increased venous pressure and distention, are the most common etiology for primary varicose veins.^{11,12}

Risk factors include high intravenous pressure (caused by standing for long periods), sedentary lifestyle, pregnancy, gender, and family history. Obesity itself is usually not considered a risk factor; however, obese people with varicose veins have more symptoms¹³ and a higher complication rate.¹ Smoking in men has also been shown to be a risk factor.¹⁴ Previous deep vein thrombosis (DVT) is the most frequent cause of secondary varicose veins.^{3,11}

In an attempt to provide a better understanding of the worldwide prevalence of CVD in general practice and thus to improve the awareness of this chronic disease among patients, healthcare professionals, and authorities, a global initiative has been launched: the Vein Consult Program (VCP). This international, observational, prospective epidemiological survey is carried out under the auspices of the Union Internationale de Phlébologie (UIP). The VCP is the largest worldwide CVD detection program ever undertaken and it has been conducted in many countries.^{15–19} It collects epidemiological data on the prevalence of CVD symptoms, signs, CEAP classes, quality of life, and costs.

The protocol used is identical for all countries, including the use of the C clinical classification. This ensures that the data collected on reporting, diagnosis, and treatment of CVD are consistent and can be compared worldwide.

The present study details the results from the VCP for Belgium and Luxembourg, and additional analysis has been carried out with regard to risk factors and symptoms.

MATERIALS AND METHODS

Patients were recruited by 406 selected GPs (general practitioners) between May 1, and September 15, 2013. GPs were selected in compliance with national regulations, usually at random from a national registration list. Each investigator included 10–20 consecutive patients who attended the practice for various reasons. The minimum age was 18 years. Patients attending for emergency visits were excluded. Informed consent was obtained from each participant. First, the patient was interviewed by the GP: information regarding age, gender, height, occupation, body mass index (BMI) as possible risk factors, was collected using a questionnaire (consultation records form). These possible risk factors include family history of CVD, personal history of blood clots in leg veins, hours spent standing and sitting, number of hours of exercise daily, and smoking. Among women the number of births, current pregnancy, and use of birth control pills and hormonal replacement therapy was recorded. The GP asked the patients about the presence of symptoms of CVD (heavy legs, pain in the legs, sensation of swelling or burning, night cramps, itching, sensation of pins and needles) and possible signs of CVD (current problems with swollen legs, spider veins, varicose veins, or ankle ulcers). Current or past medical treatment for leg problems was also recorded.

Second, the GP scored the patients according to the C-classification by visual examination. The GPs received an

Table 1. Patient characteristics and risk factors.

Age	53.4 (± 17.6)
Gender	
Female	67.5%
Male	32.5%
BMI	26.08 \pm 5.25
Occupation	
Full time	40.2%
Part time	9.3%
Unemployed	3.9%
Student	3.4%
Retired	37.4%
Other	5.8%
Risk factors	
Family history of venous leg problems	46.4%
History of blood clots in the veins	16.5%
Number of hours per day standing	5.7 \pm 3.2
Number of hours per day sitting	5.9 \pm 2.9
Regular exercise taken	52.3%
Number of hours a day	6.4 \pm 7.5
Smoker (current or former)	41.6%
Among women	
Number of births	
0	17%
1	22.1%
2	35.1%
3	5.1%
4	5.7%
5 or more	3.1%
Currently taking birth control pills	26.6%
Number of pregnant women	3.3%
Menopause	63.7%
Use of hormonal replacement therapy	12.2%
C-classification	
C0w (asymptomatic)	24.8%, <i>n</i> = 1425/5740 (valid answers)
C0s (symptomatic)	13.9%, <i>n</i> = 796
C1	18.7%, <i>n</i> = 1072
C2	16.7%, <i>n</i> = 960
C3	13.7%, <i>n</i> = 784
C4	9.2%, <i>n</i> = 530
C5	2.1%, <i>n</i> = 122
C6	0.9%, <i>n</i> = 51

illustrated guide on the C-classification to ensure they adequately reported the C-class of each patient in the case report form. Diagnoses of CVD in patients were made by the GP. No ultrasound examination was done. Patients diagnosed with CVD filled in an additional quality of life (QoL) questionnaire (CIVIQ-14). CIVIQ-14 is a reliable, valid, and sensitive instrument applicable to international studies of patients with chronic venous disease.^{20,21} The results from the QoL questionnaire were transformed into a Global Index Score (GIS, the difference between the final score and the minimum possible score, divided by the difference between the theoretical maximum and minimum scores, multiplied by 100). The score ranges from 0 (worst QoL) to 100 (best QoL). Any history of previous treatment and consequential incapacity to work was also noted.

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