VARICOSE VIEN (RISK FACTORS AND PREVALENCE) IN KSA – QUESTIONNAIER STUDY.

Abstract

The purpose of this study is to determine the relationship between different variables (namely: age group, gender, risk factors like smoking history, alcohol consumption, long duration of sitting and standing hours, family history of varicosities, history of leg trauma or surgery, frequent constipation, pregnancy more than once, and hormonal therapies including OCPs) and the presence of varicose veins. Also, the purpose is to determine the prevalence of varicose veins among the sample taken in the study, and the prevalence of the different symptoms and complication among this population.

A significant relationship was found between the presence of varicose veins and age group, gender, alcohol consumption, long duration of sitting and standing hours, family history of varicosities, history of leg surgery, frequent constipation, pregnancy more than once, and hormonal therapies including OCPs. The results are concordant, in most parts of this study, with the previous studies in different times and regions, done for the nearly similar purposes.

Introduction

Varicose veins, or varicoses, is a medical condition in which the superficial veins of the leg become abnormally dilated, enlarged, and twisted. Varicose veins usually don't cause significant symptoms. However, sometimes, it can cause fatigue, discomfort, and pain. Causes of varicosities are still not specified, but risk factors include obesity, family history, leg trauma, chronic venous insufficiency, and impaired valve system in the legs. Varicose veins can be diagnosed with physical examination mainly, but also sonography is a useful diagnostic modality. Varicose veins is a very common condition, affecting approximately 30% of people at some point of their lives, increasing the probability with age. Women are more predisposed to develop varicosities than men.

Symptomatology

Signs and symptoms varicose veins can include aching or heaviness in legs, development of spider nivei, dermatitis and skin changes, muscle cramps, lipodermatosclerosis, burning or throbbing sensation in the legs, and also rednees, itching, and dryness in the area.

Complications

Complication of varicose veins can range from pain, tenderness, to skin conditions and dermatitis, to eventually development of cancers, either from venous ulcers, or sarcoma of the affected veins. This spectrum of complications also involves blood clotting, severe bleeding from trauma, and superficial thrombophlebitis.

Causes

Many risk factors may play a role in development of varicose veins. Genetic factors have a considerable role. Also, pregnancy, obesity and aging are among major risk factors for

varicose veins. Other diseases that may play a role include homocystinemia and connective tissue diseases. Venous reflux is a common theoretical cause of varicose veins. Different evidence is pointing toward ovarian vein reflux, pelvic vein reflux, or perforator vein reflux, in cases of perforator venous insufficiency.

Diagnosis and management

Varicose veins diagnosis is mainly a clinical diagnosis. Multiple tests can aid in the process of diagnosis including Trendelenberg test, and milking test. Ultrasonography is is done also, especially when deep venous insufficiency is suspected. Treatment of varicosities can be either active or conservative according to the patient preference, comorbities and complications, and according to the disease stage itself. Active treatment may involve sclerotherapy, laser surgery, or vein tripping. Conservative measures include elevation of legs, wearing pressure socks, exercising, and weight loss.

Literature review

Table 1: Relationship between varicose veins and different variables:

Study	Year	Result
Risk factors for varicose veins	2004	Among different risk factors for varicose veins, age, gender, and family history are the most important ones.
The Epidemiology of Varicose Veins: The Framingham Study	1998	Physical activity, exercise and weight loss has a significant benefit in decreasing the risk of varicose veins.
Peripheral veins: influence of gender, body mass index, age and varicose veins on cross-sectional area	2003	Female sex and BMI has a significant relationship with the development and severity of varicose veins.
Standing at work and varicose veins	2000	Standing long hours at work is associated with increased morbidity of varicose veins. Cigarette smoking are among the most important risk factors for varicose veins.
Epidemiology of varicose veins	1986	Prolonged sitting has been shown to increase the risk of developing varicose veins.
Varicose Veins in a Population of Lowland New Guinea	1975	Leg trauma and multiparity were shown to have an increased risk for developing varicose veins.
Effect of family history on the incidence of varicose veins: a population-based follow-up study in Finland	2009	Family history is a major and significant risk factor for varicosities.
Lower Limb Varicose Veins among Nurses: A	2020	Independent risk factors for varicose veins include using OCPs regularly

Single Center Cross-Sectional Study in Mansoura, Egypt		

Methodology

Study design:

This is an analytical cross-sectional study.

Study Setting and period:

This is an analytical cross-sectional study conducted at universities, hospitals, malls of the KSA from February 2021until October 2021

Study population and sampling:

Study participants:

Inclusion criteria; Patients and general population.

Exclusion criteria; none.

Sampling method and size:

The study is carried out by questionnaire. Randomly selected sample is sized 681 cases.

Measurements

Explanatory variables:

1. Sociodemographic characteristics: age category, gender, marital status, occupation.

2. Disease-related information: risk factors including BMI, smoking, Alcohol consumption, standing or sitting for long hours, family history of varicosities, leg trauma and surgery, constipation, multiple pregnancies, and Hormaonal replacement therapy and OCPs.

Outcome measures:

The outcome measure is by counting the ratio of the number of patients suffering from varicose veins, and associated risk factors.

Prevalence study: was carried out to test the questionnaire if easily understood and well-responded by the participants. Data from the cross-sectional study was used to calculate the sample size.

Data Management and Analysis plan:

Data is entered and analyzed using SPSS version 25.0. Descriptive statistics are performed and categorical data are displayed as frequencies and percentages, while measures of central tendencies and measures and dispersion are used to summarize continuous variables. Univariate and multivariate analysis are performed to investigate association between depression, and risk factors, and associated diseases. Statistical significance is set at a P value of 0.05 or less.

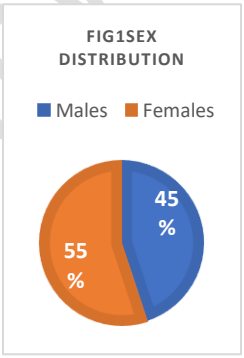
Ethical considerations:

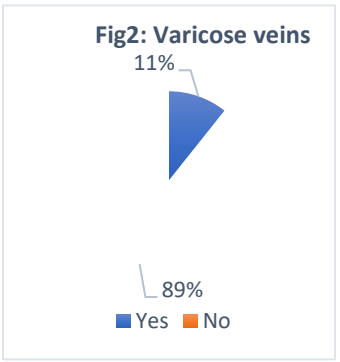
Administrative approval is sought from the unit of biomedical ethics research committee. Ethical approval is sought from the ethical committee of the faculty of medicine, King Abdulaziz University. An informed consent is sought from the participants.

Results

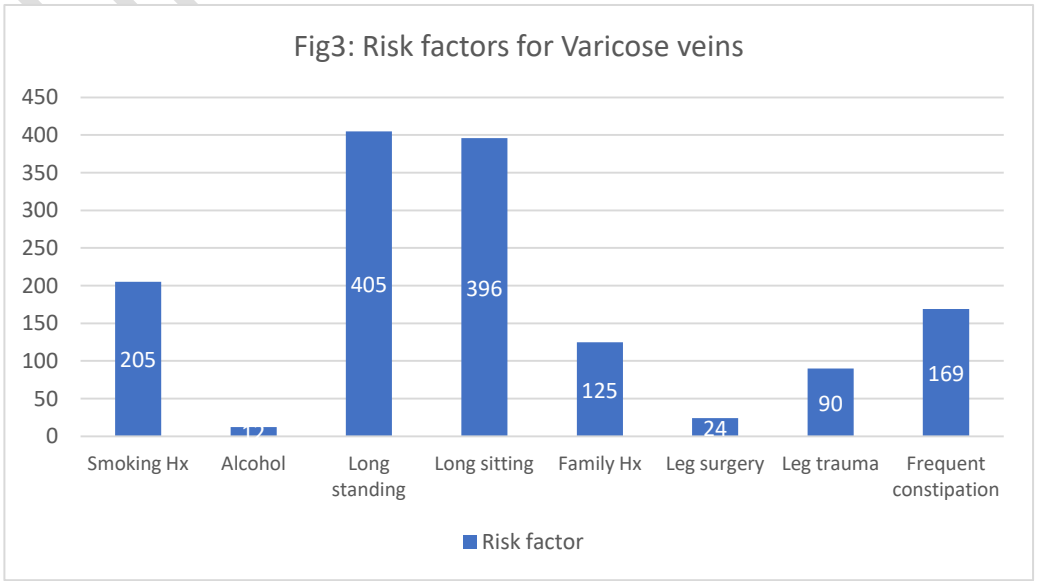
Descriptive Data:

Sample size is 681 cases. Age categories are as follows: 18-24 years: 252 (37%), 25-34 years: 236 (34.7%), 35-44 years: 108 (15.9%), 45-54 years: 63 (9.3%), 55 years or more: 22 (3.2%). Sex distribution is as follows: 306 (44.9%) males, and 375 (55.1%) females. As for marital status, 385 (56.5%) are unmarried, and 296 (43.5%) are married. Occupational status is as follows: 379 (55.7%) are unemployed, while 302 (44.3%) are employed. Mean weight, height and BMI are 70.6 Kg, 1.64 M, and 25.98 Kg/M^2, respectively.





As for risk factors, 152 (22.3%) are smokers and 53 (7.8%) are ex-smokers, 12 (1.8%) reported alcohol consumption, 405 (59.5%) reported long standing hours (>3 hours), 396 (58.1%) reported long sitting hours (> 6 hours), 125 (18.4%) are with family history of varicosities, 24 (3.5%) had leg surgery, 90 (13.2%) had leg trauma, and 169 (24.8%) reported frequent constipation. Varicose vein disease



prevalence was 10.7% (73 cases) among our sample.

Table 2: Association of Varicose veins with different variables:

Variable		Varicose veins (+)	**P-value / sig.**
Age group	18-24	12	0.000
	25-34	27	
	35-44	20	
	45-54	9	
	55 or more	5	
Gender	Male	18	0.000
	Female	55	
Smoking Hx	Smoker	21	0.069
	Ex-smoker	2	
Standing duration	<3 hours	19	0.008
	>3 hours	54	
Sitting duration	<6 hours	40	0.018
	>6 hours	33	
Family Hx of varicosities	Yes	35	0.000
	No	38	
Hx of leg surgery	Yes	6	0.021
	No	67	
Hx of leg trauma	Yes	59	0.111
	No	14	
Frequent constipation	Yes	26	0.024
	No	47	
Pregnancy > one time	Yes	34	0.000
	No	34	
HRT or OCP	Yes	22	0.000
	No	46	

Association is studied between presence of varicose veins, and age group, gender, and risk factors like smoking history, alcohol consumption, long duration of sitting and standing hours, family history of varicosities, history of leg trauma or surgery,

frequent constipation, pregnancy more than once, and hormonal therapies including OCPs. Relationship with all of was statistically significant except for smoking history and history of leg trauma.

Discussion:

The results of this study are concordant, in some parts, with the results of previous different studies discussing the same associations, between varicose veins and different variables including age, gender, risk factors like smoking, alcohol, family history long hours of standing or sitting, leg trauma or surgery, and hormonal changes. In some parts of study, there is insignificant statistical relationship, this could be due to inequal distribution of cases, sampling errors and bias.

There was a significant association between age group and varicose veins presence among cases involved in this study. This matches well with the results of other studies stating that significant variance of such variables.

Also, in this study, there is a significant relationship between certain risk factors and presence of varicose veins. Of these variables, smoking history, and history of leg trauma didn't show any statistical significance. On the other hand, a significant relationship was found with gender, family history, long hours of standing and sitting, hormonal changes. This was also concordant with the results of previous studies done in the same purpose that is to study the relationship with varicose veins. They have shown significant relationship between such variables, and the presence of varicose veins.

Conclusion:

Varicose veins have an obvious relationship with different variables and conditions, significantly with age, gender, risk factors like smoking history, alcohol consumption, long duration of sitting and standing hours, family history of varicosities, history of leg trauma or surgery, frequent constipation, pregnancy more than once, and hormonal therapies including OCPs.

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