

EVALUATION OF RISK FACTORS AND CLINICAL PROFILE OF PATIENTS OF LOWER LIMB VARICOSE VEIN

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ABSTRACT

Background: Lower-limb varicose veins are commonly found disorders associated with occupational causes. The prevalence of varicose veins is published in several previous studies were ranging from 10% to 30% worldwide. The etiology of lower-limb varicose veins is not clearly established, but in previous studies risk factors and precipitating factors have been identified. **Material & Methods:** The present cross-sectional prospective study enrolled 50 patients of lower-limb varicose veins, aged above 15 years of age of both the genders were enrolled for the study. Clearance from Institutional Ethics Committee was taken before start of study. Written informed consent was taken from each study participant. **Results:** The most common presenting symptom was pain and prominent veins (50%) which was followed by Prominent veins (14%), prominent veins and ulcer (10%) and Prominent veins with swelling of limb (10%). Prominent vein, pain and ulcer was present in 6% cases and bleeding present in 6% cases. Prominent vein, swelling of limb and pain was present in 4% cases. varicosities on right lower limb in 44% cases and isolated left lower limb involved in 42% cases. Isolated long saphenous system involved in 84% of cases both long and short saphenous system involved in 16% of cases. 48 (96%) participants had incompetence of perforator veins. **Conclusion:** We concluded from the present study that the most common affected age group was 20 - 40 years of life. Occupations which requires prolonged periods of violent muscular efforts and standing associated with varicose veins.

Key words: Varicose veins, Lower limbs, Saphenous veins.

INTRODUCTION

Lower-limb varicose veins are commonly found disorders associated with occupational causes. The prevalence of varicose veins is published in several previous studies were ranging from 10% to 30% worldwide. The aetiology of lower-limb varicose veins is not clearly established, but in previous studies risk factors and precipitating factors have been identified (1). The most common risk factors associated with lower-limb varicose veins are increasing age, female gender,

smoking, family history of venous diseases, overweight, pregnancy. Prolonged working hours in standing posture act as a most common occupational risk factor and increases the burden of lower-limb varicose veins (2).

Lower-limb varicose veins are commonly developing insidiously and they are easily visible and usually asymptomatic. Varicose veins are more common among females but time of the disease onset is much earlier

among males. The etio-pathogenesis behind lower-limb varicose veins reported in some researches is weakness in the vessel wall which is either congenital or muscular (3). Prolonged working hours in standing posture and over muscular contraction increases the weakness in the vessel wall. Varicosity is described as the penalty for verticality against gravity in come researches (4).

In the developed countries the case reports revealed that the reporting of lower-limb varicose veins is higher than developing countries in earlier stages of diseases because patient turn up in outpatient departments for treatment due to cosmetic reasons. In developing countries patients turn up in outpatient departments for the complications of the disease in later stages rather than for the cosmetic reasons (5). Hence, the present study was conducted to evaluate the risk factors and clinical profile of lower-limb varicose veins.

MATERIALS & METHODS

The present cross-sectional prospective study was conducted at department of surgery of our tertiary care hospital. The study duration was of one year from July 2017 to June 2018. A sample size of 50 was calculated at 95% confidence interval at 10% acceptable margin of error by epi info software version 7.2. Patients of lower-limb varicose veins, aged above 15 years of age of both the genders were enrolled for the study. Clearance from Institutional Ethics Committee was taken before start of study. Written informed consent was taken from each study participant.

Detailed clinical history along with general physical examination was conducted and data was recorded in the proforma prepared for this study. Previous history of the deep vein thrombosis recorded along with and any other history of trauma and major illness. The presenting complaints were noted in the chronological order. Local examination for the involvement of long and short system was done and presence of varicose ulcer was also recorded. Brodie-Trendelenburg test, Morrissey's cough impulse test, Schawarts test, Perthe's test and multiple tourniquet test was conducted among all the enrolled patients. Routine lab investigations were conducted and doppler study and venogram was also conducted for suspected deep venous thrombosis. Data analysis was carried out using SPSS v22. All tests were done at alpha (level significance) of 5%; means a

significant association present if p value was less than 0.05.

RESULTS

In present study, out of 50 patients, most common age group involved in this study was 21–30 years (44%). The average age of the study participants was 27.8 years. Next most common age group involved in this study was 31–40 years (22%). Among our study participants, males were more affected compared to females. Majority of patients engaged in such a occupation which requires prolonged periods of violent muscular efforts and standing. Most of patients were farmer (30%) which was followed by hotel workers (24%) and laborers (20%) (Table 1)

Table 1: Distribution of study participants according to occupation.

Occupation	No of patients (%)
Agriculture	15 (30)
Hotel worker	12 (24)
Labor	10 (20)
Shop assistant	6 (12)
House wife	4 (8)
Weaver	2 (4)
Clerk	1 (2)

In present study, the most common presenting symptom was pain and prominent veins (50%) which was followed by Prominent veins (14%), prominent veins and ulcer (10%) and Prominent veins with swelling of limb (10%). Prominent vein, pain and ulcer was present in 6% cases and bleeding present in 6% cases. Prominent vein, swelling of limb and pain was present in 4% cases. (Table 2)

In present study, most common type of varicosities of the lower limbs were seen on right lower limb in 44% cases and isolated left lower limb involved in 42% cases. Among 14% of patients both limbs were involved with varicose veins. Isolated long saphenous system involved in 84% of cases both long and short saphenous system involved in 16% of cases. 48 (96%) participants had incompetence of perforator veins. (Table 3 & 4)

Table 2: Distribution study participants according to presenting complaints.

Presenting complaints	Number of cases (%)
Prominent veins	7 (14)
Pain and prominent veins	25 (50)
Prominent veins and ulcer	5 (10)
Prominent veins and swelling of limb	5 (10)
Prominent vein, pain and ulcer	3 (6)
Bleeding	3 (6)
Prominent vein, swelling of limb and pain	2 (4)

Table 3: Distribution study participants according to limb and venous system involvement.

		Number of cases (%)
Limb involved	Isolated right lower limb	22 (44)
	Isolated left lower limb	21 (42)
	Both limbs	07 (14)
Venous system involved	Long saphenous system	42 (84)
	Short saphenous system	-- (--)
	Both long and short saphenous system	08 (16)

Table 4: Distribution study participants according to perforator vein incompetence.

Presenting complaints	Number of cases (%)
Above knee and below knee perforator incompetence	20 (40)
Below knee and ankle perforator incompetence	12 (24)
Below knee perforator incompetence	9 (18)
Above knee perforator incompetence	5 (10)
Above knee, Below knee and ankle perforator incompetence	2 (4)

DISCUSSION

In present study, out of 50 patients, most common age group involved in this study was 21–30 years (44%). The average age of the study participants was 27.8 years. Next most common age group involved in this study was 31–40 years (22%). Similar findings were reported in a study conducted by Shankar et al among 42 patients of varicose veins of lower limbs (6). The reason for the highest burden of varicose veins in this age group might be because of long working hours in standing posture leads to weakness in the vessel wall (7). The incidence of varicose veins of lower limbs was reported very less in below 20 years age group which might be because of high elasticity of skin and vessels and prominent muscular movement. After puberty, when the person's height increases and attains his full height, hydrostatic pressure of venous system gets raised and therefore after adolescence the frequency of varicose veins increases (8).

In the present study, among all study participants, males were more affected compared to females. Similar findings were reported in a study conducted by Joseph N et al in a multicentric epidemiological study about management of varicose veins among 170 cases for national guidance (9). This lower incidence of the varicose veins in present study was most probably due to lower cosmetic concern among lower and middle socio-economic status as the women in present study belong to same status. In the present study, majority of patients engaged in such a occupation which requires prolonged periods of violent muscular efforts and standing. Most of patients were farmer (30%) which was followed by hotel workers (24%) and laborers (20%). Similar findings were reported in a study conducted by Nagaraj et al among 50 patients of varicose veins of lower limb (10).

In present study, the most common presenting symptom was pain and prominent veins (50%) which was followed by Prominent veins (14%), prominent veins and ulcer (10%) and Prominent veins with swelling of limb (10%). Prominent vein, pain and ulcer was present in 6% cases and bleeding present in 6% cases. Prominent vein, swelling of limb and pain was present in 4% cases. Similar findings were reported in a study conducted by Mirji et al among 32 patients of varicose veins of lower limb and found that most common

symptoms in their study was found as prominent swellings among lower limb along with pain (11). Similar findings were reported in a study conducted by Subramonia S al among patients of varicose veins of lower limb (12).

In present study, most common type of varicosities of the lower limbs were seen on right lower limb in 44% cases and isolated left lower limb involved in 42% cases. Among 14% of patients both limbs were involved with varicose veins. Isolated long saphenous system involved in 84% of cases both long and short saphenous system involved in 16% of cases. 48 (96%) participants had incompetence of perforator veins. Similar findings were reported in a study conducted by Mirji et al among 32 patients of varicose veins of lower limb and found that most of them Majority of the patients had combined valvular incompetence (71%) were had combined valvular incompetence (3). Similar findings were also reported in a study conducted by Donnell et al among patients of varicose veins of lower limb and found that perforator incompetence was seen in 80% of cases (13).

CONCLUSION

We concluded from the present study that the most common affected age group was 20 - 40 years of life. Occupations which requires prolonged periods of violent muscular efforts and standing associated with varicose veins. Majority of the patient attended hospital because of disease symptoms and other complications rather than cosmetic reasons. Long saphenous vein involvement reported most commonly and majority of the cases had perforator incompetence. Clinical assessment was almost confirmative and of diagnostic importance.

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