



IS DIABETES MELLITUS A RISK FACTOR IN VARICOSE VEIN DISEASE ? : AN OBSERVATIONAL STUDY IN A RURAL TERTIARY CENTRE

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ABSTRACT

The adult prevalence of varicose vein disease (VVD) of the lower limbs is 30- 50% , and its incidence increases every year . In India, every 1 in 11 persons formally diagnosed with Diabetes(DM).Both these disorders have substantial medical and economical consequences in the society. The purpose of this study was to find out any change in severity of VVD with comorbid diabetes, is diabetes can be considered as a risk factor for varicose vein disease. The present study was undertaken among the surgery outdoor patients in a rural tertiary care centre of West Bengal. Under the survey, there were 40 patients with VVD (30 %men and 70% women). Inclusion criteria were persons aged 25 years or older presented at outdoor for the 1st time with varicosities of vein in lower limb and willing to participate in the study. Severity was assessed by clinical classification of chronic lower extremities venous disease (CEAP classification) . Diagnosis of DM was done by measuring glycosylated haemoglobin (HbA1c) and it was categorised into 2 parts with HbA1c <6.5(considered as non diabetic) and ≥ 6.5 (considered as diabetic). Class 1,2,3,4a,4b, 5 was seen in 12.5% ,32.5%,32.5%, 12.5%, 5%,5% respectively. DM was diagnosed in 20% of study population. All C1 patients were nondiabetic. Among all Varicose Vein (C2) patients 7.69% were diabetic. Edema (C3) with DM was present in 23.07 % . And percentages of C4a, C4b, C5 with DM among all C4a, C4b, C5 patients respectively were 40%, 50%, 50 % respectively. Percentages of grading severity gradually increased in diabetic population with p value 0.04556. In this study, DM aggravate the course of VVD and increases severity. In non diabetic patients, varicose vein presented with much lower grade.

KEYWORDS

Varicose Vein, Diabetes Mellitus, CEAP Classification, HbA1c

INTRODUCTION

Chronic venous disorders are an important cause of disease and disability worldwide [1] and can induce symptoms of venous dysfunction. Pathogenesis and natural history of chronic venous disorders remain blurred, which makes it more difficult to find causative factor. Varicose veins are the most common manifestation of chronic venous disease[1]. The adult prevalence of varicose vein disease (VVD) of lower limbs is 30 to 50 % and it's increasing every year[2]. In India, every 1 in 11 persons formally diagnosed with Diabetes (DM)[2]. These 2 disorders have substantial medical and economical consequences in the society. Several risk factors for VVD are female gender, increased age, increased body mass index etc[2,4].

AIMS & OBJECTIVES

The purpose of this study was to find out any changes in presentation or course of VVD with comorbid diabetes. Is diabetes can be considered as a risk factor for varicose vein disease.

MATERIALS & METHODS

The present study was conducted among the surgery outdoor patients in Medinipur Medical College and Hospital, a rural tertiary care centre of West Bengal. Under the survey, there were 40 patients with VVD in September - November 2025.

This was a cross sectional observational study. Inclusion criteria : persons aged 25 years or older , who have presented at outdoor with varicose vein in lower limb and willing to participate in the study. Exclusion criteria: person younger than 25 years .Severity of varicosity was assessed by clinical classification of chronic lower extremities venous disease (CEAP: Clinical etiology anatomy patho physiology classification) [2] . Diagnosis of DM was done by measuring glycosylated haemoglobin (HbA1c) and it was categorised into 2 parts with HbA1c <6.5(considered as non diabetic) and ≥ 6.5 (considered as diabetic)[3]. In this study, presentation of VVD is compared between diabetic and non diabetic population.



Figure 1 (Male, Non Diabetic Patient C2)

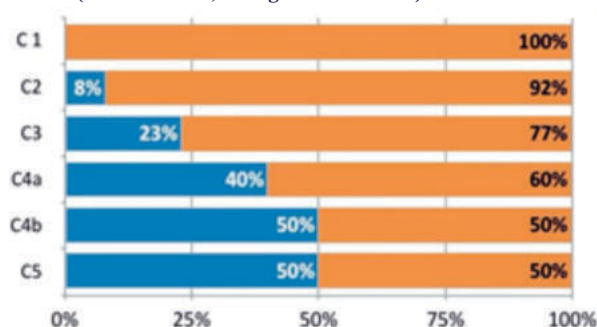
RESULTS

In the study population, 70% (28)were females and 30%(12) were males to be having varicose veins. Class 1,2,3,4a,4b, 5 (as per CEAP classification) was seen in 5(12.5%) ,13(32.5%), 13(32.5%), 5(12.5%), 2(5%), 2(5%) respectively(table 1). DM was diagnosed in 20% of study population(where HbA1c ≥ 6.5).All C1 patients were non-diabetic. Among all C2 patients 7.69% were diabetic.Among patients with skin Oedema (C3), DM was present in 23.07 % . In C4a population ,40% was diabetic and in C4b population ,50% was diabetic .Among all C5 patients, DM was in 50 % (table 2) .VVD severity gradually increased in diabetic population . DM was a significant risk factor (with p value 0.04556) for VVD severity among subjects.

Table 1

	Total	Female	Male	Diabetic	Non diabetic
C1	5	3	2	0	5
C2	13	10	3	1(F)	12
C3	13	9	4	3(2F,1M)	10
C4a	5	4	1	2(1F,1M)	3
C4b	2	2	0	1	1
C5	2	0	2	1	1

Table 2 (Blue: Diabetic, Orange: Non Diabetic)



DISCUSSION

The prevalence of VVD was more among females in study population(70% were female).Among the VVD population who suffered from DM, 62.5% were female.Most of the non diabetic population presented with less severe grade of VVD that were varicose

vein (C2) and skin oedema (C3). In this study, it was found that, a VVD patient with comorbid DM, presented with more severe grading than a non diabetic patient [5,6]. In this study, DM is a risk factor for VVD progression[5].

CONCLUSION

On the basis of evidence from this study it can be concluded that, higher prevalence of more severe form of VVD was observed in diabetic population compared to non diabetic population .DM aggravates the course of VVD. Diabetes may not be an established etiology for VVD but there is definitely some association for progression of the disease. Results of this study calls for planning and initiation of serious efforts to treat diabetes in varicose vein disease patients.

Consent: All Consents Taken from all Concerned Individuals.

Conflict of Interest: No Conflict of Interest Present.

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