Original article

Etiological study of Peripheral vascular disease

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Abstract:

Introduction: The prevalence of Peripheral Vascular Disease is strikingly higher in a younger diabetic population, affecting one in three diabetics older than 50 years

Methods: All cases of Diabetes admitted in B.L.D.E.U's Shri B. M. Patil Medical College, Hospital & Research Centre / attending surgical OPD will be included in the study.

Results: In this study, the mean age of presentation of patients was 53 years with maximum number of patients in the age group of 56 to 65 years. The number of newly diagnosed diabetics (70%) also greatly outnumbered the previously diagnosed or known diabetics (30%). This shows that late diagnosis of diabetes was due to late presentation of the patients to the hospital and that more number of complications were to be expected, including peripheral vascular disease.

Conclusion: The most common presentation of diabetics who were later diagnosed with peripheral vascular disease was Ulcer Over the Foot (26 patients; 32.5%) and 21 of those patients underwent below knee amputation.

Introduction

The prevalence of Peripheral Vascular Disease is strikingly higher in a younger diabetic population, affecting one in three diabetics older than 50 years[1]. Hyperlipidemia, hypercholesterolemia, hypertension, diabetes mellitus, and exposure to infectious agents or toxins such as from cigarette smoking are all important and independent risk factors. Regardless of plans for intervention, it is recommended that asymptomatic patients at risk for PAD and those with symptoms undergo ABI testing[2]. The presence of DM involves a two- to fourfold increased risk of PVD by causing endothelial and smooth muscle cell dysfunction in peripheral arteries. Diabetics account for up to 70% of nontraumatic amputations performed, and a known diabetic who smokes has an approximately 30% risk of amputation within 5 years. PVD is common among patients with diabetes[1].

Ischaemic change is twice as common among diabetic patients than among nondiabetic patients. An increase in HbA1C by 1% can result in more than a 25% risk of PAD. Major amputation rates are five to ten times higher in diabetics than nondiabetics 3

Methodology

Source of data:

Diabetic disease cases admitted in B.L.D.E.U's Shri B. M. Patil Medical College, Hospital & Research Centre / attending surgical OPD.

Method of collection of data:

Diabetic disease cases admitted in B.L.D.E.U's Shri B. M. Patil Medical College, Hospital & Research Centre / attending surgical OPD during period of Oct 2014 to July 2016.

Details of cases will be recorded including history, clinical examination, measuring ABPI & TBI and Colour Doppler imaging & other routine investigations done. Detailed information regarding Peripheral Vascular Disease & Diabetes will be entered in the proforma. These patients with confirmed Peripheral Vascular Disease and Diabetes will undergo treatment as deemed necessary.

Inclusion Criteria

All cases of Diabetes admitted in B.L.D.E.U's Shri B. M. Patil Medical College, Hospital & Research Centre / attending surgical OPD will be included in the study.

Exclusion Criteria

1. Patients with peripheral vascular disease with no evidence of diabetes.

2. Patients with bilateral amputations of great toe or bilateral lower limb amputation.

Results

Table: Distribution of cases according to Age

Age (Yrs)	N	%
≤35	7	8.8
36-45	16	20.0
46-55	20	25.0
56-65	29	36.2
66-75	8	10.0
Total	80	100

Parameters	Min	Max	Mean	SD
Age	24	75	53.0	11.6

Maximum number of cases were in the age group of 56 to 65 years with a mean of 53 years.

Table: Distribution of cases according to Sex

Sex	N	%
Male	60	75
Female	20	25
Total	80	100

A male preponderance of 75% (60 patients) when compared to female patients (25%; 20 patients) is noted with the male : female ratio of 3:1.

Table: Distribution of cases according to Age and Sex

Age (Yrs)	Male		Female		p value
	N	%	N	%	
≤35	7	11.7%	0	0.0%	
36-45	12	20.0%	4	20.0%	
46-55	15	25.0%	5	25.0%	0.575
56-65	20	33.3%	9	45.0%	
66-75	6	10.0%	2	10.0%	
Total	60	100.0%	20	100.0%	

Table: Distribution of cases according to Diabetes

Diabetes (New/Old)	N	%
New	56	70
Old	24	30
Total	80	100

Majority of the patients (70%) were newly diagnosed diabetics.

Discussion

In this study, the mean age of presentation of patients was 53 years with maximum number of patients in the age group of 56 to 65 years. The number of newly diagnosed diabetics (70%) also greatly outnumbered the previously diagnosed or known diabetics (30%). This shows that late diagnosis of diabetes was due to late presentation of the patients to the hospital and that more number of complications were to be expected, including peripheral vascular disease.[4,5,6]

The most common presentation of diabetics who were later diagnosed with peripheral vascular disease was Ulcer Over the Foot (26 patients; 32.5%) and 21 of those patients underwent below knee amputation. Revision amputation with above knee amputation was required in 6 of these patients, signifying a virulent form of the disease. ABPI was normal in all these patients signifying the low sensitivity in patients with late presentation, most probably due to medial sclerosis that affects the peripheral arteries in long standing/ untreated diabetics. The mean HbA1c was 9, signifying a poor control of diabetes in 85% (68 patients) of cases with Peripheral Vascular Disease. Overall, 37 patients (46.2%) underwent below knee amputations signifying the high morbidity associated with late diagnosis of peripheral vascular disease in diabetes.

Conclusion:

The most common presentation of diabetics who were later diagnosed with peripheral vascular disease was Ulcer Over the Foot (26 patients; 32.5%) and 21 of those patients underwent below knee amputation.

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