

CLINICAL PROFILE OF DIABETIC FOOT ULCERS OF PATIENTS ATTENDING SURGICAL OPD IN RURAL MEDICAL COLLEGE

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ABSTRACT

OBJECTIVE

To study the clinical profile of diabetic foot ulcers of patients attending surgical OPD in rural medical college.

MATERIAL AND METHODS

Clinical profile of 40 patients of diabetic foot ulcers was studied. All the patients were subjected to complete haemogram, fasting and PP blood sugar, LFT, KFT, lipid profile, urine R/E, pus c/s, colour doppler of lower limb and x-ray foot.

RESULTS

Majority of patients with diabetic foot ulcers were of age group 41–70, male, diabetes mellitus of duration more than 6 years, had intermittent claudication and single ulcer.

KEYWORDS

Diabetes, Foot, Ulcer.

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INTRODUCTION

Diabetes mellitus is a metabolic disorder associated with long-term vascular and neurological complications. Diabetic foot is one of the common complications of diabetes affecting the quality of life of patients; 20% of total diabetic population have foot problems. Foot ulcers occur in 5%-10% of all diabetic patients and upto 3% will have lower limb amputations during their lifetime. The overall risk for amputation is increased in diabetics 15 times beyond that for non-diabetic people.¹ Diabetic foot is the end point of neuropathy and PVD and amputation is the end point of diabetic foot. In India the reported incidence is 2%-29%.^{2,3,4}

Foot ulcers are cutaneous erosions characterised by a loss of epithelium that extends into or through the dermis to deeper tissues. Minor trauma often footwear related has been reported as the most frequent event leading to lower extremity ulcer and subsequent amputations.

Despite many major advances in health care delivery to patients with diabetes, foot problems continue to exact a heavy toll on the quality of life of diabetic patients. The high morbidity and mortality, loss of working hours, expenditure associated with diabetic foot problems necessitate the need for a prompt and proper approach to foot ulcer management.

New dressings such as Vacuum Assisted closure, alginates, cellulose composites, non-adherent dressings and film dressings are emerging that may improve wound care. Such dressings are designed to promote wound healing. This study is done to know the clinical profile of diabetic foot ulcers of patients attending surgical OPD of BPS Govt Medical College for Women, Khanpur Kalan, Sonapat. This shall help us in better management of diabetic foot ulcer patients.

MATERIAL AND METHODS

The prospective study was conducted at BPS Govt Medical College for Women in the Department of Surgery and includes cases of diabetic foot ulcers attending surgical OPD from 1 Dec 2013 to 1 Dec 2014.

Inclusion Criteria

Patients of 18 years or older with fasting sugar >126mg%.

Exclusion Criteria

Patients on treatment with corticosteroids, immunosuppressive agents, radiation therapy and chemotherapy. After explaining the procedure and purpose of the study, written consent was taken from all the patients. All the patients were subjected to complete haemogram, fasting and PP blood sugar, LFT, KFT, lipid profile, urine R/E, pus c/s, colour doppler of lower limb and x-ray foot.

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OBSERVATIONS

AGE (In years)	Sex Male Female
<30	00
30-40	01
41-50	103
51-60	53
61-70	75
71-80	42
TOTAL	2614

Table 1: Age and Sex Distribution

Duration of Diabetes (In years)	No. of Patients
Diagnosed for 1 st time	6
Upto 5	6
6-8	15
9-15	7
16-20	3
>20	3
Total	40

Table 2: Duration of Diabetes Mellitus

Intermittent Claudication	No. of Patients with IC
PRESENT	30
ABSENT	10
GRADE I	6
II	16
III	8

Table 3: Pain and Intermittent Claudication

SEX	No. of Patients	Single Ulcer	Multiple Ulcer
MALE	27	23	4
FEMALE	13	11	2
TOTAL	40	34	6

LOCATION OF ULCER/SITE	TOTAL
TOES	16
MALLEOLUS	6
DORSUM OF FOOT	8
HEEL	5
METATARSAL JOINT	9
LATERAL ASPECT OF FOOT	2

Table 4: Ulcer Location, Number and Sex Distribution

FASTING BLOOD SUGAR LEVEL (mg%)	No. of Patients
<126	7
126-150	11
151-250	16
251-350	6
>350	0
TOTAL	40
POSTPRANDIAL	
<200	20
200-250	8
251-350	10
>350	2
TOTAL	40

Table 5: Blood Sugar Levels

DISCUSSION

The present study was done in the Department of Surgery, BPS Govt Medical College, for woman during the period between 1st Dec 2013 - 1st Dec 2014. Patients were 18 years or older with a diabetic foot ulcer of at least 30 days' duration.

Age and Sex Distribution

There were total 40 patients, which showed predominant age group affected between 41-70; 33 patients were between 41-70 age group. Reiber GE et al.⁵ have reported similar findings in their study. They reported that among hospital discharges presenting with diabetic foot ulcers during 1983-1990, the highest percentage was in persons aged 45-64 years.

In our study out of 40 patients, 26 were male and 14 were female. According to Sussman KE.⁶ males are more affected than females by diabetic foot.

Duration of Diabetes Mellitus

The duration of diabetes as a risk factor has been reported by Keidlig NR, Root HF and Marble A et al.⁷ In our study high incidence of diabetic foot was seen in the patients with the previous history of DM for more than 6 years. The appearance of diabetic foot occurred earlier in the present study. This could be due to late detection of hyperglycaemia and due to the fact that Indians in rural population visit hospital when disease had already progressed.

Intermittent Claudication

In the present study out of 40 patients, 30(75%) patients presented with intermittent claudication. Rest pain was complained by 4(10%) patients out of 40 patients. According to Garcia M, McNamara, Gorden J, Kannel WB, et al.⁸ intermittent claudication is a classical symptom occurring more commonly in the diabetic subjects. A study by Rayman G, Hanan A, Tooke JE, et al.⁹ suggests that postural control of blood flow to the foot is disturbed in patients with diabetic neuropathy. This disturbance leads to the loss of sympathetic vascular tone. This results in hypoperfusion leading to rest pain.

Ulcer and Grade of Ulcer

In this study, 34 patients out of 40 presented with single ulcer and 6 presented with multiple ulcers. All the multiple ulcers patients had 2 ulcers each. The incidence of multiple ulcers was 15% in this study, which is similar to the incidence as reported by Reiber GE et al.⁵

Ellenberg M.¹⁰ found that the 90% of diabetic ulcers occurred under the pressure bearing areas of the foot and further showed that these ulcers occurred at the sites of maximal vertical force. The location of foot ulcer is determined by the site of trauma and consequence of diabetic foot pathophysiology. Edmonds ME.¹¹ has reported that the classical position of diabetic foot ulcer is under the metatarsal heads, but it is more frequently found on the tips of the toes and occasionally on the dorsum of the toes, between the toes and on the heel. He also reported that ulcers on feet are usually circular with punched out edges. The same findings were observed in our study.

Blood Sugar Level

In this study, 33 patients had inadequate blood sugar control. According to Janke HU, Standl E and Mehnert H, et al.¹² there is only a slight relationship between good control of sugar and improvement of PVD. Pirart J.¹³ in a study of 4400 diabetic patients over a period of 25 years stated that glycaemic control does not seem to slow the acceleration of atherosclerosis.

In a series of 520 diabetic individuals, Beach KW and Strandness DE, Jr.¹⁴ found no correlation between fasting blood sugar levels, glycosylated haemoglobin and atherosclerosis obliterans.

These findings were substantiated by University Group Diabetic Program (UDGP) study. In this study we found no significant difference in the incidence of diabetic foot, ECG changes or intermittent claudication in those patients who had better diabetic control compared to those whose blood sugar levels were less well controlled.

CONCLUSION

Age group of patients affected with diabetic foot ulcers was predominantly 41–70. Males were affected more than females. Duration of diabetes mellitus was more than 6 years in majority of patients. Intermittent claudication was found in 75% patients and rest pain in 10% patients. Single ulcer was found in 85% patients. Circular ulcers with punched out edges were found more commonly on tips of toes in weightbearing areas.

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