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CLINICAL STUDY OF DIABETIC FOOT WITH DIFFERENT TREATMENT MODALITIES

General Surgery

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ABSTRACT

INTRODUCTION: Foot problems and amputations are among the most costly complications of Diabetes. In developed countries they account for 12% to 15% of total health care resources available for Diabetes. In India foot complications use up as much as 30 - 40% of available resources. Diabetic foot is one of the major challenges facing the clinicians treating Diabetic patients. **MATERIAL AND METHOD:** Hospital based prospective study conducted on 100 patients on diadetic foot within study duration and eligible as per inclusion criteria were included in the study. **RESULTS:** In present study, maximum 52% patients belonged to age group was 51-70 years followed by 13(26%) in 31-50 age group .In presnt study most common complication of diabetes was cellulitis(32%) and least common complication was abscess(18%). In this study, most common lesion was right dorsum of foot 11 (22%) followed by left toe 7(14%).maximum 30% patients were treated through debridement of Diabetic foot whereas 20% patients received Slough Excision, Dressing & Skin graft and Toe Amputation as treatment modality. 18% patients were treated by I&D. amputation was the least used treatment modality. **CONCLUSION:** Diabetes Mellitus is a lifelong disease and diabetic foot complications can be life threatening, physically incapacitating, costly to treat and result in extensive morbidity.

KEYWORDS

Diabetes, Foot Ulcers, Neuropathy.

INTRODUCTION

Diabetes mellitus is as old as man kind and perhaps humans know it from early ages. It is one of the most deeply studied disease and is still un-understandable ailment that human deal with. As we are digging deeper into the molecular basis of the disease mind boggling results are coming out. It is not a single disease but a constellation of diseases that it gives birth to i.e. the complications.

Diabetes is one of the most prevalent chronic diseases: in 2010, one study reported that 285 million adults worldwide had diabetes and this figure is projected to rise to 439 milion by the year 2030[1] Such a profound demographic shift is likely to yield a corresponding increase in the prevalence of diabetes chronic complications, including those in the lower extremity, the diabetic foot[2]. It is estimated that the annual population-based incidence of a diabetic foot ulcer (DFU) ranges from 1.0% to 4.1%. The lifetime incidence may be as high as 25% .[3] Despite the efforts of conservative therapy, there will always be a percentage of ulcers that necessitate hospitalization. These cases may require surgical debridement, resection of distal osseus and soft tissue structure, endovascular intervention, daily dressings, strict glycemic control, and intravenous antibiotic therapy for eradication of infection [4,5]

MATERIALS & METHOD

Study design: Hospital based Cross sectional study.

Study population: All patients of Diabetic foot attending to Dept. of Surgery.

Sample size: 100 patients reporting to the Surgery dept. within study duration and eligible as per inclusion criteria

Inclusion Criteria: All patients of Diabetic foot who gave informed verbal consent

Exclusion Criteria: Diabetic foot associated with venous ulcers and lymphedema.

Data collection: After obtaining informed verbal consent from eligible study participants, all details of patients along with relevant investigational details were recorded in questionnaire.

Data analysis: Data thus collected were entered into excel and were then analyzed with help of SPSS software through tables, diagrams and appropriate statistical test wherever required.

RESULTS

Table-1:Distribution of cases according to age

Age group (years)	No.	Percentage
0-30 years	6	6%
31-50 years	26	26%
51-70 years	52	52%
> 70 years	16	16%
Total	100	100%
Means age (years)	57.23	
SD	20.24	

In present study, maximum 52% patients belonged to age group was 51-70 years followed by 13(26%) in 31-50 age group , 3 (6%)cases in 0-30 age group and 8(16%) cases in more than 70 year age group.

Table-2: Distribution of cases according to sex

Sex	No.	Percentage
Male	78	78%
Female	22	22%
Total	100	100%

Table-2 shows that male patients (78%) contributed to larger proportion of our study population as compared to females (22%).

Table-3: Distribution of Study Population according to Complications of Diabetes

Complication of Diabetes	No.	Percentage (%)
Cellulitis	32	32.0
Abscess	18	18.0
Ulcer	28	28.0
Gangrene	22	22.0
Total	100	100%

In presnt study most common complication of diabetes was cellulitis(32%) and least common complication was abscess(18%).

Table-4: Distribution of Study Population according to Duration of Diabetes

DURATION OF DIABETES	No.	(%)
≥10 Yrs	64	64.0
<10 Yrs	36	36.0
Total	100	100.0

Above table shows that out of 100 patients, 64% patients were suffering from diabetes for ≥10 years whereas 36% patients were having diabetes for less than 10 years duration.

Table-5: Distribution of Cases according to Treatment Modalities

Treatment modalities	No.	(%)
B/K Amputation	8	8.0
Debridement	30	30.0
I&D	18	18.0
Mid Thigh Amputation	4	4.0
Slough Excision, Dressing &Skin graft	20	20.0
Toe Amputation	20	20.0
Total	100	100.0

Table-5 shows that maximum 30% patients were treated through debridement of Diabetic foot whereas 20% patients received Slough Excision, Dressing & Skin graft and Toe Amputation as treatment modality. 18% patients were treated by I&D. amputation was the least used treatment modality.

DISCUSSION

In present study, maximum 52% patients belonged to age group was 51-70 years followed by 13(26%) in 31-50 age group , 3 (6%)cases in 0-30 age group and 8(16%) cases in more than 70 year age group. Wheel Lock [6] did a study which revealed that the youngest age with diabetic foot was 32 years and the oldest age was 89 years. When compared with Wheel Lock [6] series, there is not much difference in the oldest group but the youngest patient was found to be 16 years younger than the compared study.

Mayfield et al [7] did a study on sex wise distribution of diabetic foot which included 32 males and 29 females.

In our study 60% patients were suffering from diabetes for ≥10 years whereas 36% patients were having diabetes for less than 10 years duration and same result were observed in Rawels et al [6].

In presnt study most common complication of diabetes was cellulitis(32%) and results were found in Bell et al[8] and diabetic research center study (2005)[9].

In this study minimal stay in hospital was for the patients who had abscess or cellulites in which most common procedure performed was IND and debridement.

In this study, most common lesion was right dorsum of foot 11 (22%) followed by left toe 7(14%), left whole foot(10%).

Apelquist et al [10] found that among the patients with diabetic foot 51% involved the toes, 14% involved the dorsum of foot and 9% involved the plantar heel.

Reiber et al [11] found that 52% involved the toes, 11% involved the dorsum of foot and 18% involved the plantar heel.

In present study maximum 30% patients were treated through debridement of Diabetic foot whereas 20% patients received Slough Excision, Dressing & Skin graft and Toe Amputation as treatment modality. 18% patients were treated by I&D. amputation was the least used treatment modality.

In Collen et al [12] study 38.6% underwent amputation and in Osakakosainekin et al [13] 52% underwent amputation.

CONCLUSION

Diabetes Mellitus is a lifelong disease and diabetic foot complications can be life threatening, physically incapacitating, costly to treat and result in extensive morbidity.

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