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To Study the Surgical Complications of Diabetes and their Management in the Rural Population

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Abstract: ***Background: There is a increased incidence of the surgical complications of diabetes in the rural population due to lack of education, change in lifestyle and negligence. This study is undertaken to bring down the reasons for surgical complications for betterment of the rural population. Objectives: This study intends to know the incidence of diabetic patients requiring the surgical management with special relation to age, sex and lifestyle with special reference to the rural population, various modes of presentation, to prevent complications, treatment options available. Methods: This is a prospective study which includes 100 patients admitted in AIMS Jan 2013 to Dec 2013. Depending on the various modes of presentation, the treatment is carried out. All the results are evaluated. Results: In this study most of the patients were agriculturists by occupation. Majority of the patients presented with diabetic foot ulceration, cellulitis etc. Wound debridement and slough excision, split skin grafting, amputation were other modes of treatment. Conclusion: Majority of the patients who had surgical complications were first time detected to have diabetes. Majority of the cases show late presentation.***

Keywords: Diabetic foot, surgery

1. Introduction

Diabetes mellitus is characterized by the chronic hyperglycemia with disturbances of carbohydrate, fat and protein metabolism resulting from defects in insulin secretion, insulin action or both. Diabetes is accompanied by progressive tissue damage secondary to micro and macro angiopathy, autonomic neuropathy. It is a major cause of non traumatic amputation.

2. Materials and Methods

The patients who were admitted in surgical ward with diabetic complications between Jan 2013 to Dec 2013. The patients were selected based on the signs and symptoms of diabetic complications (surgical complications). The data collected based on clinical history and examination, relevant investigation and treatment according to their various presentations. The paediatric patients were excluded in the study.

3. Results and Discussion

Table.1: Age and sex wise distribution of patients with surgical complications of diabetes

	Age in Years					
	<30	*30-40*	*40-50*	*50-60*	*60-70*	*>70*
Male	1	9	35	10	5	10
Female	-	5	15	6	3	1

Table.2: distribution of occupation in patients studied

Occupation	*Number of patients*
Agriculture	60
Skilled	5
Business	5
Housewife	30

Table 3: Various modes of presentation of surgical complications of diabetes

Modes of presentation	*Number of patients*
Diabetic Foot	55
Abscess	10
Carbuncle	10
Cellulitis	15
Gangrene	10

Table 4: Different modalities of treatment done for patients

Modes of treatment	*Number of patients*
Debridement	47
Incision and Drainage	5
Conservative	20
Excision	10
Split Skin Grafting	10
Below knee amputation	5
Above knee amputation	3

4. Discussion

In this study majority of the patients (66 patients) were in the age group of 40-60 years and 70 male patients and 30 female patients. Most of the patients were agriculturists by occupation (60 patients) and all the female patients were housewives. In this area most of the people are agriculturists and are ignorant about the sequel of diabetes mellitus and are exposed to outdoor work, hence high incidence among them.

Many of the patients presented with surgical complications were found to have associated with hypertension. Many of the patients were newly diagnosed to have diabetes mellitus at the admission.

In this study, the most common mode of presentation is diabetic foot ulceration because the poor hygienic condition of feet and diabetic neuroangiopathy and peripheral neuropathy. Hence in rural areas patients those who work in agricultural field work bare footed leading to minor injuries and ulceration.

Majority of the patients were undergone debridement (47 patients) followed by daily dressings with betadine, hydrogen peroxide, oxum spray. When ulcer was healing then, split skin grafting was done. Five patients were undergone below knee amputation because of late presentation and gangrene of foot with septicaemia. Three patients were undergone above knee amputation for the above reasons. These patients wee belonging to the age group 60-80 years. Hence the surgical complications were more serious in nature because of the associated co-morbidities like hypertension and limb ischemia, atherosclerotic changes.

Those patients who presented as cellulitis were treated conservatively with Glycerine $MgSo_4$ application and five patients presented with perianal abscess undergone incision and drainage. Those patients presented with carbuncle were treated with wide excision followed by daily dressing and split skin grafting. All the patients were treated with antibiotics according to culture and sensitivity reports of pus and supportive treatment like NSAIDS for pain, antioxidants and multivitamins for wound healing. All the patients were treated with Insulin (both long acting and short acting) during hospital stay.

5. Conclusion:

1) Majority of the patients those who had surgical complications are males and agriculturists by occupation.
2) Most common presentation of surgical complication is diabetic foot ulcerations.
3) Most of the patients diagnosed to have diabetes at the time of presentation.
4) Most of the patients were treated with debridement and wound dressing.
5) In rural areas due to lack of awareness about diabetes, lack of education, the surgical complications of diabetes are more in rural areas than urban areas. This will lead to increased morbidity and impact on lifestyle of rural population.

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