

## Management Diabetic Foot & Diabetic Foot Care Education-A Case Report

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### Introduction

On 30/01/2011 at 10.00 A.M., 56 years old male known case of Diabetes Type 2 for 15 years on oral hypoglycaemics, with no records of regular treatment and investigation for diabetes in the past presented with history of fever, discoloration of skin with foul smelling discharge from Right (Rt.) foot since 5 days. Patient gives history of soaking feet in hot water 8 days back. Patient had taken treatment for foot problem from a physician in neighbourhood who advised alternate day dressing and patient had visited doctor 3 days back. Patient had never been exposed to any kind diabetic foot education and patient had no knowledge about Foot care in Diabetics [1,2].

### On Examination

General condition of patient was poor; patient was toxic, temperature -103.4 degree F, Blood Pressure -142/94 mmHg. There was complete loss of sensation in bilateral ankle and fore foot area for vibration & fine touch (peripheral neuropathy). Bilateral Dorsalis Pedis & Posterior Tibial Artery was well palpable, capillary refill was good in rest of toes (indicating good blood flow). On examination of wound: foul smelling discharge was oozing out from wound at the dorsum of Right (Rt.) foot with gangrenous necrotic Rt. Big Toe.

### Investigations

Total Leucocyte Count (TLC): 25600, Differential Leucocyte Count (DLC): Polymorphs 90, Lymphocytes 08, Eosinophils 02, blood Urea: 100 mg%, S. Creatinine: 1.6 mg%, Random Blood Sugar (RBS): 256 mg%, PUS Culture & Sensitivity (C/S) Growth was Staph. Aureus, Sensitive to Amoxicillin + Clavulanic Acid.

X-Ray Rt. Foot did show soft tissue oedema around Rt. Big Toe and 1<sup>st</sup> MTP Joint, and no bony changes. Investigations were kept to bare minimum which were urgent and must, to minimise cost of treatment (patient was poor without insurance and was suppose to pay all expenses by his own so everything was done on must be done basis).

### Plan of Treatment

Patient was posted for immediate debridement and excision of necrotic tissue along with amputation of Rt. Great Toe at 2.00 P.M. (Figures 1-4). Empirical intravenous antibiotics Amoxicillin + Clavulanic Acid with Metronidazole started, blood sugar charting and



Figure 1: Day one 30/01/2011 (On admission).



Figure 2: Day one 30/01/2011 (On admission).



Figure 3: Day one 30/01/2011 (On admission).

insulin given to bring blood sugar level under control. Antibiotics were rationalised after Pus culture & sensitivity report was available [3].

On 3<sup>rd</sup> day (02/02/2011) Patients General Condition improved significantly, TLC came down to 10700; RBS was 126 mg%, Blood Urea was 57 mg%, S Creatinine was 1.1 mg%.

Patient was discharged on 03/02/2011 with future wound care planned on Out Patient Department (OPD) basis including advice for daily dressing in OPD, Off Loading by front wedge shoes [4,5], oral antibiotics, and blood sugar control medicines as per Diabetologist advice and a plan for Split Thickness Skin Graft (SSG) after wound bed preparation, but after 4 weeks of wound care when wound bed was

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ready for SSG patient was not willing for Superficial Skin Graft Surgery and complete wound closure was achieved in 12 weeks by good wound care practices and regular dressing with Recombinant human Platelet Derived Growth Factor (RhPDGF) [6], (Figures 5-8).

### Objective of Treatment

- To bring patient out of septicaemia.
- To achieve complete wound closure.
- Minimise cost of treatment by shorter duration of hospitalisation.
- Give patient functional limb with minimal amputation.

### Case Discussion

- Diabetic foot complications are common, complex, and costly. Prevention is the key to reduce high morbidity. All diabetic patients must have regular screening for risk assessment for Neuropathy, Vasculopathy, for Musculoskeletal and Dermatological problems at least once in a year even if there are no complaints [1]. General physicians should take diabetic



Figure 4: Day two (Next day after surgery).



Figure 5: After 4 Weeks



Figure 6: After 8 Weeks



Figure 7: After 10 Weeks



Figure 8: After 12 Weeks

wound more seriously, either review them on daily basis or send them to specialist.

- A lot of emphasis should be given on diabetic foot education of patients and doctors. Diabetic foot care education should be an integral part of diabetes management for doctors as well as for patients as diabetic foot education program.

All diabetic patients must be educated about foot care, few foot care tips are as follows [1,2,7].

- Diabetic patient must be taught to take care of their feet as they take care of their face.
- Patient should do daily self examination of their feet to look for cuts, blisters and swelling.
- Never walk bare feet even at home. Always wear shoes with socks.
- Must wear comfortable, extra width, extra depth shoes with cushioned insoles.
- Patient should never use hot water bottle, heating electric pads and dip their feet in hot water (above discussed patient had given history of soaking feet in hot water which was the cause of thermal injury).
- Be extra careful while trimming their nails and should not cut of skin while cutting the nails.
- Diabetic patients should never use carnation corn caps if they have corns in their feet.
- Patient should wipe well their feet especially between toes.
- Patient should use moisturising cream if they have dry and cracked feet, but never use moisturising cream between the toes.

Never neglect any trauma, infection, blister, sores and redness in feet, prompt advice from specialist should be taken.

Always buy shoes in the evenings, few people have tendency for Pedal oedema by the end of day causing increase in foot size up to 5% as the day progress, so a well fitting shoe bought in the mornings may be tight by the end of day leading to shoe bite.

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