CASE REPORT

Towards Limb Preservation: Treating A Blistered And Callused Diabetic Foot In A Clinic Setting In Barbados

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Abstract: This case study reports on a 73-year-old female labourer who presented at a clinic in Barbados with multi-factorial problems related to a diabetic foot. It discusses treatment approaches and outcomes based on the applications of international guidelines.

Key words: *diabetic foot, foot pain, blisters, callouses, amputation prevention, guidelines*

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Introduction

'Limb preservation' is a term coined for the first world but continues to be misunderstood in developing nations, with differing opinions on the relevance of international guidance (e.g., the International Working Group on the Diabetic Foot [IWGDF][1] in the treatment of the diabetic foot).

Over the coming months, the Caribbean Wounds Network hopes to establish the value and application of these guidance processes in order to create a more effective working framework for limb preservation in Barbados and other Caribbean nations.

The diabetic foot remains a mystery amongst general practitioners and surgeons alike, in part due to the initial aggressive and somewhat unappealing way the diabetic foot may present to emergency services or clinics.

The appropriate application of diabetic foot guidance on treatment of the diabetic foot turns these somewhat "maimed" feet into unamputated functional appendages, as they should be.

Patient Characteristics/Social And Medical History

Mrs B is a 73-year-old lady. She works as a labourer in the fields and gardens. She was not previously known to the clinic and was referred via a "friend of a friend". She had never seen a podiatrist before. She was known to be diabetic for over 15 years.

Mrs B was brought to the clinic by her daughter as an 'emergency' because she had developed a large blister on the dorsum of her left foot over the first ray area. She was experiencing pain when walking and had developed a fever and general unwellness due to her foot getting worse. She has previously been to see her GP who issued her with painkillers (paracetamols) and oral antibiotics (augmentin for seven days). These were started three days prior to her attendance in the clinic.

She was wearing poor footwear and exhibited a poor understanding of her diabetes (plus apparent poor compliance to medical advice). She had never considered the importance of good control, despite being counselled by her doctors, according to her family. As a result, she mostly wore slippers or flip flops and walked barefoot from time to time.

Care Plan

- Callous management and continued education on the importance of her diabetes control, as the fear of losing her foot made her willing to act on self-care. Her family also provided support in the form of food choices, frequency of follow-ups and a schedule for her medications.
- Footwear recommendations and wearing/care instructions.
- She is being monitored in the clinic to ensure compliance: initially four weeks later, then eight weeks and then three months, depending on her financial abilities and/or available charitable options.

Examination

On examination in the clinic she was weak, had a fever of 38º Celsius, complained of cold sweats and "bad feels". She was advised that she should be seen in emergency, but she refused and said she did not want to go. This left us no choice but to 'do our best'. Blood sugars were 11 mmolL (it was difficult to prick her skin because she is a labourer and her hands were very calloused with thickened skin on the pulps of most of her fingers).

On the left foot there was a blister on the dorsum of the foot, over the 5th ray area, mild redness, warmth and oedema of the dorsum of the foot. On the plantar 4th and 5th over the metatarsal heads there were very large callouses and corns. Reduced fibrofatty padding was noted from PMP 1 to 5, with forefoot supinatus ascertained. There was a distinct over loading of the 5th met area, explaining the heavy callouses area and corn. The corn under the 5th metatarsal head was dark in appearance and very tender to touch.

Treatment Approach

As per international guidelines for the diabetic foot ulcer,[1] vascular status was ascertained using a Doppler assessment. The results were normal (triphasic).

Infection was noted to be bullous in nature. We ruled out an ischaemic cause of the bullous presentation and noted the plantar corn. Removal of the corn revealed a fissure in the corn and calloused area, resulting in an infected corn with tracking onto the dorsum of the foot.

The corn was enucleated, drained and the blister was also drained; skin was left insitu in order not to create a large area for healing. A tissue sample was taken, sent for culture and the patient was advised to continue to take the antibiotics she was issued. X rays were requested to rule out osteomyelitis.

The tissue sample results were ascertained one week after and confirmed as GRAM'S STAIN / Gram negative bacilli:

- AEROBIC CULTURE: ISOLATE 1: *Proteus mirabilis,* sensitive to: ciprofloxacin, augmentin, cefazolin, cotrimoxazole. Resistant to: tetracycline ISOLATE 2: *Pseudomonas aeruginosa* Sensitive to: ciprofloxacin, tobramycin, ceftazidime piperacillin/ tazobactam.
- ANAEROBIC CULTURE: No anaerobes isolated.

The patient was asked to address her blood sugars and diabetic foot advice was issued. The patient received counselling and a care plan was discussed.

The patient was issued an offloading shoe and advised to not remove it or get it wet. She was reviewed in two days. The area was redressed.

Figure 1: Plantar aspect of the foot, January 6

Figure 2: Dorsal aspect of the foot- redness and blistering, January 6

Figure 3: Post debridement and drainage, January 6

Figure 4: X ray result - No osteomyletis

The wound had started to improve, redness was resolving and oedema had reduced.

Culture was received one week later and instead of continued oral therapy, antibiotic beads (Stimulan®) were used.

The patient returned four weeks later. Sequestra of the bone was removed although X rays revealed no osteomyelitis.

The patient was advised to continue to manage her corns and callouses appropriately and that she would be monitored post op.

Figure 5: Post antibiotic beads and wound management, January 3

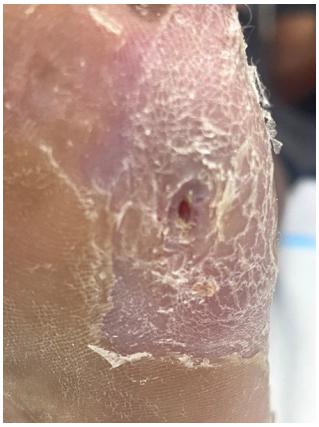

Figure 6: Plantar aspect after use of antibiotic beads, January 31

Conclusion

Stimulan®[2] has been a big asset to the clinic, reducing the need for oral medications and improving the outcomes of diabetic foot ulcers. The use of Stimulan® in this circumstance allowed the patient to not experience side effects from the oral medications, encouraged bony healing and resulted in a better outcome. This lady is now being managed for plantar callous and post op care until the skin returns to its normal texture.

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References

1. Schaper NC, van Netten JJ, Apelqvist J, Bus SA, Fitridge R, Game F, et al.; IWGDF Editorial Board. Practical guidelines on the prevention and management of diabetes-related foot disease (IWGDF 2023 update). Diabetes Metab Res Rev. 2024 Mar;40(3):e3657. DOI: 10.1002/dmrr.3657
2. Stimulan digital brochure. Keele UK: Biocomposites Ltd. (accessed 2025).Available from: https://www.nuvasive.com/wp-content/uploads/2022/02/EU-STIMULAN-digital-brochureMA0074R71-min.pdf