



Editorial

Diabetic foot ulcers – The time to act is now

Diabetes mellitus, especially type 2, is one of the major causes of morbidity and mortality. Due to globalization and urbanization with a sedentary lifestyle and high energy diets, the prevalence of obesity and, as a consequence, type 2 diabetes has increased dramatically¹. Especially in certain ethnicities with high proportion of underserved populations, the diabetes prevalence is now above 50 per cent in specific age groups².

Diabetic foot ulcers are a common complication of long-standing diabetes and the lifetime risk of developing a diabetic foot ulcer is 19-34 per cent in patients with diabetes³. Diabetic foot ulcers contribute to a large part of the morbidity and mortality in patients with diabetes. Around 20 per cent of the patients with diabetic foot ulcers will need a lower limb amputation³, but 50 per cent or more requires an amputation in certain populations⁴. Prior lower limb amputations, peripheral vascular disease, forefoot ulcers and higher Wagner grades (grading system used to classify the severity of ulcers) are the independent risk factors for lower limb amputation⁴. A systematic review showed that the risk for re-amputation in patients with diabetes was 46 per cent and the mortality rate was 51 per cent at five years if a prior lower limb amputation had occurred⁵. The mortality rate in patients with diabetic foot ulcers is 3.4 times higher than in patients with diabetes and no foot ulcer and if adjusted for other common risk factors such as cardiovascular disease, chronic kidney disease and glucose control, the risk was still 2.5 times higher⁶. In another study, the mortality in patients with diabetic foot ulcers, in multivariate analysis was associated with age, chronic kidney disease and low serum albumin levels⁷. Of the deaths occurring in this latter study, the most frequent causes of death were chronic kidney disease in a quarter, cardiovascular events in a fifth,

followed by sepsis, respiratory failure, malignancy and multiorgan failure⁷.

Diabetic foot ulcers are either caused by repetitive stress over a focal area or other forms of foot trauma in patients with peripheral neuropathy. If peripheral artery disease is present, this will also be a factor in the development of foot ulcers³. Since most diabetic foot ulcers are neuropathic ulcers, pressure offloading is the most important management strategy followed by infection management, glucose control and surgical debridement if required; all guided by the multidisciplinary diabetic foot ulcer team. To manage and prevent diabetic foot ulcers, high focal pressures need to be reduced and this is done by different offloading techniques such as total contact casts, therapeutic footwears, orthotic devices and surgical interventions⁸. Total contact cast has the highest effectiveness in healing diabetic foot ulcers⁹, probably due to not being removed as easily as with the other techniques and thus, adherence being high. Despite its enclosed environment, total contact cast also seems to work well in hot and humid climate⁸.

Unfortunately, recurrence of the diabetic foot ulcers is common, with around 40 per cent of patients having a new diabetic foot ulcer within one year after a healed ulcer and almost 60 per cent within three years³. In order to prevent diabetic foot ulcers to develop both after a previous ulcer and in the first place, there are several simple strategies. Patients with diabetes, and especially those with neuropathy, should never walk barefooted, not even in their own home, but use appropriate footwear. New footwear should be gradually worn, and before as well as after wearing shoes these need to be inspected for foreign bodies to avoid foot traumas¹⁰. Each time a person with diabetes visits a health professional, not only the podiatrist or

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their diabetes physician, the feet should be examined, which can be done rather quickly without any fancy and expensive technology. The patients themselves, sometimes with help, should inspect and clean their feet daily. It should be noted that when drying the feet, the interdigital spaces must not be forgotten and moisturizer is recommended afterwards. When washing the feet, the water temperature needs to be checked since the neuropathic feet will not feel being burnt. By doing these regular inspections and care, the patients with diabetes will receive reinforcement about the importance of foot care. Moreover, the feet will be better taken care of, and ulcers will be found at a very early stage when management can be more limited and more successful. If we can avoid diabetic foot ulcers to occur or at least treat them promptly much suffering, morbidity and mortality can be prevented.

So how does it work in real life? India is a large country with the majority of its population living in rural areas, while the majority of healthcare professionals live and work in urban areas. Thus, similar to other countries, the rural population has limited access to good healthcare. A recent study from the rural area of Punjab, North India, reported on foot self-care practices in people with type 2 diabetes¹⁰. Examinations and interviews conducted in 700 adults with diabetes revealed that a current ulcer or blister was found in 11 per cent of them. Only 13 per cent of patients had received foot care advice from the local health facility and merely six per cent had had their feet examined by a health professional¹⁰. The Nottingham Assessment of Functional Foot Care questionnaire was used to assess the recommended foot self-care behaviours among the study participants. If the patient had a score of >70 per cent (of the maximum score of 84), a 'good' foot care behaviour was considered, while if the score was 50-70 per cent, it was considered 'satisfactory', and a score of <50 per cent was considered as 'poor' foot care behaviour. In these examined patients, the score was only 45 per cent, thus indicating, in general, a poor foot care behaviour. There was no individual who practiced good foot care behaviour, but 16 per cent did it satisfactorily. Moreover, only 11 per cent inspected their feet daily and 88 per cent sometimes walked barefooted outdoors; while indoors, it was 92 per cent. In those few who had received foot care education, almost triple the proportion of patients were doing satisfactory foot care than those that had not received any education. What was really worrisome

was that only six per cent of those with a prior ulcer practiced satisfactory foot care even though their risk for recurrence was high. Noticeably, this study was conducted in a rural resource-limited healthcare setting and the results would hopefully be better in a metropolitan area with more resources, including healthcare. However, in many metropolitan areas, there are large groups with limited resources and limited healthcare availability. Anyway, there are large opportunities for improvement. Moreover, education and practicing of good foot care behaviour are not that expensive. General knowledge about diabetes among patients with diabetes and foot self-care practices can prevent most diabetes foot related issues³. The time to act is now.

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