Diabetic foot disease: moving from roadmap to journey

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If you had diabetes and a foot ulcer, what would you pay to try to save your limb? Would you pay the equivalent of 5·7 years of your annual income? This amount is what it might cost in India, the country with the greatest number of people suffering from a diabetic foot ulcer.[1] Even if you could afford this cost, there would be no guarantee that treatment would be successful. In a large study[2] done in European specialised foot centres, 23% of patients with diabetes and a foot ulcer lost at least part of their foot, despite intensive treatment. This poor outcome reflects the fact that diabetic foot disease is both an acute and recurrent affliction that mainly affects older patients with several comorbidities. Diabetic foot disease also requires both local and systemic treatments, given by knowledgeable providers, to adherent patients. This is not a one doctor disease—it demands multidisciplinary care. Furthermore, as a notoriously unglamorous problem, the disease depends on dedicated clinicians working together in a team of health-care providers to care for a complex patient—a scenario some disparage, but we relish.

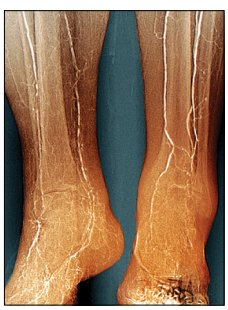
The quality of life for a patient with diabetic foot disease is as poor as for one with recurrent breast cancer,[3] and the burden is also borne by the patient's family and the entire health-care system. Foot complications are now the most common and expensive diabetes-related cause of admittance to hospital in most countries in the world, and amputations are among the most feared outcomes of diabetes. What was mainly a problem in high-income countries has now gone global, with rates of diabetic foot disease rapidly rising in India, China, the Middle East, and elsewhere.

With its multifactorial pathogenesis, diabetic foot disease is in many ways a unique problem. In the past, almost nothing could be done for what was called diabetic gangrene until the discovery of antibiotics 70 years ago.[4] Even then, outcomes were poor until the 1980s, when clinicians began to understand the important role of peripheral neuropathy in addition to peripheral artery disease, infection, and metabolic derangements. With this new understanding, assembling a multidisciplinary team to tackle this difficult problem emerged as a new idea.[5] Findings of many subsequent studies have shown the effectiveness of this approach, which might avoid more than 45% of lower extremity amputations.[6] Ideally, treatment should involve medical, surgical, podiatric, nursing, and other specialties, and use an integrated approach of expertise and technology.

In May, 2015, with the goal of improving diabetic foot care, more than 1400 clinicians and researchers from 100 countries met in The Hague at the 7th International Symposium on the Diabetic Foot (ISDF). This is the largest, and perhaps most prestigious, diabetic foot meeting worldwide, bringing together health-care workers from many specialties. In addition to state-of-the-art lectures and workshops, investigators presented more than 60 oral and 330 poster summaries of new research. The programme also included the launch of new global Guidance of the International Working Group on the Diabetic Foot (IWGDF) . Based on systematic reviews of the scientific literature that included screening almost 80 000 reports and fully assessing 429, committees produced documents on five key areas: prevention, footwear and offloading, diagnosis, and treatment of peripheral artery disease, infection, and wound healing. Clearly, after a slow start, the management of diabetic foot disease now leads to good results in most patients, when they are properly treated.[7]

The key issue, however, is proper treatment. A lot is known about why people with diabetes develop foot disease and how to manage them. Guidelines exist, but clinicians caring for these patients need to implement them. In low-income countries, scarce resources often limit care, but even in technologically advanced centres, appropriate management is often lacking or delayed. Differences in amputaction rates, both among and within countries,[8] are less related to insufficient resources or types of comorbidities than to attitudes and systems of health-care organisation.[9] Results continue to show that too many patients fail to receive timely and optimum treatment in both the ambulatory and inpatient settings.[10]

Thus, the main challenge the field now faces is the implementation of knowledge gained in the past three decades. A multiorgan disorder like diabetic foot disease needs a holistic approach, with integrated management from home care, primary, and specialty disciplines. At this year's ISDF meeting, a group of clinicians from the IWDGF, representing almost 100 countries, spent a day discussing how to implement the new guidance documents.[11] These clinicians are



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For more on the **IDSF** see http://www.diabeticfoot.nl

For more on the **IWGDF** see http://iwgdf.org/

For the **2015 IWGDF guidance document** see http://iwgdf.org/guidelines/

the trailblazers, committed to bringing home their knowledge, ideas and enthusiasm to inspire others. However, reduction of the high burden of diabetic foot disease will require more clinicians who are knowledgeable about evidence-based guidance (reading the road-maps), but also about implementing these practices at their clinical sites (taking the journey).

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