This short report reviews recent advances in the management of the diabetic foot in Italy and the importance of an integrated approach to care. It focuses on the work of the Diabetic Foot Clinic at the University Hospital of Pisa, which has contributed to research into offloading devices and the use of antiseptics. This has led to improvements in diabetic foot management.

INTRODUCTION

In the past few years, management of the diabetic foot in Italy has improved significantly. This is because the national network of clinicians in charge of the management of this complex pathology has introduced the IWGDF Consensus Guidelines on the care of the diabetic foot. The incidence of major amputations has decreased significantly in the diabetic population for the first time since the St Vincent Declaration of 1989.

A key factor in achieving such a good result has been the integrated approach to the care of these patients, with extensive revascularisation, mainly endovascular, and early and aggressive surgical debridement performed by interventional diabetologists.

Our group contributed to the improvement of the management of the diabetic foot with three prospective clinical trials that produced evidence on offloading, the use of antiseptics in the infected foot and the application of nanotechnologies to help prevent ulceration.

NEW ADVANCES IN DIABETIC FOOT CARE

The trial on offloading strategies in the neuropathic foot compared the total contact cast (TCC) to the Optima Diab® (Molliter), an off-the-shelf irremovable offloading device. The study found that Optima Diab was as effective and less expensive than the TCC in treating neuropathic plantar ulceration. This finding increases the possibility of extending this offloading strategy to the many diabetic foot centres throughout Italy that cannot afford to use TCC [1].

The trial on the role of antiseptics in the management of infected diabetic foot ulcers demonstrated how Dermacyn® Wound Care (Oculus Innovative Sciences), a new super-oxidised solution, was more effective than povidone iodine in treating infections and preventing re-infections in diabetic foot ulcers, when combined with revascularisation and surgical debridement.
Super-oxidised solutions, which have been used mainly in oral surgery, combine a strong antibacterial activity with a very low toxicity for eucaryotic cells and living tissues. They should be considered as the first choice option when a local antiseptic is required in diabetic foot ulcer care [2].

Another promising option in the prevention of the deterioration of the diabetic foot is the application of nanotechnologies to both the neuropathic and the ischaemic foot in the pre-ulcerative stage. Our experience with Difoprev® (LVM Technologies), a new device designed as a carrier for hydrating agents such as phosphatidilcolnine, demonstrated how it was able to restore neuropathic dehydrated skin, preventing fissures and breaks that may lead to frank ulceration [3].

THE FUTURE

In the near future great attention will be focused on the prevention of ulcer recurrence by the implementation of effective follow-up programmes, and on the early identification and treatment of the Charcot foot, which still has a very poor prognosis both for limb preservation and for patient quality of life.

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References

