

Treatment in the general practitioner's consulting room of interdigital ulcer in diabetic foot: case report

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SUMMARY

In the present paper is reported the treatment - by general practitioner - of a typical interdigital ulcer, without complications, in diabetic foot of a 75 years old man. Dressings made allowed ulcer healing after about two and a half months.

KEY WORDS

Diabetic foot; interdigital ulcer; infection; local therapy; clinical practice.

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INTRODUCTION

The diabetic foot is one of the complication of the diabetes mellitus. It's distinguished by infection, ulceration and destruction of the foot's deep tissues, associated with a neuropathy and diabetic arteriopathy. Due to the diabetic neuropathy, a deformity with a tendency to clawed toes can develop. This can ease the occurrence of ulcers between toes. A wound in the skin is the front door for microorganisms, leading to an infection of the ulcer. In more severe cases it can lead to gangrene and fingers amputation; for general information see Apelqvist et al. (2008), Katsilambros et al. (2010), Lipsky et al. (2012), Braun et al. (2014), Bakker et al. (2015).

The general practitioner treats, as clinical practice, cases of diabetic ulcers like the one reported in

the present paper. It's a typical example of interdigital ulcer without complications. It was necessary a local therapy of the injury, an antiseptic and antibiotic therapy and corrective and preventive measures for the returning ulcers.

CASE REPORT

The treated patient is male, 75 years old, with hypertensive cardiovascular disease, receiving warfarin for atrial fibrillation, non-insulin diabetes mellitus treated, with chronic renal insufficiency. He went to the general practitioner's consulting room because of the appearance, days before, of interdigital ulcer between the toes of the left foot.

At the inspection, the lesion, located between 4 and 5th toe appeared roundish shallow, affecting the skin and the subcutaneous tissue with smooth, reddened margins (Fig. 1).

The discontinuity of the skin let microorganisms in, causing infection. Local therapy of the lesion with active dressing and antibiotic therapy were needed for the treatment of the lesion. The first step of local therapy was to clean the lesion. A normal saline solution, that does not create lesions on tissues, was used to clean the ulcer. Considering a possible superinfection, as can frequently happen in the diabetic foot ulcers, antibiotics were used.

The infectious episode in these diabetic patients is often caused by different bacterial species: *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Proteus mirabilis*, and Enterococci.

It's essential an immediate antibiotic therapy, both local and parenteral. In this case, the parenteral antibiotic used was ceftriaxone, 1 gr/day for intramuscular use for 6 days. The topical antibiotic used was broad-spectrum chloramphenicol: two times/day for 3 days. Then the chloramphenicol with collagenase 2 times/day for other 10 days (Fig. 2). Later steps were taken to cleanse the ulcer. This act is essential in the process of tissue repair and it has the purpose to remove any obstacle to recovery.

The enzymatic cleansing makes use of proteolytic enzymes, protease and collagenase: it does not cause pain to the patient, nor bleeding and it isn't selective. It takes, however, a long time. The product used is again chloramphenicol with collagenase, applied twice a day with secondary coverage in sterile gauze for other 10 days (Fig. 3), this treatment, due to the improvement of the lesion, has been used until the resolution of lesion for other 20 days (Fig. 4).

The ulcer resolution happened after two and a half months with weekly examination in the consulting room. Daily dressings were left to the patient.

Simple gauzes for the concealment of the lesion and isolation from the outside were used for the dressings. Along with the specific therapy for ulcer, efforts were made for a preventive orthotic therapy. Orthotics and medical safety shoes were suggested to the patient due to the loss of feeling and feet deformity.

Self moulding shoes with customized plantar were also suggested, especially for the deformity of the toes (clawed toes) and hyperloading which can develop ulcerative lesions both for friction and hematoma formation under the area subject to hyperload.



Figure 1. The interdigital ulcer in diabetic foot, located between 4 and 5th toe left, at the inspection before receiving medical treatment. Figures 2–4. The interdigital ulcer in diabetic foot after medical treatment at 10 (Fig. 2), 20 (Fig. 3) days, and at the resolution of lesion after other 20 days (Fig. 4).

CONCLUSIONS

Interdigital ulcers in the diabetic foot are lesions that can be properly treated in the general practitioner's consulting room, especially the shallow and non complex ones. Reserve the specialist departments present in the territory for more severe cases.

REFERENCES

- Apelqvist J., Bakker K., van Houtum W.H. & Schaper N.C., 2008. Practical guidelines on the management and prevention of the diabetic foot: based upon the International Consensus on the Diabetic Foot (2007). International Working Group on the Diabetic Foot (IWGDF) Editorial Board. *Diabetes/Metabolism Research and Reviews*, 24 Suppl 1: S181–7. doi: 10.1002/dmrr.848.
- Bakker K., Apelqvist J., Lipsky B.A., Van Netten J.J. & Schaper N.C., 2015. The 2015 IWGDF guidance documents on prevention and management of foot problems in diabetes: development of an evidence-based global consensus. International Working Group on the Diabetic Foot (IWGDF) Editorial Board. *Diabetes/Metabolism Research and Reviews*, 27. doi: 10.1002/dmrr.2694. [Epub ahead of print].
- Braun L.R., Fisk W.A., Lev-To H., Kirsner R.S., Roslyn R. & Isseroff R.R., 2014. Diabetic foot ulcer. An evidence-based treatment update. *American Journal of Clinical Dermatology*, 15: 267–281.
- Lipsky B.A., Berendt A.R., Cornia P.B., Pile J.C., Peters E.J.G., Armstrong D.G., Gunner Deery H., Embil J.M., Joseph W.S., Karchmer A.W., Pinzur M.S. & Eric Senneville E., 2012. Infectious Diseases Society of America Clinical Practice Guideline for the Diagnosis and Treatment of Diabetic Foot Infections. *Clinical Infectious Diseases*, 54:e132-e173. doi: 10.1093/cid/cis346
- Katsilambros N., Dounis E., Makrilakis K., Tentolouris N. & Tsapogas P., 2010. Atlas of the Diabetic Foot, 2nd Edition. *Wiley-Blackwell*, Hoboken, 260 pp.