

CASE STUDY

Cold plasma therapy with the plasma care® for successful treatment of diabetic foot with PAD

Even small wounds, caused for example by bumping or scratching, can become chronic with PAD. Tissue dies and the affected limb is often amputated. This is where the innovative therapy with cold plasma can provide relief.

Cold plasma has an anti-bacterial effect, even with antibiotic-resistant bacteria. In addition, the reactive oxygen and nitrogen species generated by the plasma activate intracellular signaling pathways in human and mammalian cells that stimulate cell division and growth, thus supporting natural healing processes. The interplay of antibacterial effects and stimulation of wound healing enables the broad application of cold plasma in medicine.

CASE DESCRIPTION

At the beginning of therapy, clear signs of infection were visible with significant exudation and solid fibrin coatings. The weight-bearing surface of the toe showed hyperkeratosis with rhagades. (Fig.1) CAP was performed 2 times a week for 2 minutes. After only 14 days, the wound was significantly more vital and exudation was only moderate. (Fig. 2) Even though healing progressed only very slowly, the PHMB foam dressing was replaced by a polyurethane dressing after 6 weeks. (Fig. 3) After 39 treatments, the wound had significantly reduced in size and CAP was discontinued with stable wound conditions and adapted shoe care.

Profile Wound manager

ELLIPSA medical services GmbH
Wound expert (ICW) at Ellipsa
medical services GmbH / mobile
wound treatment team in Regensburg

Patient overview

78-year-old patient with long-standing, non-insulin-dependent diabetes mellitus, progressive polyneuropathy and PAD developed a DII ulcer, toe cap, right foot. The wound was treated with a polyhexanide foam dressing and hydrogel. In addition, cold plasma therapy was initiated.

References

T. von Woedtke et al. (2019) Plasma Medicine: A Field of Applied Redox Biology, *in vivo* 33, 1011-1026

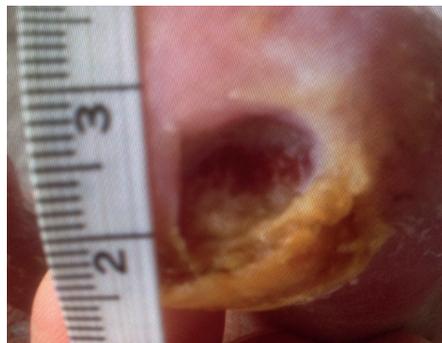


Fig. 1



Fig. 2

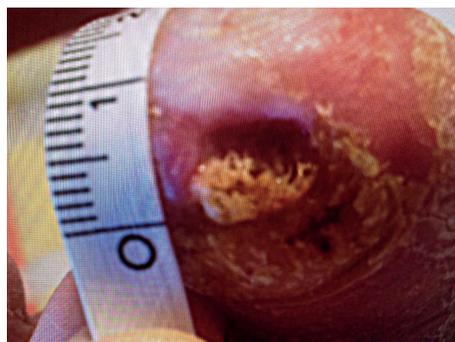


Fig. 3



Fig. 4