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## INTRODUCTION

The extracorporeal shock wave therapy (ESWT) revolutionized the treatment of urolithiasis, allowing fragmentation of the distance calculations, avoiding invasive surgery in many cases. Variants of this technology have been used to treat fractures<sup>1-4</sup>, osteonecrosis femoral head<sup>5</sup>, plant fasciitis<sup>6-7</sup> and myocardial and peripheral ischemia<sup>8</sup>. Recently, ESWT has been used in the treatment of acute and chronic wounds, burns and skin flaps necrosed<sup>9</sup>.

The mechanism of action of biological changes resulting from shock waves is still unclear. It is believed that the micromechanical forces promote wound healing through increased cell division, angiogenesis and increase of growth factors in the wound bed.

We report a case of patient with chronic diabetic foot ulcer, which has shown effective healing with ESWT.

## CASE REPORT

Man, 58 years, hypertension, insulin-dependent diabetic, dyslipidemic, former smoker and carrier sequelae of infantile paralysis, with chronic diabetic foot ulcer since 6 months ago. He refers to have used simple dressing, with polvidine and fibrase without improvement of the lesion. Dermatological examination showed grade 2 wound, measuring 5,5 x 3,5 cm. We administered unfocused shock wave therapy (100 impulses/cm<sup>2</sup> at 0,13 mJ/mm<sup>2</sup>- energy E4) every 2 weeks. The total number of impulses was determined based on the wound size. Two weeks before the first intervention, there was a reduction of the injury to 2,0 X 1,0 cm (reduction of 89,6%), a increase in local blood perfusion and epithelialization of much of its periphery. A month after first intervention, we could note a decrease of the wound to 1,5 x 0,9 cm (reduction of 92,9% of the initial value) and, 2 weeks later, wound has become shallower, maintaining the same size. During its evolution, we could note an improvement of the lesion with the epithelialization its periphery, a improving in skin color and a superficial wound, as shown below.



## DISCUSSION

The ESWT could be a new therapeutic modality for wounds. Kuo et. al. noted an increase in blood perfusion, in the pro-inflammatory activity, in endothelial growth factor (VEGF), in endothelial nitric oxide synthesis and proliferating cell nuclear antigen expression<sup>10</sup>. Schaden et. al. demonstrated that small wounds (<10 cm<sup>2</sup>) and short duration (<1 month) achieve faster re-epithelialization<sup>11</sup>. Wang et. al. achieved complete healing in 31% of patients with ESWT biweekly for 6 weeks and noted an increase in blood perfusion and concentration and activity cellular<sup>12</sup>.

## CONCLUSION

This case has demonstrated the efficacy of extracorporeal shock wave therapy (ESWT) on wound healing.