

Low-frequency ultrasonic wound treatment of necrotic and infected wounds of the lower limbs in diabetic patients.

Briskin B.S., Polianskiy M.V. Moscow Municipal Hospital # 81. Russia, Moscow.

The aim of this study was to evaluate the efficacy of low-frequency ultrasonic wound treatment (UWT) in diabetic patients with necrotic and/or infected wounds of lower limbs. **Research Design and Methods:** Presented study is the nonrandomized open study to assess the efficiency of UWT as an alternative method of wounds debridement compared to traditional surgical debridement. Study group (n=44) and control group (n=38) included diabetes mellitus types 2 in-patients having neuropathic and neuroischemic wounds of feet and were similar in demographic and epidemiological characteristics, ulcers sizes and forms. All patients in the study were 18 years and above with moderate to high exuding diabetic foot ulcer according to Wagner 3, wound area ≥ 25 cm². **Results:** The speed of wound clearing from necrotic tissue in a sm² per day had been selected as a key parameter to assess the efficiency of UWT. UWT method has shown significantly faster clearing of a wound from necrotic tissue (means \pm SD) (-0,14+0,02 sm² /day.) compared to control group (-0,07+0,03 sm² /day. p=0,007). UAW method did not cause any serious complications: increase in the wound area, bleeding, maceration. It is also necessary to note the fact of significant reduction microbiological contamination of the wounds after 4 days UWT compared to the control group. **Conclusion:** Our data indicate that UWT is an efficient debridement tool for necrotic infected wounds. Low frequency ultrasonic wound treatment is an advanced technology that is rapidly gaining acceptance as an alternative method to surgical debridement.