Jetox wash accelerates wound healing

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The removal of wound debris and bacteria is known to be of critical importance in a successful wound management. Jetox™ (TavTech Ltd., Israel) is a new irrigation device designed to produce high speed microdrops capable of effective and low liquid consuming wound cleansing. This controlled study tested the effect of Jetox wash on healing of infected wounds. Under general anesthesia 4 segments of 2x2 full thickness skin were extirpated from the dorsum of each of the 40 female Hartly derived guinea pigs. Wounds of 20 animals were contaminated with Pseudomonas aeroginosa ($0.5x10^6$/wound) and during 3 days wounds were not treated. Every 48 hours, thereafter, the wounds were washed with either 30ml DDW syringe wash or 5ml DDW wash with Jetox (30sec), then photographed and bandaged with moist saline dressing. Computerized morphometric measurements of open wound area were recorded using Cue3 software and statistically analized using t-test. The complete closure of contaminated wounds was significantly ($p=0.045$) faster in the Jetox washed wounds (mean=17.5d) compared to the syringe wash (mean=20.1d), indicating efficient elimination of contaminants. The non-infected wounds closure was significantly accelerated with Jetox wash. Mean closed wound area at day 6, during the logarithmic phase of wound closure, was 49% for the Jetox wash and only 31% for the syringe wash ($p<0.0001$). This indicates that the cleansing properties of Jetox selectively removed cellular debris and bacteria and did not damage the newly formed tissues.