

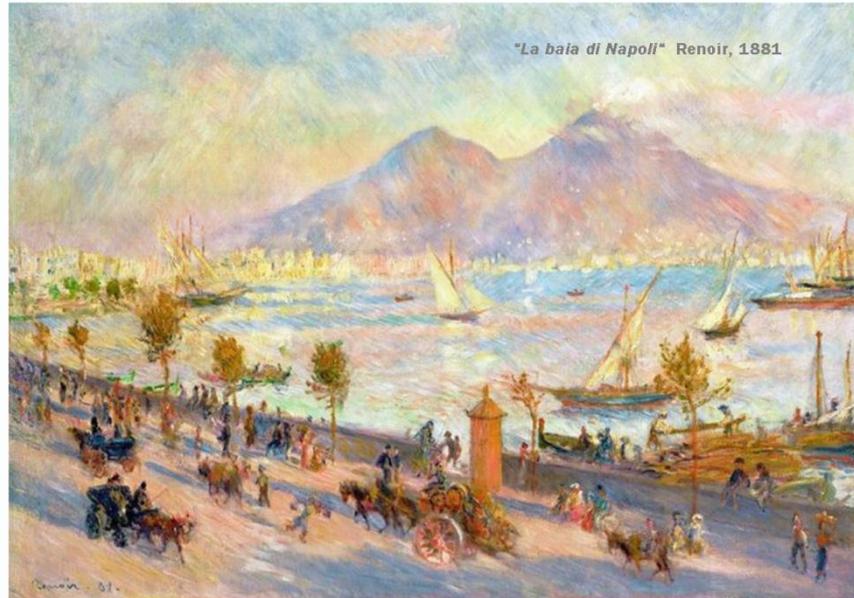
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CLINICAL AND BACTERIOLOGICAL EVALUATION OF SURGICAL SKIN WOUNDS TREATED WITH OZONIZED OLIVE OIL: A PRELIMINARY STUDY

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Since in the last years the overuse of antibiotics and the appearance of “multi-drug resistant” bacteria constantly increased, scientific research was driven towards the study of new antimicrobial, especially of natural origin. The aim of the study was to evaluate the bacteriological and healing activity of an ozonized olive oil (OOL) used to treat abdominal surgical skin wounds in dogs and cats. A randomized blind controlled clinical trial was performed at the School of Biosciences and Veterinary Medicine, University of Camerino. For assessing the clinical efficacy, the ASEPSIS Scale, the Wound Evaluation Scale (WES) [1] and the Total Bacterial Count (TBC) analysis were performed for each patient [2]. The degree of owner satisfaction and the possible highlight of complications or adverse effects, were also considered. Animals were randomly divided into two groups: treated group (GA), that received topical application of OOL twice a day for three consecutive days, beginning the day of surgery, and control group (GC) that did not receive any kind of treatment. Comparing the TBC at T₀, T₁ and T₂ between GC and GA, no significant differences were revealed. Within GC, it was observed a not significant increase in the TBC comparing T₀ vs T₁, T₁ vs T₂ and T₀ vs T₂. In the GA, between T₀-T₁ and T₀-T₂ the TBC value increased, while the TBC between T₁-T₂ (t=0.59, P=0.56) decreased, but not significantly. Comparing the frequency of optimal healing of both groups at the same time, a significant difference was observed at T₂ (P=0.034) in favor of GA. Regarding the WES, a significant increase of patients of GA with optimal healing process from T₀ to T₂ was observed, while in the GC the percentage of optimal healing decreased from T₀ to T₁ and from T₀ to T₂ and increased from T₁ to T₂, but not significantly. Considering ASEPSIS score, the difference between GA and GC was not significant at T₀ (T=0.05; P=0.96), at T₁ (T=0.29; P=0.77), and at T₂ (T=1.17; P=0.24). At T₂, GA showed a high number of patients with satisfactory healing, but without any significant differences between the times of observation. This study allows to conclude that the OOL could be a medical device applicable to skin wounds without any collateral effect, it facilitates the healing process with a relative short period of treatment (3 days) and the owners, also reported an excellent grade of applicability and compliance. The absence of significant results related to the decrease of TBC mean values could find its explanation on a correct surgery preparation with iodophor agents. The results obtained with this study shows slight different results from the conclusions of a similar trial conducted by Kim et al. [3]. The explanations could be related to the shorter period of treatment and to the wound location, always in the abdominal area, with the consequent biological and physiological factors. No adverse events were reported. Infection related to licking was the only complication affecting 10% of patients in GC and 12.5% in GA

- [1] Quin and Wells. 1998. An assessment of clinical wound evaluation scale. *Academic Emergency Medicine*. Vol. 5 (6).
[2] Terzoni et al. La scala ASEPSIS: validazione italiana di uno strumento per la valutazione delle caratteristiche del sito chirurgico. *L'infermiere*, 52:1:e1-e7, 2015. [3] Kim et al. Therapeutic effects of topical application of Ozone on acute cutaneous wound healing, *Journal of Korean Medical Science*, 24:368-74, 2009.