NEW METHOD OF THE EFFECTIVE BURN WOUND CLOSURE - VERSAJET AND OASIS (005)

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Introduction: Since 2009 the annual number of patients treated in the Centre for Burn Treatment has amounted to ca. 1300 and remains relatively stable. The crucial stage in the treatment of patients with burns is removal of necrotic tissue and temporary or definitive wound cover. Necrotic tissue debridement performed on patients with thermal injuries removes the source of infection present in burned tissue and affects the humoral immune response resulting, among other things, in decrease of the level of endotoxins in the patient’s blood. VersaJet allows for precise removal of necrotic tissue and biofilm.

To the wound prepared in this manner, a wound dressing with three-dimensional structure containing natural extracellular matrix which facilitates the migration of cells should be applied, as it fills the wound bed and stimulates regenerative processes. Oasis is a wound dressing fulfilling these assumptions as its extracellular matrix is derived from porcine small intestinal submucosa. It is a bioresorbable dressing absorbed in the wound bed containing collagen, elastin, glycosaminoglycans, glycoproteins, and proteoglycans which stimulate regenerative process in patients with burns.

Objective: The goal was to analyze the impact of combined VersaJet/Oasis therapy on the time and quality of regenerative processes and pain intensity among the patients with burns hospitalized in the Centre for Burn Treatment in Siemianowice Śląskie, Poland.

Methods: Five patients underwent the two step treatment that involved the demarcation of necrotic tissue with the VersaJet device and the application of Oasis wound dressing in one surgical procedure. On the fifth day after surgery histological samples were obtained. The assessment involved the analysis of the results of blood and histological tests. Patients with burns assessed the level of pain intensity before surgery and on the fourth, seventh and fourteenth day after surgery. To conduct the assessment of the level of pain intensity, the visual analog scale (VAS) was used.

Results: As the result of VersaJet usage we achieved the effect of proper and suitable wound bed for application of the Oasis wound dressing. The Oasis wound dressing, thanks to its elasticity, adapted well to the wound, and it could be easily applied to the patient’s hands. The observed adhesive effect to the wound was highly satisfactory. On the fourth day after surgery there was a significant decrease in pain intensity. The histological images depicted an epidermal recovery process.

Conclusion:

- The combined VersaJet/Oasis therapy results in perceptible pain relief in patients with burns.
- This combined therapy is particularly useful in treating wounds localized in areas of the body, such as hands, that are difficult in terms of wound management.
- Application of the Oasis wound dressing on partial thickness burns results in a positive clinical effect.