WOUND HEALING PROPERTIES UNDER A HYDROCOLLOID AND A HYDROGEL IN A CONTACT BURN PIG MODEL.

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Purpose: To find a animal model suitable for evaluating wound healing after deep 2dn degree burns and a proper dressing to prevent infection and scarring in burns.
Method: One dark pigmented pig was burned with a 170° Celsius brass block (7 by 7cm). On each side of the pig 6 equal burn wounds were made. On the right flank the burn wounds were dressed with a 10 by 10 cm hydrogel sheets and on the left side 10 by 10 cm hydrocolloid wafers were used. At every dressing change all wounds were photographed. On day 7 a first biopsy was taken (1 by 1cm , 7 cm long) at two wounds, one from the left and one of the right flank. This was repeated every 7 days till all wounds had been biopsyed. Each biopsy sample was properly prepared for microslides and the samples were histologically examined.
Results: A faster epithelialization and more contraction under the hydrocolloid dressing was found. No bacteria and a very quiet inflammation were seen under the hydrogel. A significant higher amount of granulation tissue build up was found under the hydrocolloid dressing. A better quality of healing and less signs of scarring under the hydrogel dressing were obvious.
Discussion: The amount of granulation tissue does correlate with the formation of hypertrophic scaring in human burn wounds. It is interesting to look deeper into the possibilities of a dressing that is able to control the inflammation process and by doing that has a significant less build up of granulation tissue. Additional studies are required to determine if the dark pigmented pig will provide us a reliable scarring model.

Product notations:
Hydrogel: Elasto-gel, Southwest Technologies Inc., Kansas City, MO. Hydrocolloid: DuoDerm, Convatec Ltd.