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Topic : Adhesion Prevention

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adhesion prevention with A-part gel

Post-operative adhesion formation remains a major clinical problem with an incidence of 55-100%. Various studies have been performed in an attempt to find the perfect adhesion prevention method, but so far a maximum reduction of 20-50% has been obtained. The aim of this study was to test the promising effect of a new adhesion prevention gel (A-part, Braun Aesculap) and a new regenerating agent (RgtA).

A-part gel consists of polyvinyl-alcohol and carboxy-methylcellulose. A reproducible rat model was used to induce standardized adhesion formation in two following experiments. Experiment 1: 40 Wag/rij rats were divided in four groups of 10 animals. Control group; no agent used. Other three groups; A-part gel applied in the amount of 0,4ml, 0,8ml and 1,2ml respectively. Experiment 2: Control group; no agent used. Group 1 A-part gel 0,4ml, group 2 icodextrin 4% (Adept), group 3 RgtA. The percentage of adhesions to the defect was measured and the density was determined according to the Zühlke scale.

Experiment 1: 1,2ml as well as 0,4ml of the gel resulted in a significant reduction of adhesion formation (52,4%-60,1%). In addition, the density of the adhesions was significantly reduced with 45%. Experiment 2: compared to the control group both adhesion formation and the Zühlke score were diminished by the A-part gel (44,9% and 38,1% respectively). Icodextrin 4% and RgtA showed no significant reduction in adhesion formation.

The new adhesion prevention gel A-part appears to be a very effective adhesion prevention agent. A further improved application of A-part gel in adhesion prevention is presently investigated with the final goal to obtain a constant reduction of 50-100% adhesion formation.