A comparison of triamcinolone acetonide and fibrin glue for seroma prevention in a rat mastectomy model.

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Abstract:

Seroma formation is one of the most common complications after flap surgery during the postoperative period. Various methods have been developed to overcome this problem, but none of them have been used successfully. Authors used topical triamcinolone acetonide to reduce seroma formation in a rat mastectomy model and compared its effectiveness with fibrin glue. In the rat mastectomy model, the authors administered triamcinolone acetonide (experimental group I, n=12), fibrin glue (experimental group II, n=12), and saline (control group, n=12) beneath the skin flap just before closure of the skin. Seroma collections were aspirated and quantified after 7 days, and histologic analysis of the skin flaps and chest walls of the rats was performed. The experimental group I had a reduced mean seroma volume of 1.79+/-1.32 mL, whereas the experimental group II and control group had mean seroma volumes of 4.04+/-1.43 mL and 8.51+/-2.60 mL, respectively ($P<0.05$). In semiquantitative analysis of inflammation, inflammatory cell count in experimental group I was significantly fewer than in the other 2 groups ($P<0.001$). In addition, seroma capsule formation did not occur. Seroma prevention using triamcinolone acetonide is simpler, more economical, and more effective than fibrin glue. In proper concentrations, triamcinolone acetonide can be used to prevent seroma formation in clinical practice.