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Histological and antimicrobial effects of tramadol infiltration on incisional oral mucosal wound healing in rabbits

Abstract:

The present study compared effects of tramadol with lidocaine on healing processes of incisional intraoral mucosal wounds in rabbits and to study the antimicrobial effect of tramadol. For this purpose, fifteen apparently healthy male rabbits of 5-6 months old were used. They were classified into three groups, first group treated with 0.5 ml distilled water infiltration as control (n=5), second group treated with 0.5 ml tramadol infiltration in dose of 100 mg/2 ml (n=5), and third group treated with 0.5 ml of 2% vasoconstrictor-free lidocaine infiltration, then an incision was done to the buccal mucosa of all animals and they slaughtered on day 10 and their wounds were evaluated by histopathologic for presence of edema, vascularity, and inflammatory cells. For antimicrobial effect, swabs from tramadol group were taken from sites of wounds before incision and other swabs were taken after surgical incision on the first day, third day and seventh day, then the colony forming units (CFU)/ml of microorganisms were counted. The present study found that the infiltration with tramadol in dose of 100mg/2ml result in new epithelialization and wound healing occurred faster than infiltration with lidocaine 2% group also this study found that tramadol has significant decrease in the means of colony forming units of oral microorganisms. This study demonstrated that tramadol accelerated stages of buccal wound healing faster than lidocaine in rabbits.