ABSTRACT

“COMPARISON BETWEEN SCHIRMER-I AFTER INSTILLATION OF TIMOLOL 0.5% EYEDROP WITH AND WITHOUT PRESERVATING AGENT BENZALKONIUM CHLORIDE 0.01%”

(Experimental study on Oryctolagus cuniculus)

Rezekian, Eddyanto

Objective: To study the comparison of Schirmer-I result after instillation of 0.5% timolol with and without preservative for two weeks on New Zealand white rabbit (Oryctolagus cuniculus).

Methods: This is an experimental study on twenty healthy New Zealand male rabbits (Oryctolagus cuniculus), weighing between 2.5 to 3.5 kg, to 2 groups. Ten rabbits was given 0.5% timolol eyedrop with Benzalkonium chlorida (BAC) 0.01% as preservative and ten rabbits was given 0.5% timolol without preservative for two weeks. Schirmer-I result was done on day 0, 3rd, 5th, 7th, and 14th.

Result: There was significant decrease of Schirmer-I result in both groups from day 3, day 5, day 7, and day 14 (p = 0.000). However the preservative group showed a significantly larger decrease in Schirmer-I compare to non preservative group. Significant difference was found on Schirmer I on day 3 (p=0.013), day 5 (p=0.002), day 7 (p=0.000) between preservative and non preservative groups.

Conclusions: This study shows a difference in Schirmer-I result between the preservative group (0.5% timolol with preservative agent Benzalkonium chlorida (BAC) 0.01%) and non preservative group. Timolol itself can decrease Schirmer-I test result, but the additional preservative showed more significant decrease in Schirmer-I.

Keywords: New Zealand Rabbit, Schirmer-I tear test, 0.5% Timolol, Benzalkonium Chloride (BAC) 0.01%