

EFFICACY OF TEAR SECRETION OF TOPICALLY APPLIED SODIUM DIQUAFOSOL IN DOGS

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INTRODUCTION

To study tear secretion change in dogs by instillation of 3% sodium diquafosol eye drop.

MATERIALS AND METHODS

Tear secretion were measured by four different methods by Tear Meniscus (ICP Ocular Surface Analyser™, SBM), Phenol Red Thread (FRT, ZONE-QUICK™, AYUMI Parma), Strip Meniscometry (i-Tear™, i-med), and Schirmer Tear Test (STT, Intervet) in five normal dogs. There are instilled the diquafosol of the right eyes and physiological saline as a control to the left eyes. To determine the amount of tear, a non-invasive mesurement method of tear meniscus was measured with over time 0, 5, 15, 30 and 60 minnutes. The other three measurements, in order of FRT, Strip Meniscometry, STT went to 0 and 60 minutes. Statistical analyses were performed using the R statistical software package (version 2.3.0). Two way ANOVA followed by a Tukey-Kramer multiple comparison test was used to evaluate the time course of change (sodium diquafosol vs. physiological saline).

RESULTS AND DISCUSSION

Only FRT values in eyes receving diquafosol were significantly different (Two way ANOVA, $p < 0.05$) from control eyes at 60 minuts. After instillation, tear meniscus was up to 15minites. However, compared to controle eyes, there were no statisitically significant difference (Two way ANOVA $p = 0.62$). Among the four tear mesurement methods, it was found that FRT is a capable method of sensing a change in the most traces of tear value. Promoting the secretion of tear by the instillation of 3% sodium diquafosol was observed in dogs. This is the first report in dogs.