

Evaluation of Effects of Oral Contraceptives on Schirmer Tear Test (Experimental Study)

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Background : Keratoconjunctivitis sicca (KCS) is an absolute or partial deficiency of aqueous tear production. The Schirmer tear test (STT) has been the diagnostic test used to diagnose KCS. Three methods exist for performing the STT in humans. The STT without use of topical anesthetics is an estimate of basal and reflex aqueous production.

Estrogen has been shown to diminish tear output where as progestin have been found to both increase and Schirmer test value and tear film breakup time in patients with dry eye. Hormonal influences on tear production may be manifested with the use of oral contraceptive, when a significant change from the normal hormonal state occurs. There are a number of reports of dry eye symptomology to contact lens wear by women using oral contraceptive.

Objective: The purpose of the present study was to evaluate the effect of oral contraceptive on Schirmer test in dog as an experimental model for humans.

Methods: 14 healthy female mixed breed dogs, with normal ocular examination, ranging in age from 1-2 years were selected for this study. In all dogs STT value were measured before any medications. Seven female dogs taking oral contraceptive 20 successive daily (experiment group) and seven female dogs not receive oral contraceptive (control group). The STT strip consisted of commercial, sterile package strips. All STT strip came from the same lot number in an attempt to avoid variation in the absorbency of the strip.

Results: The results showed that no difference in Schirmer test between experiment group and control group not taking contraceptive.

Conclusions: This study indicates that oral contraceptive have no direct effect on Schirmer test and tear flow.