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Last Name - Espírito Santo First Name - Lilian Middle - Cristina

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Comparative study of Schirmer's (I and basal) and Phenol Red Thread tests in dry eyes and healthy voluntaries

Santo, LCE; Oliveira, FC; Cariello, AJ; Freitas, D.

PURPOSE: To investigate the relation between Schirmer's and Phenol Red Thread tests in patients with dry eyes and healthy voluntaries, comparing results, discomfort scale and ocular surface changes after test. METHODS: A total of 20 eyes with diagnoses of dry eye and 12 normal eyes underwent Schirmer's I test, discomfort scale and Bengal Rose test at the first day of study. On the next day they did the same exams except for the Phenol red. On the third day we performed just the Schirmer's Basal test. **RESULTS:** On the dry eve group, the average age was 60,2 years, 90% female, 80% white, 10% yellow and 10% black. The Schirmer's I test was 12,45 mm in average, but it was positive in 30% (6/20 eyes) when a cutoff point of 5 mm was used and positive in 55% (11/20 eyes) with a cutoff point of 10 mm. The Phenol red thread test average was 10, 31 mm, but was positive in 56,25% (9/16 eyes) when a cutoff point of 10 mm was used and in 93,75% (15/16 eyes) with a cutoff point of 20 mm. On the normal eye group, the average age was 51,83 years, 66,66% female, 50% white, 33,33% mulatto and 16,66% black. The Schirmer's I test average was 25,74 mm and the Phenol red thread test 13,87 mm. In both groups was noted a discomfort's scale decrease on Phenol red thread test comparing to Schirmer's I test. The Bengal Rose test revealed that with the Schirmer's I test the ocular surface presented more affected than on Phenol Red Thread test. **CONCLUSION:** There is a very weak correlation between Schirmer's test and Phenol Red Thread tests and the Schirmer's I test caused more discomfort and damage to the ocular surface than Phenol Red Thread test.