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Service (sector) Glaucoma Nº CEP 0613/06

Intraocular pressure and corneal hysteresis in Rheumatoid Arthritis

C. A. A. Garcia Filho, T.S. Prata, A. K. Sousa, L.M. Doi, A. Paranhos, Jr. Ophthalmology Department, UNIFESP/EPM, São Paulo, Brazil. **Purpose:** To assess intraocular pressure (IOP) and corneal hysteresis in patients with diagnosis of Rheumatoid Arthritis (RA).

Methods: A total of 10 patients (19 eyes) with RA (study group) and 15 patients (30 eyes) without any systemic disease (control group) were assigned to this study. All subjects underwent a complete ophthalmic evaluation and patients presenting any significant ocular disease were excluded. IOP was measured using Goldmann applanation tonometer (GAP) and the Pascal Dynamic Contour Tonometer (DCT). Corneal hysteresis and also the IOP were evaluated by the Ocular Response Analyzer (ORA). Central corneal thickness was analyzed using ultrasound pachymeter. All the exams were performed in a random sequence. It was analyzed the differences between IOP with the 3 methods, IOP and corneal hysteresis values between the 2 groups and the correlation between IOP difference and corneal hysteresis.

Results: All patients with RA included in this study were female. The mean age was 52,7 years old. The mean pachymeter value was 536,92 (SD=33,765). In the study group the mean values for IOP were 10,13mmHg for the GAP; 15,83 mmHg for the ORA; 16,24 mmHg for DCT. In the control group mean values founded were 13,92 mmHg in GAP; 16,07 mmHg in DCT and 15,47 with the ORA. The mean of corneal hysteresis in RA group and in the control group were respectively 9,456 in right eye (SD=1,204) and 9,640 in the left eye (SD=1,595), and 10,553 (OD) and 10,226 (OS). The difference between the two groups were statically significant ($p=0,027$).

Conclusions: The IOP results using GAP were lower when compared with the DCT and ORA in both groups, and this difference was higher in the RA group. Corneal hysteresis in patients with Rheumatoid Arthritis is lower compared with normal patients.