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Abstract Information

Abstract Title:

Intraocular pressure in supine position and after water drinking test

Purpose:

To evaluate the intra-ocular pressure (IOP) variability by moving the body from sitting to supine position and by water drinking test (WDT) in primary open angle glaucoma (POAG) and normal subjects.

Design:

Cross sectional observational analysis of 31 eyes of 31 POAG and 14 eyes of 14 normal subjects.

Participants:

Primary open angle glaucoma patients under clinical therapy.

Main Outcome Measures:

Mean modified diurnal tension curve (mDTC) IOP
IOP in sitting and supine position
IOP peak and variability after water drinking test

Methods:

Patients were submitted to a modified diurnal tensional curve (mDTC) followed by Perkins tonometry at the sitting and supine position, and then a WDT was performed in each patient.

Student's t test and ANOVA for repeated measurement with group as fixed variable were used when appropriated. Statistical significance was considered at $p < 0.05$.

Results:

The mean mDTC IOP in normal and POAG subjects was 15.49 ± 3.53 mmHg and 15.56 ± 3.25 mmHg respectively ($p = 0.95$). When the subjects moved to the supine position, IOP increased 1.36 ± 1.34 mmHg and 2.84 ± 2.21 mmHg respectively ($p=0.02$). After WDT, IOP fluctuation was 2.71 ± 0.99 mmHg in the normal group versus 4.13 ± 2.33 mmHg in POAG patients ($p=0.007$). Mean IOP

increase after water ingestion was higher in comparison to IOP increase after moving from sitting to supine position ($p=0.02$).

Conclusion:

POAG eyes demonstrated a significant IOP increase when assumed the supine position and after WDT. The IOP variability detected by the WDT was significantly higher than the IOP increase after moving the body from sitting to supine position.