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INFLUENCE OF SLEEP ON THE NYCTEMERAL CURVE OF INTRA-OCULAR PRESSURENOEL C. ¹, BUGUET A. ², ROMANET J.P. ¹, MONTMAYEUR A. ², PYP P. ¹, MOUILLON M. ¹¹ - Service d'Ophthalmologie - C.H.U. Grenoble - 38700 La Tronche
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PURPOSE : Intra Ocular Pressure (IOP) varies through out the nycthemeral. Nocturnal studies described recently an elevation of IOP during sleep. However, no report on sleep patterns associated with the measurement of IOP was made. We report here, 2 studies on hourly measurement of IOP over a period of 24 hours.

METHODS : Twelve young caucasians subjects (aged 20,6 ± 0,3 years), twelve older caucasians adults (aged 59,5 ± 1,6 years old), sixteen healthy africans subjects (aged 23,5 ± 1 year old) and eleven glaucomatous africans (aged 36,6 ± 3,6 years old) had hourly IOP measurements for 24 hours with an electronic tonometer after instillation of a contact anesthetic (oxybutprocaine). Polysomnographic nocturnal recordings allowed the 20 seconds scoring of wakefulness, light sleep (stages 1 + 2) slow wave sleep (stages 3 + 4) and paradoxical sleep.

RESULTS : Nycthemeral variations were related to the states of vigilance. Slow wave sleep values, in both studies, are higher than paradoxical sleep values (p < 0,05).

CONCLUSION : Higher nocturnal values of IOP were related to sleep. Slow wave sleep values were higher than paradoxical sleep values. Is myosis induced by paradoxical sleep the main factor of this relative ocular hypotony ?

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QUANTITATIVE ASSESSMENT OF AQUEOUS FLARE IN PSEUDOEKTOPIATION SYNDROME AND OPEN-ANGLE GLAUCOMAARIAS-PUENTE A., PUY P., FERNANDEZ-GARCIA C., GARCIA-SANCHEZ J.
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Purpose: To study whether there are alterations of the blood-aqueous barrier in eyes with pseudoeftopiation syndrome in comparison with normal control eyes, and whether flare values might be related to the presence or absence of open angle glaucoma

Methods: We used the Laser Flare Meter Kowa-500 to measure the aqueous flare in 18 eyes with pseudoeftopiation in 20 normal control eyes and in 20 eyes with open-angle glaucoma unrelated to pseudoeftopiation.

Results: In pseudoeftopiation eyes aqueous flare values (14,5 ± 2,79 photons/msec) were significantly higher than in normal control group (6,9 ± 3,92 photons/msec) and in open-angle glaucoma group without pseudoeftopiation (8,82 ± 2,03 photons/msec) p < 0,001. No significant difference could be found between the flare counts of normal eyes and open-angle glaucoma eyes without pseudoeftopiation

Conclusion: Our findings indicate that the blood aqueous barrier is impaired in eyes with pseudoeftopiation, and the Laser Flare Meter is useful to quantify these changes. The alteration of the blood aqueous barrier in eyes with pseudoeftopiation need to be considered in medical treatment, laser therapy or ocular surgery.

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STUDY OF THE VARIATIONS IN THE AQUEOUS HUMOUR FLOW DURING A DYNAMIC TESTBEAUFRERE L. ¹, DUVAL P.A. ¹, ARNAUD B. ¹, PREFAUT C. ²¹ Dept. of Ophthalmology - CHU Gui de Chauliac - Montpellier - FRANCE² Laboratory of respiratory functional research - University of Montpellier - FRANCE

Purpose : The aim of this study was to verify the hypothesis of "decreasing aqueous humour flow" in the determination of the decreasing intraocular pressure observed during a dynamic test.

Methods : The aqueous humour flow was measured in healthy male subjects using the fluorophotometric method during a rest-test and an stress-test. We compared the results of both tests.

Results : We observed a decreasing intraocular pressure due to stress. Compared to the rest results, no significant decrease of the aqueous humour flow due to stress could be found, at the risk of $\alpha \leq 5\%$.

Conclusion : The decrease in the intraocular pressure during the dynamic test is not due (at the risk of 5%) to the decrease in the aqueous humour flow evaluable in fluorophotometry.

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THE ANTERIOR CHAMBER ANGLE ANALYSIS IN MYOPIALIN Szu-Yuan¹, YANG Chang-Hao², HUANG Jau-Kang², SHIH Yung-Feng², LIN L.L.K.², HUNG Pui-Tyng²¹. Department of Ophthalmology, Cathay General Hospital². Department of Ophthalmology, National Taiwan University Hospital

Purpose There is a strong tendency toward deepening of the anterior chamber in high myopia. The anatomy of angle have an impact upon the level of intraocular pressure, but the morphology of the chamber angle in high myopia are not extensively studied. We analyzed the chamber angle by using an anterior segment image processing technique applying Scheimpflug principle.

Methods One hundred and fifty six eyes were studied. Age from 18 to 21 years. Each patient had the data of refractive status and axial length. anterior chamber angle examined with a Scheimpflug image technique. The four anterior chamber angle (superior, inferior, nasal, temporal) were calculated and analyzed

Results Data showed that the width of four anterior chamber angle, except temporal angle, are not correlated with the increasing of refractive errors or axial lengths. Temporal angle was slightly correlated with the increasing of myopia and axial length, this result was more specific to the group less than -6.0D (r = 0.34). As well, there was significant wider in the group of high myopes (> -8.0D) than the group of low myopes (< -3.0D) (p = 0.015).

Conclusions The width of temporal side of anterior chamber angle was slightly wider in high myopic eye. This result suggested that the more profound the angle detachment in high myopia, the higher incidence of the glaucoma may evolve.

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