



AUTOANTIBODIES IN PATIENTS WITH GLAUCOMA AND OCULAR HYPERTENSION

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Purpose: Autoimmune mechanisms could be involved in the pathogenesis of glaucoma. The aim of this study was to compare the autoantibodies against optic nerve head among sera of healthy subjects, glaucoma patients, and ocular hypertensives.

Design: Prospective comparative observational case series

Participants: We investigated the sera of patients with primary open-angle glaucoma (POAG, n=30), ocular hypertension (OHT, n=20), normal tension glaucoma (NTG, n=22) and age matched controls (CO, n=35).

Main Outcome Measure: IgG autoantibodies

Methods: The sera were tested against Western blots of bovine optic nerve head antigens. Immunodetection was performed by using 4-chloro-1-naphthol staining. The IgG autoantibody patterns were digitized and subsequently analysed by multivariate statistical techniques.

Results: All sera showed complex patterns of autoantibodies against optic nerve head antigens. The analysis of discriminance revealed a statistically significant difference between the patterns of all groups. Using a multivariate approach, the differences in immunreactivities between the groups were quantified. The POAG group revealed the smallest statistical difference ($P=0.01$) compared to the other groups. The highest reactivity was found in the NTG group ($P=0.001$). The OHT group revealed an immunreactivity pattern that was higher than that found in POAG patients ($P=0.006$).

Conclusion: All groups show complex autoantibody patterns. These profiles are specific for each patient group. These findings might help to better understand the pathogenesis of glaucoma and facilitate differential diagnosis.