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Abstract Information

Abstract Title:

HYPERHOMOCYSTINAEMIA IN OPEN-ANGLE GLAUCOMA

Purpose:

Reports have been conflicting about the association between elevated serum homocysteine and open-angle glaucoma.

Design:

We measured plasma homocysteine levels in patients with pseudoexfoliation glaucoma (PXFG), primary open-angle glaucoma (POAG) and normal-pressure glaucoma (NPG).

Participants:

113 patients with PXFG, POAG or NPG were enrolled prospectively.

Main Outcome Measures:

Plasma homocysteine was measured from fasting venous blood samples using the fluorescence polarization immunoassay (FPIA). Comparison was made with results from age and sex matched controls from the Blue Mountains Eye Study.

Methods:

Exclusion criteria were folate /vitamin B use, renal impairment, diabetes, malignancy, excess alcohol consumption and use of some drugs (e.g. fibrates, methotrexate, trimethoprim).

Results:

Mean age in years for participants was 66.7 (control), 73.5 (PXFG), 72 (POAG) and 71 (NPG). Each group had more female than male participants. Only 11.4% of controls had plasma homocysteine levels above the reference range. Significantly more participants in the glaucoma groups had hyperhomocystinaemia, occurring in 28.8% with PXFG ($p = 0.0008$), in 28.9% with POAG ($p = 0.0024$) and in 30% with NPG ($p = 0.0042$).

Conclusion:

Our study provides additional evidence that plasma homocysteine is elevated in PXFG, POAG and NPG. Will reduction in plasma homocysteine (e.g. with folate supplementation) facilitate management of patients with these types of glaucoma?