

ORAL PRESENTATION

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Serum plasminogen activator inhibitor 1 (PAI-1) and intra-ocular pressure (IOP): the Guangzhou biobank cohort study

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Introduction

Increased intraocular pressure (IOP) is a major risk factor for developing ocular disease such as primary open-angle glaucoma. Plasminogen activator inhibitor 1 (PAI-1) plays a role in the turnover and degradation of extracellular matrix proteins (ECM) which are thought to play a role in the pathogenesis of increased IOP. To determine if an independent association exists between serum PAI-1 and IOP in humans.

Methods

A cross-sectional study with participants from the Guangzhou biobank cohort study (GBCS-CVS) aged 50–85 years were recruited and received a medical check-up including measurement of serum PAI-1, IOP, blood pressure, fasting LDL- and HDL-cholesterol, glucose and obesity measures. Information on socioeconomic and lifestyle factors was also collected. Subjects were divided into tertiles based on serum PAI-1 and a logistic regression analysis was performed to derive an odds ratio for having high IOP for each tertile. Personal, social and vascular confounders were adjusted for.

Results

The risk of increased IOP was significantly raised with higher serum PAI-1, with adjusted odds ratios (95% confidence intervals) for second and third tertiles of 1.31 (0.81-2.12) and 1.81 (1.15-2.83), respectively. Haematocrit, glycosylated haemoglobin (HbA1c), heart rate, and high-density lipoprotein (HDL-C) were the only vascular risk factors positively associated with serum PAI-1 levels (p from 0.03 to <0.01).

Conclusions

There is a strong relationship between serum PAI-1 and IOP in this older Chinese population. Further studies are needed to confirm these findings in this and other populations.

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