**P1.13**

**Association of the metabolic syndrome with ocular hypertension and open-angle glaucoma: the Alienor Study**

Emilie Bardet¹, Cédric Schweitzer¹, Florence Malet¹, Audrey Cougnard-Grégoire², Marie-Noelle Delyfer¹, Jean-François Korobelnik¹, Marie-Bénédicte Rougier¹, Jean-François Dartigues², Cécile Delcourt² Joseph Colin¹

¹Department of Ophthalmology, University Medical Center, Bordeaux - France, ²INSERM U897, University Victor Ségalen, Bordeaux - France

**Purpose:** To analyse the association of ocular hypertension (OHT) or open-angle glaucoma (OAG) and the different components of the metabolic syndrome.

**Methods:** The Alienor Study is a population-based epidemiological study on age-related eye diseases. 963 residents of Bordeaux (France), aged 73 years or more, had an eye examination between 2006 and 2008. Glaucoma was classified according to the criteria of the ISGEO group. Vertical Cup:disc ratio (VCDR) and neuroretinal rim width:disc ratio (RDR) were measured from non-mydriatic digital colour photographs centred on the optic disc. Subjects were considered as affected by glaucoma when they combined structural (VCDR ≥ 0.7 and/or asymmetry of VCDR ≥ 0.2 and/or RDR ≤ 0.1) and functional (visual field with a group of three non borderline points with $p < 0.01$ of which at least one with $p < 0.005$) evidence. All cases of glaucoma were open angle. OHT was defined as intraocular pressure > 21 mmHg and/or current use of IOP-lowering therapy, in the absence of OAG. Components of the metabolic syndrome were classified according to the NCEP criteria. Associations of OHT and OAG with components of the metabolic syndrome were assessed using generalized estimating equations (GEE) logistic regressions.

**Results:** After adjustment for age and gender, elevated fasting glycemia (fasting blood glucose > 6.1 mmol/l and/or anti-diabetic therapy) was associated with a 2-fold increased risk for OAG (OR = 2.3, 95% confidence interval (CI): 1.1-5.0, $p = 0.04$). Association with OHT was in the same direction, but did not reach statistical significance (OR = 1.4, 95% CI: 0.8-2.5, $p = 0.26$). Other components of the metabolic syndrome (hypertension, waist circumference, plasma HDL-cholesterol, plasma triglycerides) were not significantly associated with OAG or glaucoma. Overall, the metabolic syndrome was not significantly associated with OAG or OHT (OR = 1.3, 95% CI: 0.6-2.8, $p = 0.55$ and OR = 1.2, 95% CI: 0.7-2.1, $p = 0.4$, respectively).

**Conclusions:** In the present study, OAG was associated with elevated fasting glycemia, but not other components of the metabolic syndrome.