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### Socio-demographic and clinical profiles of patients with primary open angle glaucoma in Gwagwalada, Nigeria

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**Background:** Knowledge about disease profiles is important for patient education and management. This brief report is from a study that investigated certain urine, serum and haematological parameters as potential biomarkers for primary open angle glaucoma (POAG). The demographic characteristics and clinical information of POAG and non-glaucoma eye patients (NGEP) are compared in this report.

**Methods:** A survey of 235 adult eye patients (96 POAG and 139 NGEP). Data collected included demographic variables such as age, gender, education, vocation, ethnicity, and family history of glaucoma as well as clinical variables including history of ocular itching, diabetes mellitus (DM), hypertension, visual acuity, central visual field, cup disc ratio, anterior chamber angle assessment, and intraocular pressure.

**Results:** The mean age was 49.88±13.75 years and 114 (48.5%) were males. Most of the participants (83.0%) had at least secondary education. About three quarters of POAG patients had visual impairment. Igbo (25.0%) and Yoruba (20.8%) were the most common ethnic groups among POAG patients. About 36% of POAG patients had positive family history of glaucoma compared with 19% of NGEP ( $p=0.012$ ). History of DM was more common among POAG (8.3%) patients than among NGEP (4.3%). While history of hypertension was similar in both groups (25.0% among POAG patients versus 20.1% in NGEP). Visual impairment was more common among POAG patients than among NGEP ( $p<0.001$ ). The frequency of vertical cup disc ratio  $> 0.4$  among the POAG group was 100% in both right and left eyes compared with 94.3% (right eyes) and 89.2% (left eyes) among NGEP. In addition, more patients had intraocular pressure  $> 22$ mmHg among POAG than among patients NGEP ( $p=0.006$ ). Although 62.5% of POAG patients were on antiglaucoma drugs especially fixed combination molecules, a significant proportion (24%) were not. Only 6.3% of the POAG patients had undergone glaucoma surgery.

**Discussion:** The study surveyed and compared socio-demographic and clinical profiles of 96 POAG and 139 non-glaucoma adult eye patients mostly

of working age in Gwagwalada. There is almost equal gender distribution and majority of subjects had at least secondary education with good prospects for patient education and treatment compliance. Igbo and Yoruba ethnic groups were more represented in the POAG group. This probably corroborates the reported high prevalence of POAG among Igbo and Yoruba.<sup>1</sup> Also, the two ethnic groups might have had better eye health care awareness and/or economic capability for uptake of eye care services.

Many patients admitted POAG positive family history agreeing with previous reports.<sup>2</sup> Management of glaucoma is incomplete until family members are screened, as an individual with family history has about 9% chance of developing glaucoma.<sup>3-6</sup> Furthermore, some participants had diabetes mellitus and hypertension, comorbidities which could aggravate POAG<sup>5</sup> if not appropriately controlled. Majority of POAG patients were on antiglaucoma drugs, mostly combination drugs, and few had undergone glaucoma surgery. It is of concern that not all POAG were on treatment. The challenges of glaucoma management include inability of some patients to afford and sustain glaucoma treatment expenses.<sup>7,8</sup>

In conclusion, POAG was significantly associated with visual impairment (including blindness), high cup-disc ratio and high intraocular pressure. POAG has distinguishing sociodemographic and clinical features. Igbo and Yoruba were the predominant ethnic groups especially in the glaucoma population.

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## Survey of eye patients' serum for possible biomarkers of primary open angle glaucoma in Gwagwalada, Nigeria

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