



THE VASCULAR PATTERN OF THE OPTIC DISC IN RELATION TO GLAUCOMA AND ETHNICITY

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Objective: To study the rim vasculature of the optic disc in normal and glaucomatous eyes of Caucasian (C) and African /Afro-Caribbean (A/AC) patients in order to discover normality and any change associated with primary open-angle glaucoma, in case the distribution of the retinal blood supply varies with the degree of arborisation of vessels within the disc.

Design: A/AC and C patients with unilateral field loss were selected, and compared with normal controls.

Participants: 32 C and 18 A/AC patients, and 11 C and 10 A/AC controls.

Intervention: Discs were photographed with red-free light, maximising b/w contrast. Enlargements were printed with the optic disc area partly masked, thus enhancing the contrast of the blood vessels.

Main outcome measures: Vessels crossing the disc in each of the eight radial sectors marked out with a transparent circular overlay centred at the disc were counted and classified as large (65µm), medium (30µm) and small (10µm) and were averaged for each sector.

Results: The numbers of the large and small vessels varied inversely with each other. Total counts were symmetrical in C but not in A/AC controls. The patterns in each of a patient pair of eyes were similar whereas the controls showed larger counts of the small vessels particularly on the nasal side of the disc.

Conclusion: The disc vascular patterns in the two ethnic groups differ. Discs of controls show a large presence of small vessels, reduced in eyes of patients with or without field loss. The disc pattern may indicate a predisposition for some factors contributing to the aetiology of glaucoma.