

Retinal Vascular Changes in Hypertensive Patients in Ibadan, Sub Sahara Africa

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Introduction: Retinal vascular changes in hypertensive patients is a pointer to systemic morbidity and mortality^[1]. Previous studies showed its rarity in Africans^[2]. Recent studies showed that it is common in Nigeria^[3,4,5]. The aim of the study was to describe the various retinal vascular changes in patients attending hypertension clinic at the University College Hospital, Ibadan.

Methods: This was a cross-sectional hospital-based study. After seeking Ethical Approval from the University College Hospital/ University of Ibadan Ethical Review Board, A total of 903

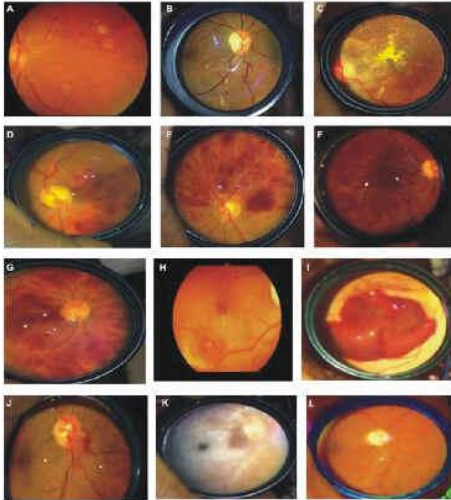
Table 1: Retinal vascular changes in hypertensive patients in Ibadan

Retinal vascular changes	Frequency	Percentages
Hypertensive retinopathy	175	19.4
Grade 1	100	
Grade 2	63	
Grade 3	10	
Grade 4	2	
Retinal vascular occlusion	[121]	[13.4]
Central retinal vein occlusion	30	
Branch retinal vein occlusion	43	
Hemi central vein occlusion	26	
Central retinal artery occlusion	17	
Branch retinal artery occlusion	3	
Combined retinal artery and vein occlusion	2	
Optic atrophy (HT optic neuropathy)	23	2.5
Retinal artery macroaneurism	11	1.2
Anterior Ischemic Optic Neuropathy	5	0.6
Hypertensive choroidopathy	7	0.8
Hemorrhagic choroidal detachment	5	0.6
No retinopathy	556	61.5
TOTAL	903	100

consecutive hypertensive patients satisfying the study criteria were studied. After physician examination, dilated funduscopy and photography with mobile phone combined with a 20D Lens was done on all patients to determine the presence of retinopathy. One hundred and fifty of these patients had echocardiography.

Results: Table 1 showed the proportion of retinal vascular changes in hypertensives while figure 1

Fig. 1: Retinal vascular changes in hypertensives in Ibadan. Figure a and b, hypertensive retinopathy; c, hypertensive choroidopathy with macular exudates; d, branch retinal vein occlusion; e, superior hemi central retinal vein occlusion; f, ischemic central retinal vein occlusion; g, non ischemic central retinal vein occlusion; h, leaking retinal artery macro aneurism; i, ruptured retinal artery macroaneurism; j, non arteritic optic neuropathy; k, central retinal artery occlusion with sparing of cilioretinal artery; l, hypertensive optic atrophy



showed the common retinal vascular changes. Echocardiography showed that left ventricular relative wall thickness is associated with retinopathy.

Discussion: The prevalence of hypertensive retinal vascular changes is 38.5% in this study. This is contrary to an earlier study from Ibadan^[2]. Studies from neighbouring states showed significant proportion of retinal vascular changes in hypertensives^[3,4,5]. Retinal vascular occlusion is a significant finding in this study. There is a strong association between systemic hypertension and retinal vascular occlusion^[6]. Optic atrophy, retinal macroaneurysm and hypertensive choroidopathy are significant findings and have been found to be strongly associated with hypertension^[7,8]. There is a positive correlation between Left Ventricular Relative Wall Thickness and severity of retinopathy in both eyes in this study. In a nested case-control analysis of the Beaver Dam Eye Study, individuals with hypertensive retinopathy (retinal microaneurysms and retinal hemorrhages) were twice as likely to die from cardiovascular events as those without these signs^[9].

Conclusion: Retinal vascular changes in hypertensive patients are common in Ibadan. The presence of these changes may predict systemic morbidity.

Acknowledgments: We wish to express our gratitude to our sponsors the Osuntokun Research Grant and the University of Ibadan Senate Research Grant for the support given for this study.

References

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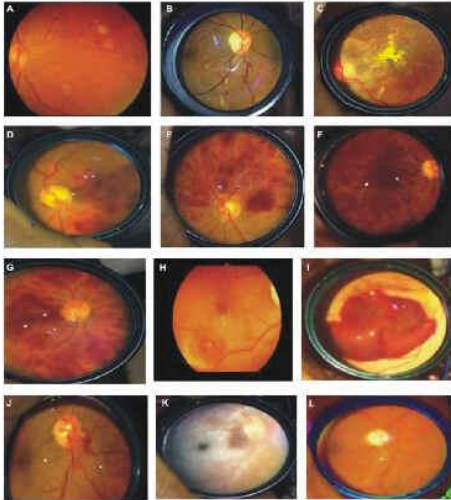
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