Pattern of Proliferative Sickle Cell Retinopathy in Lagos University Teaching Hospital, Lagos

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Introduction: Sickle cell disease is caused by a single point mutation at the sixth position in the haemoglobin beta chain that substitutes the amino acid valine for glutamic acid resulting in sickle haemoglobin (HbS)[1]. In proliferative sickle cell retinopathy, new blood vessels develop at the border between the perfused and the non-perfused retina, these fragile blood vessels bleed into the vitreous and produce traction retinal detachment, the major cause of blindness in sickle cell disease subjects[2].

Methods: Thirty-five case-notes of patients who presented at the vitreo-retinal clinic of LUTH, Lagos between 2010 and 2015 were retrieved and data obtained was analysed using the IBM Statistical Program for Social Sciences version 21.0.

Results: More males 25(71.4%) than females 10(28.6%) were affected with a M: F ratio of 2.5:1. (Table 1). Most of the patients 29 (82.9%) with Proliferative Sickle Cell Retinopathy had the HbSC genotype. The commonest Posterior segment finding in the right eye was Vitreous Haemorrhage seen in 15(42.9%) of patients. Sea-fan neovascularisation was commonly seen in the left eye in 12(34.3%) patients. (Table 2)

Discussion: Sickle cell haemoglobinopathy is a common disorder in South West Nigeria[3]. Proliferative sickle cell retinopathy was commonest in those that had the HbSC genotype in contrast with the study that was carried out by Akinsola and Kehinde in which proliferative sickle cell retinopathy was uncommon[4]. Using the Goldberg classification, grade 3, 4 and 5 proliferative sickle cell retinopathy were the notable stages. These findings are similar to a study done by Hassan et al in Lagos[5], re-emphasizing that delayed presentation is common in our environment.

Conclusion: Proliferative Sickle Cell Retinopathy should be of concern to the ophthalmologist as it can cause avoidable blindness in patients. There is need for regular ocular examination to protect sickle cell patients from visual impairment.

Table 1: Demographics of patients with proliferative sickle cell retinopathy

AGE	FREQUENCY	PERCENTAGE	SEX	FREQUENCY	PERCENTAGE
10-29 YEARS	7	20.0%	MALE	25	71.4%
30-39 YEARS	11	31.4%			
40-49 YEARS	10	28.6%	FEMALE	10	28.6%
50-59 YEARS	4	11.4%			
60-69 YEARS	3	8.6%			
TOTAL	35	100.0%		35	100.0%

Table 2: Posterior segment findings in patients with proliferative sickle cell retinopath

	Right eye frequency	Percentage	Left eye frequency	percentage
Sea fan neovascularisation	8	22.8%	12	34.3%
Vitreous haemorrhage	10	28.6%	5	14.3%
Tractional retinal detachment	7	20.0%	10	28.6%
Retinal haemorrhage	10	28.6%	8	22.8%
Total	35	100.0%	35	100.0%

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