

Panretinal photocoagulation: Indications, outcomes, and complications in retinal ischemic disorders at a tertiary eye care center in Kano State

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Introduction: Panretinal photocoagulation (PRP) remains the gold standard for managing proliferative diabetic retinopathy (PRP) and other retinal ischemic disorders.^{1,2} By applying laser burns to the peripheral retina, PRP reduces oxygen demand and promotes regression of neovascularization.^{3,4} While its efficacy in reducing the risk of severe vision loss is well established, PRP may be associated with adverse effects that impact visual

outcomes.^{5,6,7} The objective of this study was to describe the indications, visual outcomes, and complications associated with PRP in patients treated at a tertiary eye care center.

Methods: A retrospective review was conducted of patients who underwent PRP at Makkah Eye Specialist Hospital, Kano over a period of two years (July 2022 to June 2024). Data extracted included demographic characteristics, clinical indications, number of PRP sessions, visual acuity (pre-and post-treatment), complications, and need for adjunctive therapy. Descriptive analysis was performed using IBM SPSS version 26.

Results: A total of 61 eyes of 33 patients (mean age: 51.1 ± 10.3 years, 69.7% male)

were included. The most common indication was Proliferative diabetic retinopathy (39.4%), followed by Advanced diabetic eye disease in 27.3% of patients (Table 1). Visual acuity improved in 23.0% of patients, remained stable in 57.4%, and worsened in 19.6% (Table 2). Reported complications included Vitreous hemorrhage (8.3 %), and Tractional retinal detachment (5.0 %). Anti-VEGF therapy was required in 5.0% of cases, while 25.8% of patients underwent subsequent vitrectomy.

Conclusion: PRP is effective in stabilizing vision and slowing disease progression in ischemic retinopathies. Majority of patients achieve visual stability, although some may require adjunctive interventions. Close

Table 1. Indications for panretinal photocoagulation among 33 patients

Indication	Frequency	Percentage (%)
Proliferative Diabetic Retinopathy	13	39.4
Advanced Diabetic Eye Disease	9	27.3
Non-Proliferative Diabetic Retinopathy	3	9.2
Vitreous Haemorrhage	2	6.1
Cystoid Macular Oedema	1	3.0
Tractional Retinal Detachment	1	3.0
Neovascularisation elsewhere	1	3.0
Central Retinal Vein Occlusion	1	3.0
Branch Retinal Vein Occlusion	1	3.0
Proliferative Sickle Cell Retinopathy	1	3.0

Table 2: Outcome of panretinal photocoagulation among 61 eyes

Outcomes	Frequency	Percentage
Complications		
Vitreous Haemorrhage	5	8.3
Tractional Retinal Detachment	3	5.0
None	53	86.7
Visual outcome		
Improved	14	23.0
Stable	35	57.4
Worsened	12	19.6
Further intervention		
Yes	36	59.0
No	25	41.0

monitoring is essential to manage potential complications and optimize outcomes.

Keywords: Panretinal photocoagulation, proliferative diabetic retinopathy, retinal ischemia, laser photocoagulation, visual outcome.

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