Proliferative Diabetic Retinopathy Laser Treatment Audit

Evans Okoh (medical student)[1] & Dr Adelehin Ijasan (consultant ophthalmologist)[2]

[1]University of Aberdeen

[2]Ophthalmology department, Aberdeen Royal Infirmary, Aberdeen, Scotland

Introduction

- Diabetic retinopathy is a progressive and sight-threatening disease of the retinal microvasculature associated with prolonged hyperglycaemia and other conditions linked with diabetes mellitus e.g. hypertension[1].
- Though the effectiveness of panretinal laser photocoagulation (PRP) in treating proliferative diabetic retinopathy has been demonstrated by several studies, diabetic retinopathy remains a leading cause of blindness in patients of working age.

Aim

- To describe the short-term outcomes of patients undergoing first treatment for proliferative diabetic retinopathy (PDR) at Aberdeen Royal Infirmary, using Medisoft .

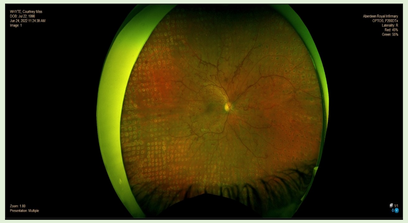


Figure 1: Panretinal photocoagulation

Methods

- Retrospective analysis of Medisoft data of 80 patients who had their first session of PRP.
- Data collected included *demographics, visual acuities, waiting times for laser treatment, number of laser sessions, number of shots per laser sessions, outcomes and co-morbidities.*
- The mean age of patients was 54.25 years, with a range of 24 to 85 years.

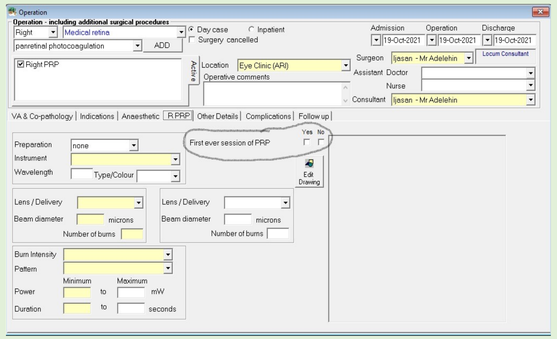


Figure 2: Medisoft for recording PRP sessions

Results

- A total of 1090 PRP sessions performed in two-year period (March 2020-March 2022), 54% of these were done by consultants.
- Following DES (NHS Diabetic Eye Screening Programme), patients with early PDR should receive treatment within 20 days.
- The mean waiting time for retina laser in this study was 27 days (range of 0-90), most patients with higher waiting times were also receiving anti-Vegf injections, causing a delay in their laser treatment. 48.3% received laser treatment less than or equal to 20 days from presentation of diagnosis.

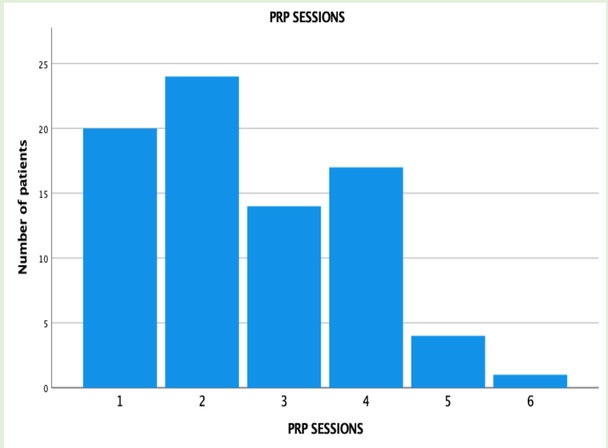


Figure 3: Number of PRP sessions for patients

PRP Sessions

- 25% of patients had 1 session, 30% had 2 sessions, 17.5% had 3 sessions and 21.3% had 4 sessions of PRP laser; meaning majority of patients were treated within two sessions[2].
- This study concludes that PRP lasers should be completed within two sessions in the future, thereby creating more appointments for high-risk patients in need of PRP lasers.
- Although unavoidable factors such as patient anxiety, discomfort, machine breakdown and worsening of retinopathy despite significant PRP laser prevented patients from completing their treatment in two sessions.

Conclusion

- Patients received timely treatment for proliferative retinopathy compared to national standards.
- No patient lost their vision due to proliferative diabetic retinopathy or had poor outcomes such as tractional retinal detachment.
- Waiting times for retina laser could be improved by reducing the number of sessions per patient and hence reducing the burden on the service.



Evans Okoh
evansokoh92@gmail.com

References

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