Two-year visual outcomes of PanRetinal Photocoagulation in proflierative diabetic retinopathy

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Aims

This study aims to investigate the change in visual acuity (VA) two years after PanRetinal Photocoagulation and identify risk factors responsible in the Proliferative Diabetic Retinopathy (PDR) cohort.

Methods

Data from admission medical records of patients with a diabetic retinopathy code between June 2019 – June 2014 in NHS Grampian were included as candidate patients. Patients with a diagnosis of PDR, no prior PRP, and whom underwent PRP treatment were analysed. Baseline characteristics included: age at diagnosis, sex, smoking status, hypertension status, diabetes duration, diabetes type, haemoglobin A1c and time from diagnosis to PRP

VA was measured prior at baseline and follow up periods of 3, 6, 12, and 24 months. Wilcoxon signed-rank test was used for analysis of VA change at two years compared to baseline. Ocular complications (vitreous haemorrhage, vitrectomy, tractional retinal detachment, diabetic macular oedema) and intravitreal injection were compared.

Conclusion

VA deterioration was strongly associated with PRP ($p<0.05$) two years after baseline. Gender was the only statistically significant risk factor for its association with change in VA after two years. Future research is needed with a larger cohort for a deeper understanding.

Results

A total of 648 candidate patents were identified with codes relating to diabetic retinopathy and 54 patients were found to have met the inclusion and exclusion criteria had PDR.

The majority were male (66.7%) with a mean age of approximately 49 years and a small majority that had never smoked (42.6%). Furthermore, the mean duration of diabetes mellitus was around 18 years with a mean HbA1c of 82.3 mmol/mol and the majority were comorbid with hypertension (55.6%). At baseline the commonest ocular complication was vitreous haemorrhage (35.2%).

A decrease of 0.26 (SD=0.69) Logarithm of the Minimum Angle of Resolution (LogMAR) units was observed two years after PRP, $p=0.003$. Ocular complications, except for diabetic macular oedema, were associated with PRP after two years, $p<0.05$. No risk factors were significant on univariate analysis, however gender was on multivariable regression, B=-0.45 (-0.87 – 0.01), $p=0.036$.









