DOES VITRECTOMY INCREASE THE RISK OF GLAUCOMA? A RETROSPECTIVE REVIEW FROM A UK HOSPITAL

Aiman Jamal, Helen Burn, Asifa Shaikh
Stoke Mandeville Hospital, Buckinghamshire Healthcare NHS Trust

Buckinghamshire Healthcare NHS Trust

Introduction

A systematic review in 2017 found evidence that pars plana vitrectomy (PPV) is a risk factor for developing open angle glaucoma and ocular hypertension (OHT). These findings have also been noted in our own experience of working in glaucoma clinic. This study aimed to investigate what proportion of patients undergoing PPV subsequently developed ocular hypertension (OHT) or a diagnosis of glaucoma over a 5-year period.

Methods

A retrospective case notes analysis of patients who underwent a PPV between 2015-2020 at Stoke Mandeville Hospital Ophthalmology Department. Patients that were subsequently seen in the hospital's glaucoma department were selected for review. Exclusion criteria were: 1. Pre-operative diagnosis of glaucoma 2. Pre-operative ocular anti-hypertensive medication 3. Review in glaucoma service prior to PPV. We collected demographic details, vitreoretinal intra-operative details and post-operative details, post-operative intraocular pressures, glaucoma diagnoses and other ocular pathologies.

Results

53 eyes of 47 patients were included with age range 28-90 years. Indications for PPV were retinal detachment (36%), ERM (21%) and vitreous haemorrhage (9%). Time between PPV and first appointment in glaucoma service ranged from 2 weeks to 52 months (mean 14 months). The most common diagnoses in glaucoma clinic for eyes that had previously undergone PPV were OHT (36%), secondary glaucoma (30%), glaucoma suspect (11%) and NTG (8%). 29 eyes (55%) had a post-operative IOP spike, defined as an IOP of >20mmHg within first 4 weeks.

Conclusions

OHT and secondary glaucoma following PPV were common in our glaucoma service. The association between PPV and glaucoma is not well recognised and is rarely discussed with patients prior to undertaking a PPV. It is important to raise awareness of this association in order to counsel patients on their increased risk of glaucoma and adequately follow up patients post PPV to monitor rise in IOP.

References

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Indication for PPV	Number of Eyes (n=53)
ERM Peel	11
Floaters	1
Macular Hole	2
Proliferative DR/Tractional RD	4
Retinal Detachment	19
Vitreous Haemorrhage	5
Other	9
Not Recorded	2

Diagnosis In Glaucoma Clinic	Number of Eyes (n=53)	% of Total
Ocular Hypertension	19	36%
Secondary Glaucoma	16	30%
Glaucoma Suspect	6	11%
Normal Tension Glaucoma	4	8%
Rubeotic Glaucoma	3	6%
Primary Open Angle Glaucoma	2	4%
Narrow Angle Glaucoma	1	2%
Other	1	2%
Not Recorded	1	2%