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Risk factors for elevated intraocular pressure on first day postoperative review following pars plana vitrectomy

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Objectives

- To assess the relationship between day 1 post-operative intra-ocular pressure and patient demographic information, lens status, tamponade medium (air, C2F6 and SF6) and laser treatment.

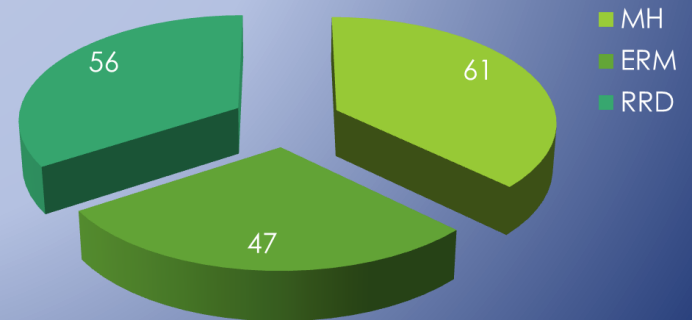
Methods

- Consecutive case study at Calderdale and Huddersfield NHS Foundation Trust.
- All patients undergoing pars plana vitrectomy were pseudophakic or underwent combined surgery.
- Indications for surgery: MH, ERM or RRD.
- None of the patients received prophylactic anti-glaucoma medication.



Results

- 164 patients were evaluated on day 1 post surgery.
- 10 patients had IOP >30mmHg, incidence 6%
- Range 30 – 39mmHg
- Mean 32.5mmHg
- Incidence of hypotony (< 8mmHg) : 5 (2.7%).



Results: Vitrectomy gauge & lens status

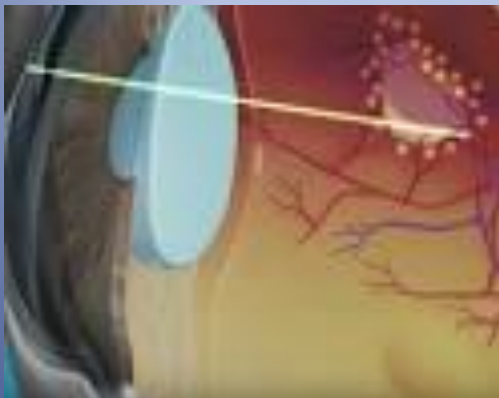
Indication	23g	25g	27g	Phakic	Pseudo
ERM	22	14	25	52	9
MH	20	13	14	42	5
RRD	33	3	20	48	8

- No association with postoperative intraocular pressure.



Results:

Tamponade	Number of patients	
Air	37	22%
C2F6(20%)	74	45%
SF6 (20%)	25	15%
SF6 (25%)	28	17%



- 67 patients had retinopexy during vitrectomy.
- 50 patients received laser treatment, 88% in RRD group, 17 had cryotherapy.
- Number of laser burns ranged from 11-1489 (average 712)
- **IOP elevated by 0.3mmHg for every additional 100 burns (p= 0.028)**

Conclusion:

- Tamponade with C2F6 or SF6 & increasing number of laser burns predisposes to increased IOP.
- Incidence of IOP > 30 mmhg is low (6%) in small gauge PPV and phacovitrectomy TSV without prophylactic antiglaucoma medications.
- Incidence of hypotony on day 1 is LOW (2.7%) in tamponade filled eyes.
- Prophylactic anti-glaucoma medication is only justified in high risk patients.