INCIDENCE OF DE NOVO OCULAR HYPERTENSION AND GLAUCOMA 4 YEARS AFTER 25 GAUGE PARS PLANA VITRECTOMY

Piyali Sen, Madalina-Adriana Chihaia, Cara Campbell, Andrew Morris
Royal Bournemouth Hospital, University Hospitals Dorset NHS Foundation Trust

BACKGROUND

Ocular hypertension (OHT) is a known short- and long-term complication of pars plana vitrectomy (PPV). incidence of ocular hypertension in vitrectomised eyes (including all tamponade methods) varies from 18% to 28%, and with silicone oil ranges from 20% to 56%.

AIM

The aim of this study was to evaluate the incidence and management of raised intraocular pressure (IOP) and glaucoma 4 years after primary 25 Gauge (G) PPV in eyes with no previous glaucomatous pathology.

METHODOLOGY

- Retrospective study
- 128 eyes from 126 consecutive patients that underwent primary 25 G PPV between 1st January and 31st December 2017 at Royal Bournemouth Hospital (RBH), Dorset, UK.
- OHT has been defined as ≥ 22 mmHg.
- All patients attended at least one follow up at 4 weeks postoperatively. Long-term data has been extracted from medical records of RBH, and local primary healthcare platform (Dorset Care Record).
- Exclusion criteria – History of glaucoma, Ocular hypertension. Patients with no week 4 follow up

- Independent- samples t or Kruskal Wallis test was used to compare between groups. P values of <0.05 were considered as statistically significant.

RESULTS

92 were phakic (71.8%) before PPV, of which half (n=47) underwent combined cataract surgery and PPV.
74 eyes (57%) had a first day postoperative review. 113 (88.2%) being discharged to the community care within 3 months postoperatively.
At 4 years after surgery, 17 eyes (13.2%) were seen back in clinic for high intra ocular pressure.

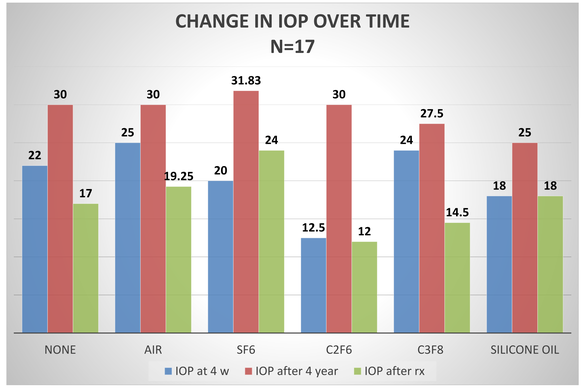


Table 1 , Change in IOP over time among different tamponade groups for patients referred for high intra ocular pressure

At 4 years after surgery,
17 eyes (13.28%) were being treated with **topical IOP-lowering** agents,
2 eyes had **selective laser trabeculoplasty** as well.
OHT in 8 eyes (6.2%),
Secondary glaucoma in 6 eyes (4.6%) and
Open angle glaucoma in 3 eyes (2.3%, bilateral disease, referred from the community).
Mean IOP between different groups of tamponade at 4-week, P value = 0.41, 4-year P value = 0.81,
IOP after treatment P value = 0.14 (Table 1)

CONCLUSION

- ❑ **Elevated IOP** is a **known complication** after PPV.
- ❑ We did not notice **any difference in mean IOP** at 4 weeks, 4 years and following post IOP management, between different tamponade groups. However within Silicon oil group more percentage had higher IOP at 4 years.
- ❑ A thorough **patient consent preoperatively** is paramount, especially since in some cases the surgical indication represents an emergency.
- ❑ A good **collaboration** with the **primary care professionals** is important as well, given the fact that the risk of secondary elevated IOP never subsides in a vitrectomised eye.

REFERENCES
1. Kornmann HL, Gedde SJ. Glaucoma management after vitreoretinal surgeries. Curr Opin Ophthalmol. 2016 Mar;27(2):125-31.
2. Fang Y, Long Q, Wang X, Jiang R, Sun X. Intraocular pressure 1 year after vitrectomy in eyes without a history of glaucoma or ocular hypertension. Clin Ophthalmol. 2017;11:2091-7.
3. Henderer JD, Budenz DL, Flynn HW, Jr., Schiffman JC, Feuer WJ, Murray TG. Elevated intraocular pressure and hypotony following silicone oil retinal tamponade for complex retinal detachment: incidence and risk factors. Arch Ophthalmol. 1999;117(2):189-95.