Abstract 220

SUBRETINAL VERSUS INTRAVITREAL TISSUE PLASMINOGEN ACTIVATOR FOR ACUTE SUBMACULAR HAEMORRHAGE: A RETROSPECTIVE COMPARATIVE STUDY

Poster

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Purpose:

No consensus currently exists on the best treatment strategy for acute submacular haemorrhage (SMH). The aim of this study is to compare the visual and anatomical outcomes, and the complications of subretinal versus intravitreal tissue plasminogen activator (tPA) in acute fovea-involving SMH.

Methods:

The electronic medical records of patients presenting with acute vision deterioration secondary to SMH between 2020 and 2022 were reviewed. Treatment was offered if the duration of symptoms was less than two weeks. Patients underwent either pars plana vitrectomy with subretinal tPA (25 µg/0.1 mL), intravitreal anti-VEGF and gas (sulfahexafluoride, SF6 or perfluoropropane, C3F8) (group A), or intravitreal tPA (25 µg/0.1 mL), anti-VEGF and gas (C3F8) (group B). SMH size at presentation and haemorrhage displacement were recorded. Best corrected visual acuity (BCVA) and complications at 1, 3, 6 and 12 months from treatment were compared between the groups.

Results:

25 eyes(16 females, group A 13 and group B 12 eyes)with a mean age of 77.6±10.4 years and a median follow-up of 8(range 1-21)months were included. Mean symptom duration was 4.6±3.4 days. SMH was secondary to wet-AMD in 24 eyes and retinal arterial macroaneurysm in 1 eye. Baseline SMH size and BCVA did not differ between the groups(p=0.23 and p=0.62). Haemorrhage displacement success rate was similar (84.6% and 66.7%; p=0.29) and post-operative BCVA at different time points did not differ between the groups (p=0.45). 3 eyes from group A developed complications including retinal detachment, macular hole and vitreous cavity haemorrhage.

Conclusions:

Subretinal and intravitreal tPA with gas are both effective techniques in displacing the subfoveal blood and allowing vision improvement. The post-operative visual outcomes did not differ between the two treatment groups. However, the subretinal approach carries higher risk of complications. Larger clinical trials are necessary to corroborate our findings.