Combined Pneumatic and Enzymatic Vitreolysis for Severe Cases of Vitreomacular Traction

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Purpose:
To evaluate the efficacy of combined pneumatic and enzymatic vitreolysis for treatment of severe cases of vitreomacular traction (VMT).

Methods:
We analyzed a retrospective, consecutive series of five patients diagnosed with severe VMT refractory to pneumatic vitreolysis (PV) who then received an additional ocriplasmin injection while their gas bubble from PV was still present between February 2015 to February 2019. VMT release was confirmed using spectral domain optical coherence tomography (OCT).

Results:
Four out of 5 patients treated with combined pneumatic and enzymatic vitreolysis achieved VMT release by day 28, and all cases eventually achieved complete VMT release. In addition to having refractory VMT, patient characteristics included broad adhesion diameter (>1500 μm, n=1), presence of epiretinal membrane (n=2), age > 65 years (n=4), and pseudophakia (n=1). Visual acuity (VA) improved by 3 or more lines at 6 months in both of the patients with initial vision worse than 20/50 on an ETDRS chart but not in those whose vision was already fairly good (i.e. VA > 20/60). None of the patients experienced any complications after receiving this combined treatment, such as retinal tears or detachments, decrease in visual acuity, vitreous floaters, and ellipsoid zone changes.

Conclusions:
Sequential, combined pneumatic and enzymatic vitreolysis resulted in VMT release in of all 5 cases (4 cases by 28 days) and may be a potentially useful alternative to surgical intervention for refractory VMT cases.