Background

- Vitreomacular traction (VMT) syndrome is a vitreomacular interface pathology characterized by abnormal adhesion of the posterior hyaloid face to the macula resulting in anteroposterior traction causing metamorphopsia or reduced vision.
- Spontaneous release of VMT has previously been considered rare with reported rates as low as 11.0%.
- Modern optical coherence tomography (OCT) imaging shows spontaneous release may be more common with reported rates up to 47.4%.
- Recent studies have attempted to determine which patients are more likely to undergo spontaneous release and would therefore be better candidates for observation rather than intervention.

Methods

- Systematic search of MEDLINE, EMBASE, and Cochrane Library
- Inclusion criteria:
  - adult patients
  - sample size of 5+ eyes
  - OCT observation of VMT
  - comparison of eyes with spontaneous VMT release to eyes with persistent VMT
- Outcomes:
  - Age
  - VMT diameter
  - Initial best corrected visual acuity (BCVA)
  - Sex
  - Eye
  - Epiretinal membrane (ERM)
  - Previous intravitreal injection (IVI)
  - Ocular comorbidity
  - Fellow-eye posterior vitreous detachment (PVD)
  - VMT classification (focal defined as ≤400μm, broad as >400μm)
- Meta-analysis conducted using a random effects model in which weighted mean differences (WMD) and risk ratios (RR) with 95% confidence intervals (95%CI) were reported
- A validated, 10-item tool for assessing risk of bias in prevalence studies was used to assess each study
- The Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) tool was used to evaluate the certainty of evidence for each outcome

Results

Twelve out of 258 studies included
- 272 out of 934 eyes (29%) underwent spontaneous VMT release
- Mean age: 70.0 years old
- Sex: 37.2% male
- Mean follow-up: 22.0 months
- Mean time to spontaneous release: 15.3 months (n=212)
- Mean VMT diameter: 292.3±192.9μm (n=60)
- Initial mean BCVA: 0.34±0.21 logMAR (Snellen 20/44) (n=121)
- Final mean BCVA: 0.20±0.58 logMAR (Snellen 20/32) (n=121)
- Overall risk of bias: Low for all included studies

Significant Predictors of Spontaneous Release

Smaller Vitreomacular Traction Diameter (Grade: low)

Absence of Epiretinal Membrane (Grade: low)

Conclusions

- Smaller VMT diameter, absence of ERM, and right eye involvement may support spontaneous VMT release
- Spontaneous VMT release can occur after prolonged observation with favourable visual outcomes
- It may be reasonable to consider observation as a management strategy in patients who have the above predictive factors and tolerable symptoms

References