Measuring subjective quality of vision and metamorphopsia before and after epiretinal membrane and macular hole surgery: MQUEST

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Purpose

To compare the subjective outcomes of metamorphopsia and quality of vision in patients undergoing epiretinal membrane (ERM) or macular hole (MH) surgery.

Methods

- A cohort of 50 patients undergoing ERM (n=18) or MH (n=32) surgery under the care of the vitreoretinal (VR) service at the University Hospital of Wales (UHW) completed both the metamorphopsia (MeMoQ) and quality of vision (QoV) questionnaires pre- and 2-3 months postoperatively.
- Additional clinical data including visual acuity (VA; LogMAR) and optical coherence tomography parameters were collected from the participants' medical records.
- Raw patient-reported outcome measure (PROM) scores underwent Rasch-scaling to generate a final score.

Results

- VA improved on average from 0.80±0.37 to 0.33±0.37 LogMAR units (p<0.001)
  - MH 0.69 ± 0.42 to 0.33 ± 0.21 (p=0.003)
  - ERM 0.86 ± 0.33 to 0.34 ± 0.24 (P<0.001)
- MeMoQ scores reduced from -1.23±1.44 to -3.20±1.64 logits (p<0.001) indicating improvement.
- QoV sub-scales all improved significantly:
  - Frequency 54.5±18.5 → 37.4±22.7
  - Severity 45.5±15.9 →30.9±19.5
  - Bothersome 48.9±19.1 →30.0±25.7 (all p<0.0001).
- Six participants reported worse QoV – all with MH
  - two also reported worse MeMoQ
    - despite improved VA (1–3 lines).
- Five patients were lost to follow-up.
- Nine patients had documented cataract at the follow up appointment.
  - VA improved in all 0.82 ± 0.26 to 0.44 ± 0.32
  - Only one of whom reported worse QoV scores

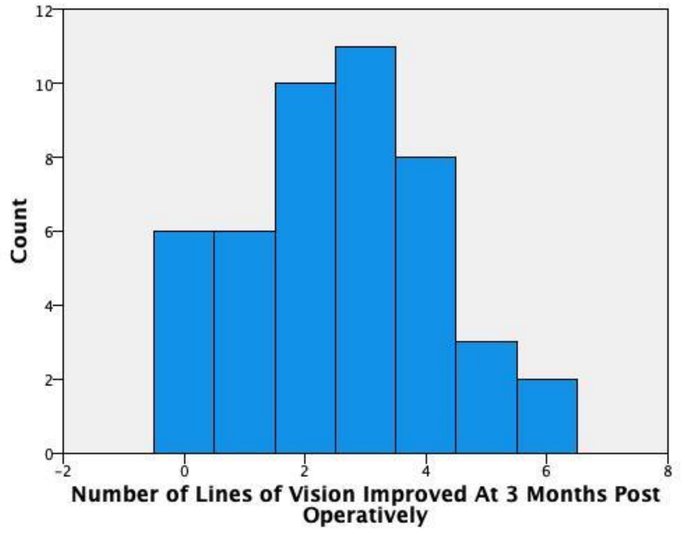

Figure 1: Visual Acuity Changes in Lines of Improvement from Pre Operatively to 3 Months Post Operatively for patients undergoing Vitrectomy for MH and ERM (Snellen)

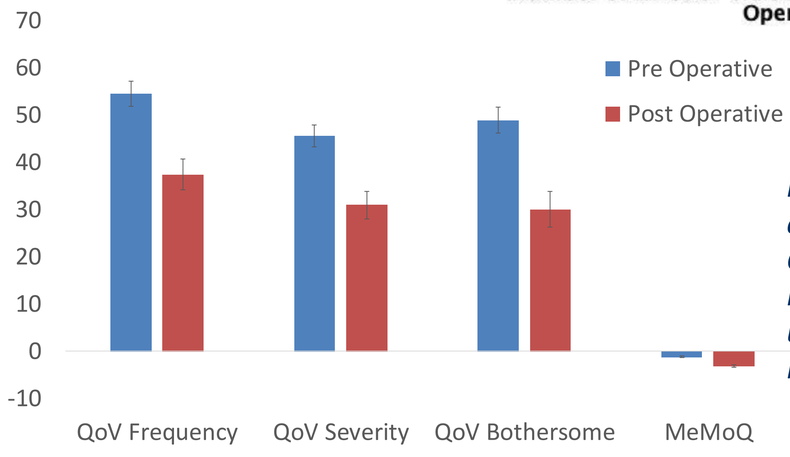

Figure 2: PROM Scores Pre and 3 Months Post Operatively for QoV and MeMoQ for patients undergoing Vitrectomy for MH and ERM

Conclusions

ERM and MH surgery improved both objective and subjective outcomes, but some patients reported worse perceived vision despite VA improvement. Managing expectations pre-operatively remains vital.

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