The Necessity for Post-Maneuver Restrictions in the Treatment of Benign Paroxysmal Positioning Vertigo: An Updated Systematic Review of the Literature

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Background

• Benign paroxysmal positional vertigo (BPPV) is the single most common cause of vertigo encountered in neurology and otology clinics.
• Post-treatment restrictions required patients to remain in an upright position for 24 to 48 hours after various canalith repositioning maneuvers (CRMs).
• Common restrictions included: cervical collars, maintaining upright position (30-45 degrees) for 24-48 hours, avoiding head tilts, sleeping upright and avoiding sleeping on the affected ear.
• CRMs included treatments described by Epley, Semont, Gans and others.

Purpose

• Determine if postural restrictions following CRM are necessary for patients diagnosed and treated for BPPV.
• Complete an updated, comprehensive systematic review and meta-analysis to determine best practice following a CRM.

Methods

• Inclusion criteria for studies included:
  • Subjects were 18+ years old
  • Clinically diagnosed with BPPV by a positive Dix-Hallpike
  • Treated with a CRM
  • Studies were RCTs with a control group without post-CRM restrictions and experimental groups with post-CRM restrictions.
  • Studies were published in English
  • Meta-analyses, systematic reviews, and retrospective studies were not included in this meta-analysis.
  • In order to assess the quality of included studies, the Oxford Centre for Evidence-Based Medicine’s (OCEBM) Levels of Evidence were used.
  • Der Siminonian and Laird random effects models were used to produce summary estimates which take into account the within and between study variability (heterogeneity).
  • Heterogeneity was determined with 12 squared values >50% and Cochrane’s Q p-values <0.10.
  • Cochrane Risk of Bias tool was used to evaluate each included study.

Results/Analysis

The results of the post-treatment Dix-Hallpike tests are shown in this chart. The results of 739 total subjects were analyzed:
• 362 subjects received post-maneuver postural restrictions and 377 subjects did not.
• There was not a statistically significant difference in treatment success rates.
• The Simocelli et. al. data are excluded as they did not use the Dix-Hallpike as an assessment tool.

The results of the meta-analysis for the eleven included studies revealed that there was not a statistically significant difference in treatment success rates between patients who received post-CRM postural restrictions and those that did not (p=0.095). The effect size of this analysis is 1.06 (0.99, 1.13)

Conclusions

Based on the results of this meta-analysis, we recommend abstaining from the use of post-treatment postural restrictions when treating BPPV, as the postural restrictions are unnecessary.

Clinical Relevance

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