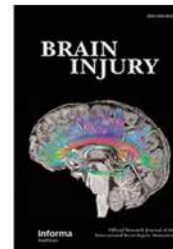


BRAIN INJURY



Original Study

Treatment of Vertical Heterophoria Ameliorates Persistent Post-Concussive Symptoms: A Retrospective Analysis Utilizing a Multi-Faceted Assessment Battery

Mark S. Rosner, MD
St. Joseph Mercy Hospital
Ypsilanti, Michigan

Debby L. Feinberg, OD
NeuroVisual Medicine Institute
Bloomfield Hills, Michigan

Jennifer E. Doble, MD
University of Michigan
Ann Arbor, Michigan

Arthur J. Rosner, MD
The Oakland University William Beaumont
School of Medicine • Rochester, Michigan

Primary objective: To examine the effectiveness of neutralizing prismatic lenses for reduction of headache, dizziness and anxiety in patients with persistent post-concussive symptoms and vertical heterophoria (VH).

Background: Approximately 5–10% of patients with traumatic brain injury (TBI) develop persistent post-concussive symptoms. Many rehabilitation/treatment modalities are tried, but are largely unsuccessful, indicating a need for more effective treatment.

Design and method: This retrospective study included 38 patients with persistent post-concussive symptoms, who were diagnosed by an optometric binocular vision sub-specialist with VH (a sub-set of binocular vision dysfunction [BVD] that manifests as vertical eye and image misalignment). Data was collected both before and after prism application and included validated survey instruments for headache, dizziness, anxiety and

BVD symptom burden; subjective rating (0–10 scale) of headache, dizziness and anxiety severity; and a sub-analysis of the BVD survey instrument questions that pertain specifically to headache, dizziness and anxiety. Upon conclusion of treatment, subjective assessment of overall improvement of heterophoria symptoms was obtained utilizing a 10 cm visual analogue scale.

Outcomes: Results demonstrated marked reduction in all measures of headache, dizziness and anxiety (19.1–60.8%) and an overall subjective improvement of VH symptoms of 80.2%.

Conclusions: Neutralizing prismatic lenses are an effective treatment of headache, dizziness and anxiety in patients with persistent post-concussive symptoms and VH.

Brain Injury, 30(3), 311–317