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Published In/Presented At
Poster presented at: The Pennsylvania Chapter of American College of Emergency Physicians (PaACEP), Harrisburg, PA. (April 8, 2014)

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Management of Benign Paroxysmal Positional Vertigo: A Randomized Control Trial

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Background
Benign Paroxysmal Positional Vertigo (BPPV) is a common complaint of patients who seek care in the Emergency Department (ED).

Objective
To compare the efficacy of vestibular rehabilitation (maneuver) versus conventional therapy (medications) in ED patients with BPPV. In particular, we sought to evaluate the improvement of vertigo in patients diagnosed with BPPV in the ED, assess their disposition time, and compare patient satisfaction between those patients who receive standard care versus those who received vestibular rehabilitation.

Methods
This was a prospective, single-blinded, randomized pilot study comparing two groups of patients who present to the ED with a diagnosis of BPPV at a Level 1 trauma center with an annual census of approximately 75,000. The first group received standard medications as per provider preference, to alleviate their symptoms, including treatments such as benzodiazepines, antihistamines, and antiemetics, while the second group received a canalith repositioning maneuver. In both groups, the research staff assessed for symptom resolution every 15 minutes for the first hour, then every 30 minutes up to two hours or until symptom resolution or physician re-assessment was complete using a visual analog scale; one measuring dizziness and another to measure nausea. Phone follow up was conducted any repeat ED visits, satisfaction with their treatment, and the short form Dizziness Handicap Inventory Measure (DHI) was performed (a previously validated tool for measurement of nausea and dizziness on a severity scale). Differences between the proportions by randomized treatment assignment were compared using a 2-tailed Fisher's Exact test. Multinomial parameters such as patient satisfaction and the DHI were compared using a Wilcoxon Two-Sample test. Probability values <0.05 were considered significant.

Results
Twenty-six patients were randomized; 11 in the standard treatment arm, and 15 in the interventional arm. The age (mean +/-SD of subjects randomized to receive maneuver and medication was 59+/-.12.6 and 64+/-.11.2, respectively; there was no significant difference in age between the 2 treatment arms (p=0.310). Two hours after treatment, the symptoms between the groups showed no difference in the measures of nausea (p=0.546) or dizziness (p=0.659).

Both groups reported a high level of satisfaction, measured on a 0-10 scale. Satisfaction in subjects randomized to receive maneuver and medication was 9+/-.1.5 and 9+/-.1.0, respectively; there was no significant difference in satisfaction between the 2 arms (p=0.889).

The length of stay during the ED visit did not differ between the treatment groups (p=0.873). None of the patients returned to an ED for similar symptoms.

Conclusions
There is no difference in symptomatic resolution and patient satisfaction between standard medical care and canalith repositioning maneuver in this pilot study. Physicians should consider the canalith repositioning maneuver as their standard of care. Considering the potential cost savings, nursing time, and potential for adverse reactions to medications (even the limits on driving due to sedation) and complications from intravenous access, it seems that the maneuver has clear advantages for those so motivated to attempt it.