The Association between Serum Vitamin D Levels and Benign Paroxysmal Positional Vertigo

INTRODUCTION

- Recent studies have reported an association between benign paroxysmal positional vertigo (BPPV) and osteoporosis.
- Calcium is an important component of otoconia. As a result of reduced serum vitamin D levels, an impaired calcium metabolism may be associated with BPPV.

OBJECTIVES

- To evaluate the association between serum vitamin D levels and BPPV.

MATERIALS & METHODS

- This study included 57 BPPV patients who met the diagnosis criteria for BPPV. Patients with inability to provide consent, having secondary factors for BPPV and having systemic disease influencing vitamin D levels were excluded.
- The control group consisted of 59 healthy participants without vertigo, dizziness or imbalance within 1 year.
- Serum vitamin D levels were collected from both groups.

RESULTS

- There were no significant demographic differences between case and control groups.
- Patients in BPPV group had significantly lower serum vitamin D levels than the healthy controls (21.5 ± 5.3 ng/ml vs 25.7 ± 6.6 ng/ml).
- Within the BPPV group, however, we found no statistically significant differences in serum vitamin D levels between the first diagnosis of BPPV and the recurrent BPPV subgroup (20.7 ± 6.1 ng/ml vs 22.0 ± 4.9 ng/ml).

DISCUSSION

- The findings of this study demonstrated that serum vitamin D levels were lower in the BPPV group compared to controls, suggesting that low serum vitamin D levels can be a predisposing factor for developing BPPV. Moreover, we found no statistically significant difference in serum vitamin D levels between the first diagnosis of BPPV and the recurrent BPPV subgroup.

CONCLUSION

- There were an association between low serum vitamin D levels and BPPV incidence in both newly diagnosed BPPV patients and recurrent BPPV subgroup.

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Table 1. Baseline Characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Control (n = 59)</th>
<th>BPPV (n = 57)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>59.8 ± 12.2</td>
<td>60.8 ± 11.2</td>
<td>0.661</td>
</tr>
<tr>
<td>Sex, Female (%)</td>
<td>42 (71%)</td>
<td>49 (86%)</td>
<td>0.053</td>
</tr>
<tr>
<td></td>
<td>17 (29%)</td>
<td>8 (14%)</td>
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<tr>
<td>BMI (kg/m²)</td>
<td>26.2 ± 4.3</td>
<td>25.3 ± 3.9</td>
<td>0.269</td>
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</tbody>
</table>

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Authors have nothing to disclose