

Letter to the Editor

Efficacy of Epley Maneuver on Quality of Life of Elderly Patients with Subjective BPPV

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Dear Editor,

I have read with great interest the article titled "Efficacy of Epley Maneuver on Quality of Life of Elderly Patients with Subjective BPPV" in the December 2019 issue of The Journal of International Advanced Otology (15(3): 420-4) by Uzdan Uz et al ^[1]. However, I do not agree with some of the suggestions included, and some points are unclear.

The authors defined their treatment group as patients treated with Epley maneuver bilaterally. I do not agree with this treatment. Balatsouras et al. ^[2] described the criteria for diagnosis of subjective BPPV as (1) history of repeated brief episodes of vertigo with changes in head position; (2) vertigo provoked by the Dix-Hallpike or the supine roll test; (3) absence of any detectable nystagmus by naked-eye examination during and after the provoking maneuvers; (4) duration of the disease for at least 1 month with no signs of recent improvement; and (5) absence of evidence of any other vestibular disease. They observed that the vertigo was unilaterally or bilaterally provoked during the Dix-Hallpike test or the supine rolling test, which means involvement of the associated canal. Subsequently, for the treatment, a repositioning maneuver was performed for the relevant channel ^[2]. Also Jung and Kim ^[3] explained in their study that the patients were treated using repositioning maneuver appropriate for their type of BPPV and associated canal.

I believe that the affected side should be determined with the Dix-Hallpike test (the authors declared that all the patients underwent the bilateral supine roll test to exclude horizontal canal BPPV) and then Epley maneuver should be performed to the affected side. If vertigo could not be provoked by the Dix-Hallpike test, the authors must reconsider the diagnosis or repeat the Dix-Hallpike maneuver.

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3. Jung JY, Kim SH. Comparison between objective and subjective benign paroxysmal positional vertigo: clinical features and outcomes. Acta Otolaryngol 2016; 136: 1267-72. [\[Crossref\]](#)

Author's Reply

Re: Efficacy of Epley Maneuver on Quality of Life of Elderly Patients with Subjective BPPV

Dear Editor,

We thank the author for his/her thoughtful comments on our article ^[1], and we would like to respond to the main points in the letter. Balance disorders are considerably common in the elderly population. The literature, however, has only few studies related to bal-

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ance disorders in the elderly population compared with other age groups. Timely treatment of balance disorders in elderly patients can decrease the risk of morbidity and mortality. Notably, benign paroxysmal positional vertigo (BPPV) is a critical and common disease in elderly patients with balance disorders.

1) We would like to answer the author's comment regarding performing the Epley maneuver bilaterally and not just on the affected side of the posterior canal.

The Dix-Hallpike maneuver is the accepted gold standard test for the diagnosis of posterior canal BPPV [2]. As stated in the "Discussion" section of our study, the negative predictive value of the Dix-Hallpike maneuver was approximately 50% [3]. On the other hand, a negative Dix-Hallpike maneuver does not exclude the diagnosis of posterior canal BPPV [2]. Patients are diagnosed with subjective BPPV (S-BPPV) based on the presence of vertigo and the absence of nystagmus during the provocative maneuver [4]. Performing the canalith repositioning maneuver for the affected canal in patients with S-BPPV is recommended in the literature. On the other hand, the maneuver is not recommended in elderly patients because the characteristics that can be observed in elderly subjects may be different from the younger population. We only studied elderly patients, and our conclusions from the present study are specific to this age group. Although vertigo was observed unilaterally or bilaterally during the Dix-Hallpike maneuver, the canalith repositioning maneuver was applied bilaterally in the present study. One of the reasons for performing a bilateral Epley maneuver was the possibility that the elderly patient may be unable to identify the affected side. Another reason was that the supposedly healthy ear of elderly patients could be subclinically affected. Notably, the dislodgement of otoconia is more common in elderly patients [5]. During the lifetime of these patients, the volume and number of otoliths gradually decrease, and the strength of interconnecting fibers between otoliths may decrease owing to the age-related reduction of calcium carbonate crystals because of demineralization. Consequently, otoconia may separate from the otolithic membrane and move freely in the endolymph [6]. Degenerated endolymphatic pH and concentration of calcium may promote BPPV [5]. These age-related changes are observed in both ears, but sufficient critical mass is required for clinical presentation [7]. Even though elderly patients with unilateral subjective BPPV have enough particles to present clinical symptoms, there may be a subclinical course owing to inadequate particles in the contralateral ear. Therefore, to prevent the transition from subclinical to clinical status and to avoid the patient from revisiting the hospital for that, the canalith repositioning maneuver was performed on the unaffected side. Furthermore, Leong and Golding-Wood demonstrated that posterior canal BPPV was observed on the unaffected side within 2 weeks of performing the Epley maneuver on the affected ear [8]. Hence, performing bilateral Epley maneuver may prevent the possible risk of developing incipient contralateral BPPV. The presence of an unrecognized BPPV in elderly patients negatively affects the patient's quality of life and increases the risk of morbidity [9]. Therefore, a bilateral Epley maneuver was performed on our elderly patients with S-BPPV during their first visit to prevent additional morbidity. Moreover, it is worth noting that S-BPPV is a lesser-known phenomenon, and no data exist to indicate the superiority of unilateral Epley maneuver over bilateral maneuver, especially in elderly patients. Furthermore, we did not find any data related to the drawbacks of performing bilateral Epley maneuver. Nonetheless, our study results evidenced the benefits of performing a bilateral maneuver.

2) The author states that "If vertigo could not be provoked by the Dix-Hallpike test, the authors must reconsider the diagnosis or repeat the Dix-Hallpike maneuver in another examination."

We agree with the author and accept that this is the procedure in our daily practice. However, this situation was not related to our study. As noted in the first paragraph of the "Materials and Methods" and the Abstract sections of our study, the diagnostic criteria of patients with S-BPPV were a positive BPPV history, and the presence of vertigo and absence of nystagmus during the Dix-Hallpike maneuver per the literature [4,10]. Therefore, if patients did not complain of vertigo during the Dix-Hallpike maneuver, they were not diagnosed as S-BPPV and were not enrolled for the trial. Moreover, patients were rigorously evaluated for other possible diagnoses. Hence, we believe that the diagnosis of our elderly patients was correct and was evidenced by our study results.

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