MODIFIED EPLEY MANOEUVRE — A DOMICILIARY THERAPY

P. Ghosh¹

Benign Paroxysmal Positional Vertigo (BPPV) of peripheral origin is not uncommon and an otolaryngologist can give significant relief to the apprehensive and dejected victim. Epley's manoeuvre (1992) is very effective in repositioning the otoconial debris back into the utricle thus alleviating the symptom of uncomfortable and scaring vertigo. This involves a series of complicated manoeuvres administered by a therapist. A simplified modification of the- manoeuvre is described here which the patient can do himself without the help of a therapist. It is equally effective. This can be done at home. In the ampulla of semicircular duct, the bulbous gelatinous mass, the cupula, extends from the surface of the crista to the ceiling of the ampulla forming a water-tight swing-door seal (Igarishi, 1966). The ampulla of the posterior semicircular duct is situated inferior and lateral to the non-ampullated crus commune. Its ampulla lies inferiorly near the floor of the utricle. Because of the presence of the sealing effect, the ear stones can enter or exit only through the crus commune, even though it is situated superior to the ampullated end, without producing vertigo unless the stones stimulate the cupulocrystal mechanism. Once the otoconial debris is in the posterior duct it has difficulty in retracing up the path of entry into the utricle through the superiorly situated cms commune since it has to travel up against gravity in the head-erect position. Moreover it has to travel a long distance of more than half a circle of the duct. That is why, posturing the inferior semicircular duct to different congenial positions is necessary for facilitating the entry of the debris back into the utricle viz. repositioning.

The proposed manoeuvre for the left utriculo-ductal dysfunction : The patient is seated on a couch with the head in erect position for about ten seconds when the otoconial debris in the posterior duct lie freely in its most dependent part, nearer the ampulla than the crus, the latter (crus) being at a slightly higher level than the dependent part (Fig. 1 A). Slowly flex the head to the front and right (about 45° from the midline) when the otoconia gravitates towards the ampulla of the posterior duct, since it is now at a lower level than the dependent part, and the patient

often experiences similar type of giddiness with or without nystagmus (Fig.1 B). Hold the head in the flexed position for ten seconds or so for the debris to stabilise near the ampulla of the duct. Then extend the head in a jerky movement in the opposite direction (backwards and to the left and laterally) i.e. in the plane of the left temporal pyramid and the left posterior duct and the otoconial debris move towards the crus commune because of inertia and pause for ten seconds for the debris to settle near the crus (Fig1 C). This is possible because the otoconia has higher sp. gravity than endolymph. Repeat the slow forward and jerky backward movements about five to ten times without any pause after flexion movements (otherwise, the debris has a tendency to move slowly towards the ampulla and settle there) till the giddiness / nystagmus disappears indicating that the debris has moved into the utricle through the crus. It should be noted that there should be a pause after each extension movement for the debris to settle near the crus. Flexion of the head is meant for executing the subsequent full extension movement and not for repositioning. So extension is the active repositioning movement and flexion, the passive one. So the sequence will be : flexion - no pause - jerky extension - pause - slow flexion and so on. But later when the otoconial debris has been repositioned near the crus commune it is gravitated towards the crus and into the utricle also by the slow flexion movements as well as the extension ones. It implies that in the final stages of the manoeuvre, the slow flexion movements act as the active repositioning ones also. Then maintain the head in

Fig. 1 : PSCD-Post. Semicircular Duct, Oc-Otoconia. A- Head Erect, B- Head Flexed, C-Extended

¹Chief consultant, ENT, Sitaram Bhartia Institute of Science and Research, New Delhi.

the erect position for an hour or so and then in semireclining position, while sleeping, for 24 to 48 hours. Lying supine is prohibited during this period; otherwise, the particles may reenter the canal and cause reappearance of vertigo. Eventually the particles get dissolved in the endolymph. One would do well to remember that positioning manoeuvres does increase the concentration of nor-epinephrine in the central vestibular subsystem in the brain stem which counters the effect of acetylcholine, thus reducing vertigo (Ghosh et al, 1979). Also adaptation phenomenon sets in with the particle repositioning manoeuvre i.e. multiple effects resulting from the repositioning manoeuvres. The adaptation phenomenon is a 'learning process' for which the reticular/centrencephalic system is the key mechanism which functions in conjunction with the vestibular subsystem, when a patient undergoes the above manoeuvre (Ghosh et al, 1979). So during the exercise, one should not prescribe drugs which suppress the above systems (e.g. Stemetil and other tranquilizers) which delay the learning process or render the systems nonresponsive or ineffective, except during attacks of severe vertigo (Ghosh et al, 1979).

This is a very simple procedure and the patient can execute this manoeuvre himself/herself at home and no therapist is required. I myself had benign paroxysmal positional vertigo affecting the left utriculo-ductal component a few months back. I started the repositioning manoeuvre as mentioned above and within a week I had complete relief of vertigo. It reappeared after three weeks, perhaps due to my lying supine with thin flat pillow. I executed the same manoeuvres and became vertigo-free within four days. On previous two occasions, ten years and two years back, I was down with BPPV and during the later event twice in six months. With conventional head and neck exercises it took about four weeks for the vertigo to disappear. I have tried this above mentioned simple procedure on five more patients with BPPV of peripheral origin with remarkable benefit. I myself was the first

patient to undergo the above physical therapy. The relatively resistant cases, where it takes longer sessions of repositioning manoeuvres, perhaps the otoconial debris is more firmly attached to the cupula rendering the liberatory movements less effective in dislodging the same.

Jose, et al (2000) beautifully elaborated Epley's manoeuvre and its modification which yielded good results. Epley's is a complicated procedure which is to be administered by a therapist. The procedure, mentioned in this communication, is very simple and equally effective and the patient can do this himself/herself without the help of a therapist. It is a domiciliary therapy. They are so benefited and impressed that one of my patients executed the same at home when there was recurrence of BPPV without seeking my advice. He reported to me that he was free of symptoms for about six months.

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Address for Communication :

Dr. P. Ghosh
40/60, Chittaranjan Park, New Delhi - 110 019.