

BENIGN PAROXYSMAL POSITIONAL VERTIGO AS A RARE COMPLICATION OF PROLONGED BEDREST

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SUMMARY :

A case of benign paroxymal positional vertigo as a complication of prolonged bedrest is reported. The cause of this rare type of vertigo was considered to be postoperative bedrest which might have facilitated the deposition of precipitate on the cupula of the posterior semicircular canal. Physical therapy management was discussed.

KEY WORDS :

Benign paroxymal positional vertigo, physical therapy, vestibular system

Benign proxysmal positional vertigo (BPPV) is the type of positional vertigo, with characteristic vestibular manifestations(4,10). Schuknecht(8) reported that when 8 patient has predisposing pathology at the utricle, maintaining a certain head position for a long time may result in deposition of degenerated material of the utricular macula and induce cupulolithiasis.

We are herein reporting a case of BPPV that developed after prolonged bed rest.

CASE REPORT

The patient was a 30-year-old man with left L4-5 HNP who was prescribed 45 days restricted bed rest since he refused to undergo surgical intervention. After the bed he still had pain in his left leg and 2/5 weakness had developed in the anterior tibial and external hallusis longus muscles. Therefore surgical intervention, left L4 hemilaminotomy, L4-5 discectomy and foraminotomy was performed. The postoperative period was uneventful. He was mobilized the day after operation, but, 14 days later, started to complain of the sudden onset of vertigo when moving rapidly, e.g. rolling over in bed, streightening up after bending over or suddenly turning his head. He had disequilibrium and abnormal postural responses and was unable to stand alone when he closed his eyes. He had no previous otological problem or vertigo. Neurological and ear nose and throat examinations were normal, except that nystagmus was observed during the vertigo which lasted 10 to 20 seconds. The nystagmus was torsional with the eyes directed toward the right side. Cranial CT was nor-

mal, positional tests showed the typical signs and symptoms of BPPV. These symptoms continued without any regression for 8 weeks despite his full activities. Since they were very troublesome and restricted quick movements he was recommended to do Brandt's exercises, which is the physical therapy management of benign paroxysmal positional vertigo(1). The symptoms and signs rapidly disappeared within 6 days.

DISCUSSION

Dizziness, vertigo and disequilibrium are not rare in the early postoperative period. The most common cause is hypotension which disappears within a few days. BPPV is a frequent aetiology of these symptoms after cranial trauma and middle ear surgery bu this complication can somotimes be seen after operations for other conditions especially in patients who have bed rest for a long period(2). The pathology of this complication is thought to be due to cupulolithiasis, which are deposits of a precipitate of degenerated material of the utricular macula on the cupula of the posterior semicircular canal(8). Strict bed rest may facilitate the induction of cupulolithiasis and as a result the symptoms and signs were seen in our patient who had predisposing pathology at the utricle.

Hall et al(3) proposed a different theory "Canalithiasis", according to which, debris is free-floating in the endolymph. When the head is moved the endolymph moves and pulls on the cupula, exciting the neurons as a result. The characteristic findings are vertigo and nystagmus; vertigo occurs when the patient

moves rapidly into a supine position with the head turned. Nystagmus and vertigo develop 1-40 seconds later and disappear in 30-60 seconds. Nystagmus is characteristically torsional with the eyes directed toward the affected side. Therefore if a patient complains of vertigo, disequilibrium and nausea after a long period of bed rest BPPV should be borne in mind and the appropriate physical therapy given otherwise the symptoms persist and restrict mobility.

Several approaches have been developed to treat patients with BPPV. Brandt's exercises, proposed by Brandt and Daroff(1), liberatory manoeuvre, proposed by Semont et al(9) and habituation exercises suggested by Norre and Becker(5,7) are recommended as effective therapeutic methods. Brandt exercises require the patient to move into the provoking position repeatedly several times a day and stay in that position till the vertigo stops and then sit up again, remain in the sitting position for 30 seconds then move in the opposite direction stay in that position for 30 seconds, and then sit up again. This manoeuvre is repeated every 3 hours until the patient has no vertigo for 2 consecutive days. It is presumed that the effect of this exercise is to dislodge the debris from the cupula of the posterior canal and displace it where it will no longer contact the cupula. The other possibility is central adaptation for the repeated signal from the posterior canal(4). In the liberatory manoeuvre the provoking position must be found and then the patient is moved from a sitting position to the provoking position. He stays in this position for 2-3 minutes, then his head is turned to the opposite ear-down position, he stays in that position for 5 minutes then returns to sitting position. This only requires a single treatment but the disadvantage is that the patient must remain a vertical position for 48 hours and avoid the provoking position for a week which is somewhat difficult for some patients.

These manoeuvres are 84% - 93% efficient(9). There was no significant difference between these methods(6). In our case, the symptoms were diminished within 6 days after Brandt's exercises.

In this report we present a rare case of BPPV due to prolonged bed rest and the aetiology and treatment modalities are discussed in the light of the literature.

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