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Cases Report: Benign Paroxysmal Positional Vertigo (BPPV)

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Abstract *Vertigo is defined as dizziness, namely an unpleasant, moving illusions. A case of a 36 years old woman came to the polyclinic with complaints that her head felt dizzy and spinning since 3 days before entering the hospital and was getting worse. After history, physical and supporting examination, the patients was diagnosed with BPPV.*

Keywords*: BPPV, Dizziness, Vertigo*

1. BACKGROUND

Vertigo is a wrong perception of movement, both within the patient and towards the surrounding situation, as a result of not being able to move balance input vestibular. Vertigo is briefly defined as dizziness, which is an unpleasant, moving illusion also known as the condition of a person appearing to move relative to his environment (subjective vertigo) or an environment that appears to be moving even though it is not (objective vertigo). (Budiman, Y. 2013). One of the most common causes of vertigo general is Benign Paroxysmal Position Vertigo (BPPV). BPPV is an important cause of vertigo with a prevalence of 11-64 per 100,000 and a lifetime prevalence in general practice of 2.4%. (Dong GX. 2011). The most common form of BPPV occurs when the otolith of the macula falls into the lumen of the posterior semicircular canal responding to the effects of gravity. (Sonu P, Sujata S, Jagriti B, Rekha C. 2015). Diagnosis of BPPV can be done based on history and examination. Patients usually report recurrence due to certain movements such as lying face down or getting out of bed, turning in bed, looking up or straightening after bending over. (Dong GX. 2011). BPPV patients are diagnosed with the Dix-Hallpike test. (Sonu P, Sujata S, Jagriti B, Rekha C. 2015).

2. THEORETICAL STUDY

Vertigo is a wrong perception of movement, both within the patient and towards the surrounding situation, as a result of not being able to move balance input vestibular. Vertigo is briefly defined as dizziness, which is an unpleasant, moving illusion also known as the condition of a person appearing to move in relation to their environment (subjective vertigo) or an environment that appears to be moving even though it is not (objective vertigo). (Budiman, Y. 2013). The sensation of movement that is felt can be like spinning, moving back

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and forth and feeling like falling. (Mazzoni PP, Pearson T, Lewis P. 2006). There are 2 classifications of vertigo, namely central (disorders of the brain stem or cerebellum) and peripheral (disorders of the inner ear or eighth cranial nerve). (Sura DJ, Newell S. 2010). One of the most common causes of vertigo is Benign. Paroxysmal Position Vertigo (BPPV). (Dong GX. 2011). The most common form of BPPV occurs when the otoliths of the macula fall into the lumen of the posterior semicircular canal responding to the effects of gravity. (Sonu P, Sujata S, Jagriti B, Rekha C. 2015). Diagnosis of BPPV can be made on the basis of history and examination. Patients usually report recurrence due to certain movements such as lying face down or getting out of bed, turning in bed, looking up or straightening after bending over. (Dong GX. 2011). BPPV patients are diagnosed with the Dix-Hallpike test. (Sonu P, Sujata S, Jagriti B, Rekha C. 2015). BBPV can recur and last for a few seconds is usually successful with head position maneuvers. The effectiveness of the maneuver depends on the correct diagnosis of the canal, the cupula involved or not, the single or multiple canals affected and the side of the structure. The acute emergency patient was treated with physical therapy using the canalith repositioning maneuver. (Sonu P, Sujata S, Jagriti B, Rekha C. 2015). Following is a case report about Benign Paroxysmal Positional Vertigo (BPPV) which with the provision of pharmacological and non- pharmaceutical therapy gives good results.

3. CASE REPORT

A 36 year old woman came to the polyclinic with complaints of dizziness and spinning in her head for 3 days before entering the hospital, which had worsened since last night. Dizziness occurs suddenly, lasts < 30 seconds, and appears to come and go. Dizziness is influenced by head position, especially when the head is tilted to the left. Dizziness is also influenced by other positions, such as when sitting and standing. The patient feels that the surrounding environment is spinning so he lies down more often and tries to close his eyes to reduce complaints. After that, the patient can carry out activities as usual.

Dizziness can occur 4 to 5 times a day and causes the head to feel like it is going to fall, accompanied by nausea and vomiting. Vomiting has occurred 5 times. Vomit contains food that the patient consumed previously and does not spray. Other complaints such as heartburn (+), ringing in the left ear (+) but no hearing loss. There are no other complaints such as fever, double vision, slurred speech, slanted mouth, weakness on one side of the body, numbness/tingling or choking. From previous medical history, it was discovered that the patient had been experiencing dizziness since 1 year ago, 3 months ago the patient went to the

emergency room with the same complaint. From family history, no one experienced similar complaints. The patient is a housewife with sufficient activity.

From the general examination, the blood pressure was 157/98 mmHg, pulse 98 x/I, respiration 20 x/i and temperature 36.5 C. From the neurological status examination, the Romberg test + (deviation), stepping test + (deviation), tandem walking + (deviation), and dix-hallpike maneuver nystagmus + (horizontal). The patient was diagnosed with Benign paroxysmal positional vertigo (BPPV) with pharmacological therapy of betahistine 24 mg, 2 x 1 tab; flunarizine 5 mg, 2 x 1 tab; inj ranitidine 50 mg, 2 x 1 amp and inj ondansetron 4mg, 3 x 1 amp. Apart from pharmacotherapy, patients are also advised to do the Brandt-Darrof exercises that have been taught previously.

4. RESULTS AND DISCUSSION

Diagnosis in this patient is carried out through history and physical examination. In the anamnesis, it was found that the dizziness was spinning, came and went, lasted < 30 seconds, was influenced by the position of the head, there was nausea and vomiting 5 times. The patient did not find any symptoms of central vertigo such as visual disturbances, double vision, or difficulty speaking. So it can be said that the patient's complaint of vertigo is peripheral vertigo. Generally BPPV disappears on its own within a few days to weeks and sometimes it can recur again.

On physical examination, Romberg was found test (+) with eyes closed, stepping test (+) deviation, tandem walking (+) deviation, finger-nose test (+), supination pronation (+), and Dix-Hallpike test (+). This indicates that the damage is to the patient's vestibular system, not centrally located. If the complaint is central, the patient will tend to fall when opening or closing the eyes on the Romberg test and the patient will tend to fall when tandem walking test. Apart from that, in the finger-nose test (+) deviation and supination Pronation is not possible, this indicates there is a peripheral disorder. The patient was not given a caloric test and no otoscopic examination was carried out to determine whether there was a perforation or not.

The patient was diagnosed with BPPV canalithasis of the lateral canal because the Dix-Hallpike test was positive and horizontal nystagmus was found. geotropic. Nystagmus produced by the Dix-Hallpike maneuver in lateral canal BPPV typically exhibits 2 important diagnostic characteristics. First, geotropic where you can see a fast phase towards the ear below or towards the floor, this indicates vertigo caused by canalithiasis. Both are apogeotropic or ageotropic where you can see a fast phase towards the ear above or towards the roof, this is caused by cupulolithiasis. In some literature it is not recommended to take medication, just

maneuvering is enough. If lateral canal BPPV is diagnosed, the Lempert maneuver is performed.

5. CONCLUSIONS AND RECOMMENDATIONS

Benign Paroxysmal Position Vertigo (BPPV) is the most common disorder of the inner ear vestibular system which is a vital part in maintaining balance. The cause of BPPV is still unclear, but it is thought to be related to previous trauma, Meniere's disease ipsilateral, affected by the same ear, severe systemic disease with symptoms such as dizziness due to changes in position, can also be accompanied by nausea.

BPPV can occur between 3 canals, namely posterior, lateral and superior. There are no supporting examinations for BPPV. Gold Check The standard is the Dix-Hallpike maneuver. If negative, head can be done roll test and calorie test. Management of BPPV is a maneuver to reposition debris in the urticulus (Epley, Semont, Lempert, and forced maneuvers). prolonged position). Pharmacological treatment in cases is only symptomatic if the cause is unknown.

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