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Treatment of Benign Paroxysmal Postural Vertigo in Chronic Lymphocytic Leukemia Patient

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Abstract Benign Paroxysmal Postural Vertigo (BPPV) is a common vestibular disorder, characterized by intense spinning of the head. Chronic Lymphocytic Leukemia (CLL) is a type of lymphocyte disorder with slow disease progression, characterized by accumulation of leukemic cells. A 77 years Chinese male with a known history of CLL, hypertension (HTN), Lumbar spondylolisthesis and bilateral cataract, was admitted to ward of Hospital Sultanah Bahiyah due to complaint of vertigo. The patient was diagnosed with Benign Paroxysmal Postural Vertigo and was arranged for Hallpike Maneuver. Patient successfully underwent procedure and his condition was improving, discharged with anti-vertigo medications.

Keywords Benign Paroxysmal Postural Vertigo, Chronic Lymphocytic Leukemia, Hallpike Maneuver

1. Introduction

Benign Paroxysmal Postural Vertigo (BPPV) is a common cause of dizziness. About 20% of all dizziness is due to BPPV. While BPPV can occur in children [1], having dizziness are more likely due to BPPV. About 50% of all dizziness in elderly is due to BPPV. BPPV is much more common in older persons, and the prevalence in the population increases linearly with age [2]. BPPV is described as 'self-limiting' because its symptoms often subside or disappear within 2 months of onset [3]. BPPV is not life-threatening.

2. Case Report

A 77 year-old Chinese male, with a known history of Chronic Lymphocytic Leukemia (CLL) (Rai stage 4 i.e. one of the two staging systems currently adopted in assessment of chronic lymphocytic leukaemia) with disease progression, hypertension (HTN) (but not on antihypertensive), lumbar spondylolisthesis L3/L4 with severe spinal stenosis and bilateral cataract, was admitted to Hospital Sultanah Bahiyah Alor Setar due to giddiness.

The patient was having complaint of feeling unwell and giddiness for the previous 3 weeks, and worsening giddiness from last week. The giddiness worsened when turning to left side and was vertigo in nature.

The patient's vital sign, complete blood profile, renal profile and liver profile were closely monitored during his stay in the hospital.

During admission, the patient was given his current medications, with the addition of two anti-vertigo medications namely tablet Betahistine Dihydrochloride (24mg) and tablet Prochlorperazine (5mg). The patient is then diagnosed to be BPPV and Hallpike maneuver was carried out.

After 3 days, patient's condition was improving, and was allowed to be discharged with his current medication plus tablet Betahistine Dihydrochloride (24mg BD) and tablet Prochlorperazine (5mg TDS). Follow-up of patient includes TCA hemato clinic, ENT clinic and for physiotherapy vestibular rehabilitation.

3. Discussion

Dix-Hallpike maneuver is used as the gold standard test for the diagnosis of BPPV. BPPV usually will go away in a few weeks or months by itself. If treatment is needed, it usually consists of head exercised (epley and Semont maneuvers), which will move the particles out of the semicircular canals of inner ear to a place where they will not cause vertigo. Vestibular rehabilitation can be performed to aid in the treatment of BPPV [4].

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Table 1. Patient Medication Chart

No.	Name and Dosage form of Drugs	Strength	Frequency	Indications
1.	Tablet Betahistine Dihydrochloride	24mg	BD	Vertigo
2.	Tablet Prochlorperazine	5mg	TDS	Vertigo
3.	Tablet Sulphamethoxazole + Trimethoprim	400mg+80mg	OD	Prophylaxis for PCP
4.	Tablet Acyclovir	400mg	BD	Prophylaxis for herpes zoster infection
5.	Capsule Calcitriol	0.25mcg	OD	Lumbar spondylolisthesis
6.	Tablet Calcium Lactate	600mg	OD	Lumbar spondylolisthesis
7.	Tablet Allopurinol	150mg	OD	Prophylaxis for hyperuricaemia and TLS associated with cancer chemotherapy
8.	Tablet Acetylsalicylic Acid	150mg	OD	Angina
9.	Tablet B Complex	I tab	OD	Anemia duo to CLL
10.	Tablet Folic Acid	5mg	OD	Anemia duo to CLL

Medicines called vestibular suppressants, such as antihistamines, sedatives or antiemetic can be used when the symptoms are severe. Betahistine, a structural analogue of histamine with weak histamine H1 receptor agonist and more potent H3 receptor antagonist properties, increases the levels of neurotransmitters released from the nerve endings, stimulating H1 receptors thus augmenting the direct agonistic effects on the receptors. It will causes vasodilatory effects in the inner ear, aiding to the treatment of vertigo [5]. Addition of phenothiazines such as Prochlorperazine will block the effects of dopamine in brain, helps in relieving nausea and vomiting associated with vertigo [6].

For CLL patient which has undergone chemotherapy, sulphamethoxazole+trimethoprim is given as the first line treatment and prophylaxis for PCP, owing to its effectiveness in the prevention of PCP. Cautions need to be taken, especially careful monitoring of patient's blood profile, serum potassium, creatinine and BUN due to its side effect (stevens-Johnson syndrome and blood dyscrasias). Antiviral Acyclovir is prescribed to this patient as the preferred choice used for treatment and prophylaxis of herpes zoster infection. Careful monitoring of patient's blood profile is required, because acyclovir can cause anaemia, thrombocytopenia and leucopenia [7]. Allopurinol effectively decreases the formation of uric acid and reduces the incidence of obstructive uropathy in patients with malignant disease at risk for tumour lysis syndrome (TLS) [8].

Calcitriol and Calcium Lactate are supplements for lumbar spondylolisthesis. Calcium is given to improve the bone density and decreases the incidence of bone fracture, while calcitriol is given to increase the absorption of calcium in body.

4. Conclusions

Present patient was successfully treated with anti-vertigo medications and was required to follow up at Hospital Sultanah Bahiyah for vestibular rehabilitation.

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