



**COMMON SYMPTOM, UNCOMMON DIAGNOSIS: GIDDINESS IN CLINICAL PRACTICE A CASE SERIES HIGHLIGHTING POSTERIOR CIRCULATION STROKE PRESENTING AS ISOLATED VERTIGO**

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### ABSTRACT

**Background:** Giddiness is a common presenting complaint in emergency and outpatient settings. While often attributed to benign peripheral vestibular disorders, central causes—particularly posterior circulation strokes—may present with isolated vertigo and subtle neurological findings, leading to misdiagnosis and delayed treatment.

**Objective:** To describe a series of patients presenting primarily with acute giddiness who were clinically diagnosed with central vertigo secondary to suspected posterior circulation involvement. **Methods:** We report four patients presenting with acute onset giddiness with or without vomiting, dysphagia, hiccups, or gait instability. Detailed neurological examinations, including cerebellar assessment, were performed. Clinical findings were analyzed to differentiate central from peripheral vertigo. **Results:** All four patients exhibited cerebellar signs such as dysdiadochokinesia, dysmetria, gait ataxia, or direction-changing nystagmus. Vascular risk factors including hypertension, diabetes mellitus, smoking, and chronic alcohol use were present in all cases. None demonstrated classic hemiparesis or overt cranial nerve palsy at presentation. Clinical features strongly suggested posterior circulation ischemia. **Conclusion:** Posterior circulation stroke may present solely with giddiness and minimal neurological deficits. Careful bedside cerebellar examination and high clinical suspicion are essential for early identification. Acute vertigo in patients with vascular risk factors should prompt evaluation for central causes to prevent potentially fatal complications.

**KEYWORDS:** Giddiness; Vertigo; Posterior circulation stroke; Cerebellar infarction; Central vertigo; Brainstem stroke; Dysdiadochokinesia; Hiccups; Hypertension; Case series.

### INTRODUCTION

Giddiness is a nonspecific symptom encompassing vertigo, disequilibrium, presyncope, and lightheadedness. Although most cases are due to peripheral vestibular disorders, central causes must be excluded. Posterior circulation strokes represent approximately 20–25% of ischemic strokes and involve the cerebellum, brainstem, and occipital lobes. Unlike anterior circulation strokes, posterior circulation events may present without hemiparesis or aphasia, leading to diagnostic challenges.

### METHODS

This is a descriptive case series of four adult patients presenting with acute onset giddiness to a tertiary care

center. All patients underwent detailed clinical history, comprehensive neurological examination, cerebellar function assessment, cardiovascular evaluation, baseline laboratory investigations, electrocardiography, and chest radiography. Clinical features were analyzed to identify red flags suggestive of central vertigo.

### CASE REPORTS

**Case 1:** A 56-year-old female presented with acute onset giddiness and vomiting. She had severe hypertension (200/110 mmHg). Examination revealed direction-changing horizontal nystagmus, non-suppression with visual fixation, gait ataxia toward the left, positive Romberg's test, and impaired tandem walking. Findings were suggestive of cerebellar ischemia.

**Case 2:** A 51-year-old male with chronic alcohol use presented with acute giddiness and vomiting. Blood pressure was 180/110 mmHg. Dysdiadochokinesia was present without nystagmus. Other neurological examination findings were normal. Central cerebellar involvement was suspected.

**Case 3:** A 75-year-old male with hypertension and diabetes presented with acute giddiness and dysphagia affecting solids and liquids. Examination revealed dysdiadochokinesia, dysmetria, right-sided gait ataxia, and positive Romberg's test. Findings suggested posterior circulation stroke.

**Case 4:** A 52-year-old hypertensive male and chronic smoker presented with headache, giddiness, persistent hiccups, and gait instability. Dysdiadochokinesia and right-sided ataxia were present. Clinical features were suggestive of medullary involvement.

## DISCUSSION

Isolated vertigo may be the only manifestation of cerebellar infarction. Peripheral vertigo typically presents with unidirectional nystagmus and suppression with fixation, whereas central vertigo often demonstrates direction-changing nystagmus, severe gait ataxia, and additional neurological signs. Posterior circulation strokes may involve the cerebellum or medulla, producing symptoms such as vertigo, ataxia, dysphagia, and hiccups. Early diagnosis is essential to prevent complications including edema and brainstem compression.

## CONCLUSION

Giddiness is a common but potentially misleading symptom. Posterior circulation stroke should be considered in patients presenting with acute vertigo, particularly in the presence of vascular risk factors or cerebellar signs. Thorough neurological examination and timely neuroimaging are critical to reduce morbidity and mortality.

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