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Research Article

Dizziness Following COVID-19 Infection: A Retrospective Clinic-Based Study

Neha Shrivastava*

Consultant Neurotologist and ENT Specialist, RTKL Vertigo and ENT Clinic, Mumbai, India.

***Corresponding Author:** Dr. Neha Shrivastava, Consultant Neurotologist and ENT Specialist, RTKL Vertigo and ENT Clinic, Mumbai, India.

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Abstract

Background: Dizziness and vertigo have been reported in patients with COVID-19, and BPPV has been described after infection. However, clinical descriptions of how post-COVID dizziness is assessed and managed remain important.

Objective: To determine the prevalence of dizziness in patients with prior COVID-19 infection presenting with vertigo or balance disorders.

Methods: This retrospective, clinic-based study reviewed outpatient records over one year (2021–2022) at RTKL Vertigo and ENT Clinic, Mumbai. Detailed histories emphasizing prior COVID-19 infection, clinical and neurotological examination findings, and positional test results for all three semicircular canal pairs were reviewed. Data were summarized as numbers and percentages.

Results: Eighty-five patients reported dizziness following COVID-19 infection. The peak occurred between December 2021 and February 2022, coinciding with the Omicron surge in India. Symptom onset ranged from two weeks to six months after infection. Patients were predominantly in their fourth and fifth decades, and females were more frequently affected. Most cases were mild and rarely required hospitalization. BPPV was diagnosed in 59/85 patients (69.4%). Horizontal-canal BPPV was reported in 34 patients (40.0% of all 85 patients; 57.6% of BPPV cases), posterior-canal BPPV in 17 (20.0% of all patients; 28.8% of BPPV cases), and anterior-canal BPPV in 8 (9.4% of all patients; 13.6% of BPPV cases). The remaining 26 patients (30.6%) were diagnosed with peripheral vestibulopathy or vestibular migraine. BPPV was treated with canalith repositioning manoeuvres, with rare recurrence; vestibular rehabilitation was advised for peripheral vestibulopathy, and lifestyle and dietary modifications for vestibular migraine.

Conclusion: In this clinic-based series, BPPV was the most common diagnosis among patients reporting dizziness after COVID-19 infection, with horizontal-canal involvement most frequent. The retrospective design and absence of a control group mean that causality cannot be established.

Keywords: *Dizziness; COVID-19; benign paroxysmal positional vertigo; vestibular rehabilitation; vestibular migraine*

Introduction

Dizziness and vertigo have been reported among neurological and other symptoms associated with COVID-19. Previous reports have described dizziness in hospitalized as well as mild-to-moderate cases, and BPPV has been reported following COVID-19 infection. [1-4]

India's third COVID-19 wave began around mid-December 2021 and was attributed largely to the Omicron variant; published national registry data described a generally milder clinical course than earlier waves. [5] The temporal overlap between this wave and presentations for dizziness makes clinical characterization of post-infectious vestibular symptoms relevant. However, published studies have varied in the detail provided about diagnostic assessment and management. [6]

The objective of this study was to determine the prevalence of dizziness among patients with prior COVID-19 infection presenting to a clinic for vertigo and balance disorders, and to describe the diagnoses and management recorded in this clinical series.

Materials and Methods

Study design and setting

This was a retrospective, clinic-based study of outpatient records over a one-year period spanning 2021–2022 at RTKL Vertigo and ENT Clinic, Mumbai, India.

Participants and clinical assessment

Records of patients presenting with vertigo and balance disorders were reviewed. History-taking emphasized prior COVID-19 infection. Clinical and neurotological examination findings were reviewed, and positional testing of all three semicircular canal pairs was recorded.

Variables and analysis

The study summary describes 85 patients reporting dizziness following COVID-19 infection. The recorded variables included the timing of symptoms after infection, demographic pattern, reported severity, vestibular diagnosis, BPPV canal involvement, and management/outcome. Data were summarized as numbers and percentages. The source material does not provide the total number of clinic patients with prior COVID-19 infection or a denominator for all eligible patients; therefore, a population prevalence or risk estimate cannot be independently calculated from the supplied data.

Results

Patient profile and symptom timing

Eighty-five patients reported dizziness following COVID-19 infection. Presentations peaked between December 2021 and February 2022, coinciding with the Omicron surge in India. Reported symptom onset ranged from two weeks to six months after infection. Patients were predominantly in their fourth and fifth decades, with a higher prevalence among females. Most cases were described as mild, and hospitalization was rarely required.

Vestibular diagnoses

BPPV was diagnosed in 59 of 85 patients (69.4%). The remaining 26 patients (30.6%) were classified as having peripheral vestibulopathy or vestibular migraine; these two diagnoses were not reported separately in the supplied summary.

Canal involvement in BPPV

Horizontal-canal involvement was the most frequent BPPV pattern, occurring in 34 patients (40.0% of the full 85-patient series; 57.6% of BPPV cases). Posterior-canal BPPV occurred in 17 patients (20.0% of the full series; 28.8% of BPPV cases), and anterior-canal BPPV in 8 patients (9.4% of the full series; 13.6% of BPPV cases).

Management and reported outcomes

Patients diagnosed with BPPV were treated with canalith repositioning manoeuvres, with successful treatment and rare recurrence reported. Vestibular rehabilitation therapy was advised for peripheral vestibulopathy. Lifestyle and dietary modifications were advised for vestibular migraine.

Table 1. Diagnostic distribution and canal involvement

Finding	n (%) of 85	Additional detail
BPPV	59 (69.4%)	Most common diagnosis
Peripheral vestibulopathy or vestibular migraine	26 (30.6%)	Not reported separately
Horizontal-canal BPPV	34 (40.0%)	57.6% of BPPV cases
Posterior-canal BPPV	17 (20.0%)	28.8% of BPPV cases
Anterior-canal BPPV	8 (9.4%)	13.6% of BPPV cases

Abbreviations: BPPV, benign paroxysmal positional vertigo.

Discussion

In this retrospective clinic-based series, 85 patients reported dizziness following COVID-19 infection, and BPPV accounted for 69.4% of these cases. The reported peak between December 2021 and February 2022 coincided with the Omicron surge in India. Because the source material does not provide the total number of clinic patients with prior COVID-19 infection or a defined denominator for the wider population, these results should be interpreted as a description of the identified clinic series rather than a population-level prevalence estimate.

BPPV as the leading diagnosis is consistent with published case reports and series describing BPPV after COVID-19. [3-4] In this series, horizontal-canal involvement was more frequent than posterior-canal involvement. This differs from the usual posterior-canal predominance described in BPPV literature. [7-8] The source presentation notes that horizontal-canal BPPV may be perceived as more severe and may resolve sooner, potentially influencing when patients present for assessment. [9] However, time from vertigo onset to clinical assessment was not analyzed in this study, so this explanation remains speculative.

The higher frequency among females described in the clinic series is consistent with reports of a higher prevalence of dizziness among women with COVID-19. [2] The timing of presentations during the Omicron-driven third wave and the mostly mild illness described in the records provide context, but the retrospective design cannot determine whether the infection caused the vestibular symptoms.

The management patterns described are clinically relevant: BPPV was treated with canalith repositioning, peripheral vestibulopathy with advised vestibular rehabilitation, and vestibular migraine with lifestyle and dietary modifications. The supplied data indicate that recurrence after repositioning was rare, but do not provide numerical treatment-response rates, follow-up duration, or recurrence counts.

Limitations

This study has several limitations. It was retrospective and conducted at a single clinic, with no control group; therefore, causal relationships cannot be established. Prior COVID-19 infection was based on recorded history. The interval between onset of vertigo and clinical assessment was not analyzed, although it may influence the observed distribution of horizontal-canal BPPV. Peripheral vestibulopathy and vestibular migraine were combined in the reported results and could not be evaluated separately. The total number of eligible clinic patients and other denominator information were not supplied, limiting interpretation of the term prevalence. Detailed age and sex counts and standardized follow-up data were also unavailable in the provided summary.

Clinical implications

In patients presenting with dizziness after COVID-19 infection, assessment should consider BPPV and other vestibular diagnoses. The source presentation highlights that including the supine roll test alongside the Dix–Hallpike test may help identify horizontal-canal BPPV when clinically indicated. [8]

Conclusion

In this retrospective clinic-based series, BPPV was the most common diagnosis among 85 patients reporting dizziness following COVID-19 infection, accounting for 59 cases (69.4%). Horizontal-canal involvement was most frequent. The reported management included canalith repositioning for BPPV, vestibular rehabilitation for peripheral vestibulopathy, and lifestyle and dietary modifications for vestibular migraine. These observations describe a clinical series and do not establish that COVID-19 caused the vestibular symptoms.

Conflicts of Interest and Sources of Funding

The authors state that there are no conflicts of interest to disclose. No special funding was received by the authors of this work.

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