PHOTO ESSAY

A Case of Acute Vestibular Neuritis Visualized by Three-Dimensional FLAIR-VISTA Magnetic Resonance Imaging

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ABSTRACT

A 72-year-old man presented with vertigo and unsteady gait. The three-dimensional fluid-attenuated inversion recovery–volume isotropic turbo spin echo acquisition (3D-FLAIR-VISTA) magnetic resonance imaging (MRI) showed high signal intensity in the cisternal segment of the right vestibular nerve. The video-based oculography with caloric test revealed spontaneous left-beating nystagmus and canal paresis in the right ear. This case suggests that 3D-FLAIR-VISTA images are useful for the visualisation of acute vestibular neuritis.

Keywords: Magnetic resonance imaging, vertigo, vestibular neuronitis

CASE REPORT

The enhancement of the vestibular nerve on gadolinium-enhanced T1-weighted magnetic resonance imaging (MRI) has been reported in acute vestibular neuritis, but the usefulness of three-dimensional fluid-attenuated inversion recovery–volume isotropic turbo spin echo acquisition (3D-FLAIR-VISTA) images has never been studied.¹

A 72-year-old man presented with acute-onset vertigo with unsteady gait. He complained of nausea and vomiting. The vertigo lasted all day regardless of position change. Neurologic examination revealed spontaneous left-beating horizontal nystagmus with a torsional component in the primary and eccentric positions. The nystagmus increased in amplitude with left gaze and decreased with right gaze, and did not have a periodic alternating component. It was not modified by vibratory stimulations, hyperventilation, or varying head position.

Head impulse test was abnormal to the right side. The range of movement was full for extraocular muscles. The patient could stand unassisted, but was unable to stand with the feet together. He also fell to the right when ambulating. He did not demonstrate problems of appendicular coordination such as dysmetria and dysdiadochokinesia. Motor and sensory examinations were absolutely normal, and deep tendon reflexes were normo-active. The remainder of the neurologic examination was unremarkable.

The 3D-FLAIR-VISTA MRI performed 1 day after symptom onset showed focally high signal intensity in the cisternal segment of the right vestibular nerve (Figure 1). The video-based oculography was performed 3 days after onset of symptoms, and still revealed spontaneous left-beating nystagmus with a torsional component (Figure 2). Bithermal caloric tests demonstrated canal paresis in the right ear. All of the clinical and radiologic findings led us to diagnose him as acute vestibular neuritis.

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FIGURE 1 The 3D-FLAIR-VISTA MRI shows focally high signal intensity in the cisternal segment of the right vestibular nerve (arrows).

FIGURE 2 Video-based oculography shows left-beating nystagmus in the primary position at 0.8–1 Hz, with mean slow-phase velocity of $3.7^{\circ}/s$ and amplitude $3\text{--}5^{\circ}$ (horizontal recording).

Our case suggests that 3D-FLAIR-VISTA images are useful for the visualisation of acute vestibular neuritis.

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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