A Case of Congenital Nystagmus Showing Reversed Optokinetic Nystagmus

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A 26-year-old man presented with abnormal eye movement detected during childhood. On examinations, left-beating spontaneous nystagmus and horizontal gaze-evoked nystagmus during visual fixation (Supplementary Video 1). Video-oculography revealed normal saccades and impaired smooth pursuit in the left direction. Notably, the optokinetic nystagmus was reversed (Fig. 1). Moreover, there were no significant findings in the caloric test, video head impulse test, vestibular evoked myogenic potentials and posturography assessments. Ophthalmologic examinations and brain magnetic imaging revealed unremarkable findings.

Previous studies have shown that in patients with congenital ocular disease, reversed optokinetic nystagmus may appear to be either bilaterally or unilaterally [1]. The reversed optokinetic nystagmus can be explained in terms of shifts in the position of the null point which is orbital eye position at which eye velocity is zero of the nystagmus induced by the pursuit or optokinetic stimuli [2]. Reversed optokinetic nystagmus is primarily observed in individuals with congenital nystagmus but can also occur in cases of acquired neurological abnormalities in the central nervous system, cerebellum, or brainstem. The precise cause of congenital nystagmus has not been definitively identified, but it is understood to result from abnormal decussation during the neural pathway’s formation [3].

CONFLICT OF INTEREST

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Fig. 1. Reversed optokinetic nystagmus. Optokinetic nystagmus showed reversed optokinetic nystagmus in the form of an exponential graph pattern in which the accelerating slow phase form in the right direction was observed when the target moved to the left.

AUTHOR CONTRIBUTIONS

Conceptualization, Methodology: SHB; Data curation: HCL, SY; Formal analysis, Visualization: HCL; Funding acquisition, Supervision: SHK; Project administration: SY; Writing–original draft: HCL; Writing–review & editing: SHB.

All authors read and approved the final manuscript.

SUPPLEMENTARY MATERIALS

Supplementary Video 1 can be found via https://doi.org/10.21790/rvs.2023.22.3.95. Videorecording revealed left spontaneous nystagmus with gaze-evoked nystagmus. Verbal consent was obtained for publication of this report with accompanying clinical image and video.

REFERENCES