Aperiodic alternating nystagmus in acute lateral medullary infarction: a video report

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An 81-year-old man presented with acute vertigo, left tilt, and headache for 1 day. Neurologic examination revealed spontaneous waxing and waning nystagmus with horizontal directional changes with omnidirectional gaze-evoked nystagmus and vigorous left-beating nystagmus on the head-shaking test. Diffusion-weighted magnetic resonance imaging demonstrated an acute infarction involving the left lateral medulla (Fig. 1A). Videooculography showed aperiodic alternating nystagmus (aPAN) with an irregular interval (Supplementary Video 1, Fig. 1B). Spontaneous right-beating nystagmus (peak slow-phase velocity, 10.4°/sec) lasted 104 seconds and gradually decreased. The nystagmus then changed direction to the left and lasted for 134 seconds (peak slow-phase velocity, 7.9°/sec) before reversing to the right again.

aPAN, which exhibits spontaneous alternating nystagmus without periodicity and regularity, is rarely seen in association with various peripheral and central vestibular disorders [1-3]. In lateral medullary stroke, aPAN may be caused by impairment of velocity storage and gaze holding [2].

Fig. 1. Brain magnetic resonance imaging demonstrated high signal intensity (arrow) in the left lateral medulla on the diffusion-weighted image (A). The plotting of the nystagmus reveals a spontaneous right-beating nystagmus (peak slow-phase velocity, 10.4°/sec) that reverses to left-beating nystagmus (peak slow-phase velocity, 7.9°/sec) and then reversing back to the right. A negative value indicates a rightward direction of the slow components of nystagmus (B).
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Supplementary Materials
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