

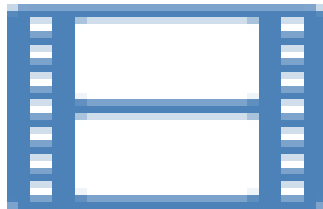
A 65-YEAR-OLD WOMAN WITH EPISODIC VERTIGO

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Vignette

- A 65-year-old woman had episodic vertigo for 6 months. The attacks were spontaneous and frequent (with one episode every 1-2 days). Each episode lasted around 2 hours.
- The episodes were accompanied by right-sided tinnitus, right-sided hearing loss, and nausea and vomiting.
- Eye movement recording in clinic during one of her vertigo episodes captured an abrupt change in direction of spontaneous nystagmus (video)

Video

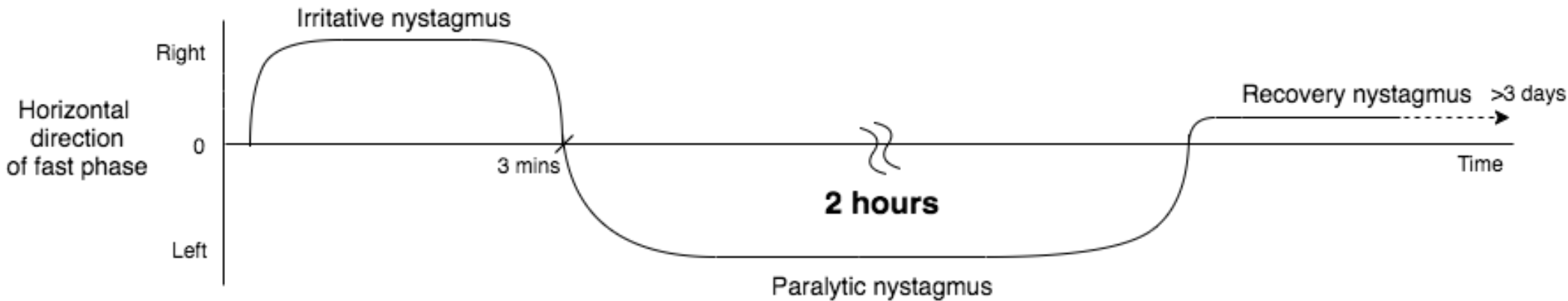


Spontaneous Nystagmus Reversal in Acute Attack of Ménière's Disease

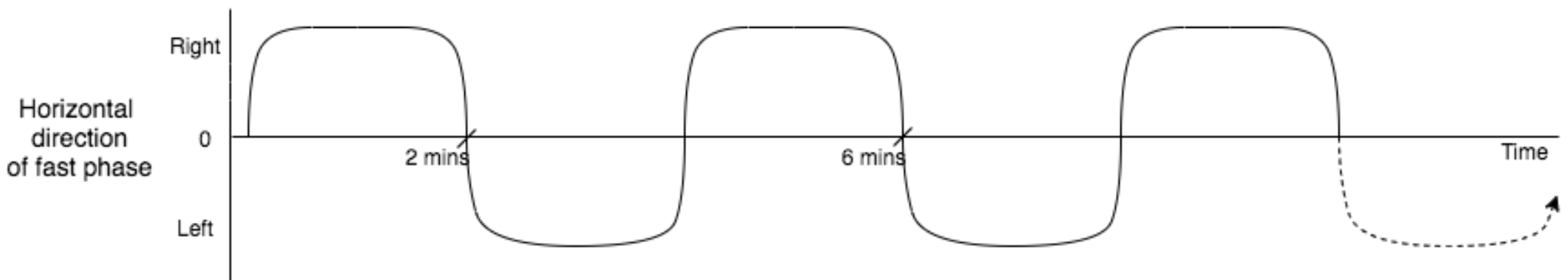
- **Diagnosis:** Right Ménière's Disease
- **Presumed mechanism:** Rupture of endolymphatic hydrops → K⁺-rich endolymph stimulates the vestibular nerve → “irritative” nystagmus, beating toward lesion side → higher K⁺ concentration blocks action potential → “paralytic” nystagmus, beating away from lesion side.¹
- **Differential diagnosis:** Periodic alternating nystagmus (PAN), in which nystagmus reverses direction indefinitely with fixed period.² (**Figure**)
- **Downbeat nystagmus** usually indicates central vestibulopathy, but can be a feature of an acute attack of Ménière's disease, likely from posterior canal involvement. In this case, downbeat nystagmus appeared when the horizontal nystagmus paused during nystagmus reversal.³ (**see Slide 6 for differential diagnosis of downbeat nystagmus**)

Figure

Nystagmus in Acute Ménière's Disease (Case)



Periodic Alternating Nystagmus



Localization of downbeat nystagmus (DBN)

<i>Where is the lesion?</i>	<i>Is it common?</i>	<i>What structure or disease is it related to?</i>
Cerebellum ¹	Common	Involved structure: Flocculus/paraflocculus Nodulus (positional DBN) Diffuse cerebellum
Brainstem ¹	Uncommon	Involved structure: The cell groups of paramedian tract
Inner ear	Rare	Specific conditions: Anterior canal BPPV (positional DBN)² Superior canal dehiscence (transient DBN induced by sound or pressure)³ Ménière's Disease (transient DBN during nystagmus reversal)^{4,5}