Teaching Video *NeuroImages*: Nine syndrome in inferior paramedian pontine infarction More than meets the eye

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Figure 1 Attempted rightward gaze in a patient with nine syndrome due to right paramedian pontine infarction

Conjugate right horizontal gaze palsy, paralytic pontine exotropia of the left eye, and peripheral right facial palsy.

A 54-year-old man with a medical history notable for diabetes mellitus and coronary artery bypass surgery presented to the emergency department with acute-onset vertigo, diplopia, hemiparesis, and hemihypesthesia of his left arm and leg. On cranial nerve examination, he displayed a conjugate right horizontal gaze palsy, diminished right eye adduction, horizontal left-beating nystagmus on leftward gaze, paralytic pontine exotropia of the left eye, gaze-evoked vertical nystagmus, and peripheral right facial palsy (figure 1; video at Neurology.org). These features were consistent with an ischemic pontine lesion affecting the right (1) paramedian pontine reticular formation and medial longitudinal fasciculus (one-and-a-half syndrome), (2) facial nerve fascicle (seventh cranial nerve palsy), (3) corticospinal tract, and (4) medial lemniscus pathway (the latter 2 comprising the final “half syndrome”

(figure 2), thereby constituting the so-called nine syndrome.¹

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Roderick Maas: interpretation of data, drafting and revision of the manuscript. Aad Verrips: interpretation of data, revision of the manuscript. Both authors approved the submitted manuscript.

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DISCLOSURE

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Supplemental data
at Neurology.org

Download teaching slides:
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Figure 2 Diffusion-weighted and apparent diffusion coefficient imaging of a patient with paramedian pontine infarction

(A) Diffusion restriction along the entire right paramedian aspect of the caudal pons (B) with a prominent hypointense signal on the corresponding apparent diffusion coefficient map, indicative of an ischemic lesion.

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