Oscillating Scotomas of Migraine Auras or Induced See-Saw Nystagmus (SSN) with Loss of Vertical Fusion in Congenital Nystagmus (CN)

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**Objective:** To describe and investigate observations made during migraine auras and one episode of loss of vertical fusion in an individual with horizontal-torsional CN.

**Methods:** Ocular motility recordings were made during fixation of targets in primary position and various amounts of prism-induced vertical diplopia.

**Results:** Instead of classic migrainous auras, a subject with CN experienced horizontal oscillation (i.e., oscillopsia) of the scintillating scotomas; the other characteristics of the auras were classic. A single, unrelated instance of vertical diplopia produced vertical oscillopsia of one of the two resulting visual fields. During normal fixation of a vertically elongated “+” sign (i.e., a long vertical bar with a short horizontal bar crossing it at its center), neither diplopia nor oscillopsia was perceived regardless of where on the vertical portion of the target the subject fixated. When vertical diplopia was induced (producing two vertically displaced images of the target), oscillopsia occurred. If either the upper or lower horizontal image was fixated, the other appeared to oscillate vertically. If the subject fixated on a point on the vertical bar between the two disparate horizontal images, both images appeared to oscillate vertically in counterphase. Ocular motor recordings revealed an induced SSN that accompanied the loss of vertical fusion.

**Conclusions:** Classic migrainous auras appear to oscillate in the plane of CN, mimicking the oscillation of a flashed afterimage. In a binocular individual with CN, breaking vertical fusion induced vertical oscillopsia of the non-fixated image or of both images if neither was fixated. The loss of vertical fusion appears to be associated with both induced SSN in CN and the SSN of achiasma.