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# Teaching Video NeuroImages: Acute Adie syndrome

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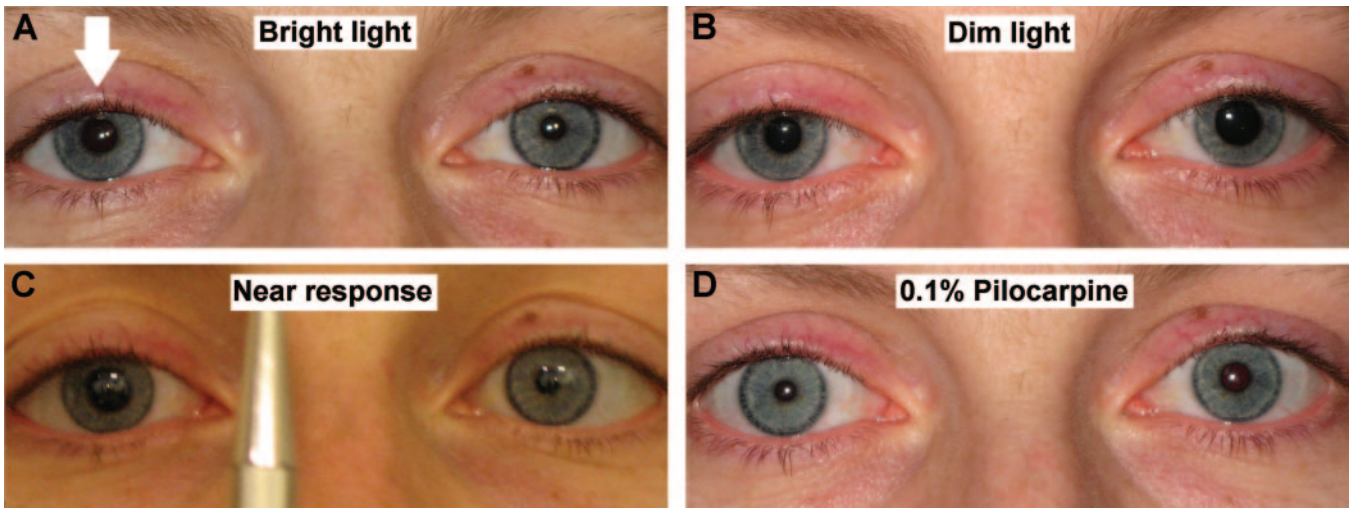
A healthy 30-year-old woman reported acute painless enlargement of the right pupil, associated with mild ipsilateral photophobia and blurring. An enlarged right pupil was observed, constricting poorly to light and with segmental vermiform movements (figure). Generalized deep tendon hyporeflexia was noted. The tonic right pupil constricted 30 minutes after instillation of dilute pilocarpine (0.1%) solution. William John Adie[1] (1886–1935) described this benign condition predominantly in young women, postulated to be secondary to viral ciliary ganglionitis. Russell[2] noted cases with a poor near as well as light response, which we postulate may be a feature of an acute syndrome.

## REFERENCES

1. Adie WJ. Tonic pupils and absent tendon reflexes: a benign disorder sui generis; its complete and incomplete forms. Brain 1932;55:98–113.
2. Russell GFM. The pupillary changes in the Holmes-Adie Syndrome. J Neurol Neurosurg Psychiatry 1956;19:289–296.

**Figure** Pupil appearances in Adie syndrome




Parasympathetic denervation of the iris sphincter muscle in Adie syndrome results in an enlarged tonic right pupil reacting poorly to light (A, B). Near response was also impaired (C). It is supersensitive to cholinergic agents (pilocarpine 0.1%) (D). Paralysis of the iris results in characteristic segmental vermiform movements. These are visible superolaterally acutely and inferomedially 6 months later (video on the *Neurology*® Web site at www.neurology.org).

**Supplemental data at www.neurology.org**

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The authors report no disclosures relevant to the manuscript. Go to Neurology.org for full disclosures.

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*Neurology* 2012;79;e97
DOI 10.1212/WNL.0b013e3182698cc5