Teaching NeuroImages: Thermal imaging in Horner syndrome

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A 50-year-old woman with a history of fibromuscular dysplasia presented to the emergency department with 1 day of right ear pain. Examination demonstrated 2 mm anisocoria, left pupil larger than right, with brisk pupillary light reactions bilaterally; 2.5 mm right ptosis; and anhidrosis of the right forehead, as determined by the spoon test. Thermal imaging was consistent with this finding (figure). She was diagnosed with acute, painful Horner syndrome. MRI/magnetic resonance angiography demonstrated right internal carotid artery dissection. Due to the risk of stroke immediately following internal carotid dissection, she was treated with heparin drip, then later transitioned to aspirin and clopidogrel therapy.²

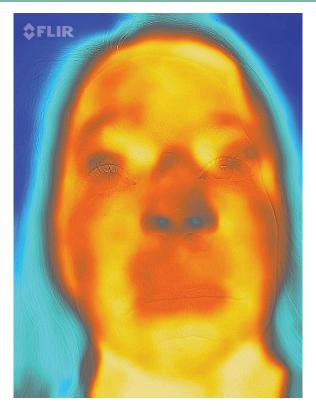
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Figure Thermal imaging photograph of right Horner syndrome



Thermal imaging photograph, obtained with the FLIROne camera 2 months after symptom onset, demonstrates decreased temperature on the right forehead. This depiction is consistent with the right-sided third-order Horner syndrome and attributable to vasoconstriction in the involved area due to delayed development of adrenergic hypersensitivity secondary to sympathetic denervation.

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Appendix Authors

Name	Location	Role	Contribution
Amanda D. Henderson, MD	Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD	Author	Acquired the data, interpreted the data, drafted the manuscript
Pradeep Y. Ramulu, MD, PhD	Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD	Author	Interpreted the data, revised the manuscript for intellectual content
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