A 36-year-old woman reported right eyelid drooping immediately after anterior cervical discectomy and fusion. Examination 2 weeks later revealed right miosis and right ptosis (figure, A). Instillation of one drop of 0.5% apraclonidine in both eyes resulted in reversal of anisocoria and resolution of ptosis (figure, B).

Apreclonidine, a selective $\alpha_2$ agonist used to reduce intraocular pressure, has only weak $\alpha_1$ action and, therefore, has little to no effect on a normal pupil. Patients with Horner syndrome may develop denervation hypersensitivity of $\alpha_1$ receptors on the iris dilator muscle, resulting in mydriasis of the affected pupil in response to apraclonidine. Reversal of ptosis may also occur. This denervation hypersensitivity may develop as soon as 36 hours after injury.  

Apreclonidine is a US Food and Drug Administration–approved medication, routinely used in glaucoma treatment, and is a readily available alternative to cocaine in the diagnosis of Horner syndrome.

REFERENCES


Teaching NeuroImages: Positive apraclonidine test in Horner syndrome
Robert K. Shin and Andrew G. Cheek
Neurology 2011;76:e100
DOI 10.1212/WNL.0b013e31821a4454

This information is current as of May 16, 2011

Updated Information & Services
including high resolution figures, can be found at:
http://www.neurology.org/content/76/20/e100.full.html

References
This article cites 2 articles, 0 of which you can access for free at:
http://www.neurology.org/content/76/20/e100.full.html#ref-list-1

Subspecialty Collections
This article, along with others on similar topics, appears in the following collection(s):
All Neuro-ophthalmology
http://www.neurology.org/cgi/collection/all_neuroophthalmology
Clinical neurology examination
http://www.neurology.org/cgi/collection/clinical_neurology_examination
Eyelids
http://www.neurology.org/cgi/collection/eyelids
Pupils
http://www.neurology.org/cgi/collection/pupils

Permissions & Licensing
Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
http://www.neurology.org/misc/about.xhtml#permissions

Reprints
Information about ordering reprints can be found online:
http://www.neurology.org/misc/addir.xhtml#reprintsus