Subacute Horner syndrome secondary to carotid dissection in a patient with "normal" vascular imaging

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Case Presentation

A 46 year old woman presented with 5 days of left sided "sinus pressure" and scalp pain. Her primary care physician noted anisocoria and sent the patient to the emergency room for ophthalmology consultation.

Exam:
VA: 20/30 OD, 20/30 OS
EOM: full OU
Pupils: 7->4mm OD, 4->3mm OS, no rAPD. Reversal of anisocoria after application of apraclonidine
Lids: MRD1 5mm OD, MRD1 3mm OS. Resolution of ptosis LUL after application of apraclonidine
Anterior segment: WNL OU
Dilated fundus exam: WNL OU

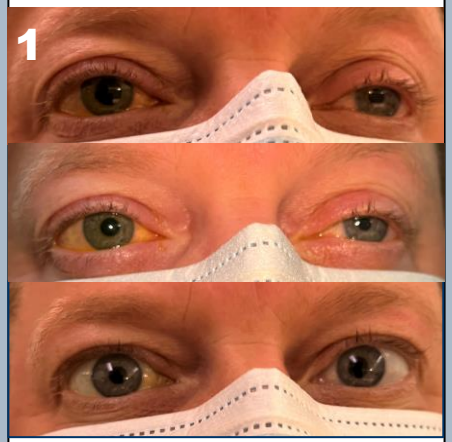

Figure 1:
Anisocoria greater in dim light (top) than bright light (middle), with reversal of anisocoria and ptosis after instillation of apraclonidine drops (bottom)

Case Presentation (continued)

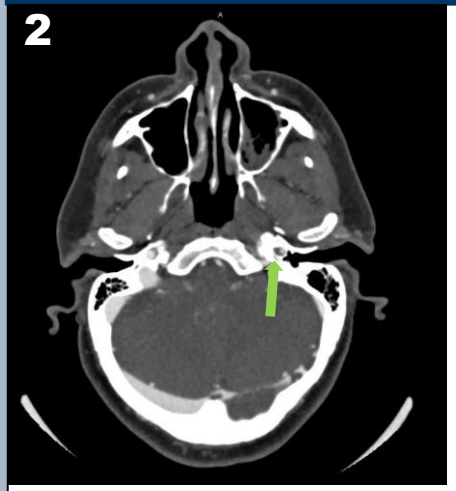

Figure 2: CT angiography (CTA) read as showing no evidence of stenosis. After MRI results, the CTA would be re-interpreted as showing abrupt narrowing of the left ICA at the level of the skull base (green arrow).

Figure 3: axial T1 MRI brain, obtained after CTA shown above, demonstrating enhancement around the left carotid artery at the level of the skull base (yellow arrow) without significant luminal stenosis.

Case Outcome

- **The MRI was obtained in this instance due to high clinical suspicion for carotid dissection**
- **The patient was diagnosed with a left internal carotid artery dissection at the level of carotid canal causing an ipsilateral painful Horner syndrome**
- **The false negative CTA was likely due to the lack of significant luminal narrowing or obfuscation of intramural hematoma due to location of the pathology at the origin of the carotid canal.**
- **The patient was started on aspirin and atorvastatin for stroke prophylaxis.**

Discussion

- **Horner syndrome is a clinical syndrome which results from damage to the oculosympathetic pathway.**
- **Carotid dissection is responsible for approximately 10% of all Horner syndromes, painful or otherwise.**
- **Imaging is the mainstay of determining the etiology:**
- **Catheter angiography is considered the gold standard, but increases patient risk.**
- **CTA is 64-100% sensitive at detecting carotid dissection, though detection is reliant upon luminal narrowing.**
- **MRI/MRA have increased sensitivity for the detection of carotid dissection, particularly pre-contrast axial T1 MRI**

Conclusion

A patient with acute or subacute painful Horner syndrome should receive an MRI brain and neck with and without contrast, even if angiographic imaging is "normal".

References

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