

Risk Management Pitfalls For Cervical Artery Dissections (Continued on page 17)

- 1. “This patient has a left temporal headache that radiates into his left ear. His examination is benign, except his pupil is smaller on that side. I did a noncontrast CT head and it’s negative. The headache is probably just due to a hard game of basketball yesterday. I’m going to give him some IV ketorolac and send him out.”**

Dissections can occur spontaneously or as a result of minor trauma, even from a basketball game. Failure to consider the diagnosis will result in a missed diagnosis. Headaches in carotid artery dissections can be nonspecific, but are mostly located in the frontal or temporal regions; the radiation to the ear is also characteristic. His examination is also concerning for a partial Horner syndrome. Both of those are suspicious for carotid artery dissection and warrant further vascular imaging.
- 2. “She has a history of migraines, and she says that this one is different from what she usually feels, but it definitely sounds like a migraine because it is unilateral, pulsatile, and she had a visual aura. I’m going to give her the usual migraine cocktail and see how she does.”**

Not suspecting cervical arterial dissection in the beginning of the evaluation results in a significant delay to diagnosis. It can be many hours by the time she has a couple of migraine cocktails before you realize her headache isn’t better and you need to rethink your plan. Due to the risk of early stroke in these patients, a delay in diagnosis could lead to long-term neurological sequelae. Headaches in carotid dissections can be unilateral, pulsatile, and with an aura. Any time a patient with a history of migraines states that the symptoms are not typical, take note.
- 3. “A 35-year-old woman was attacked by her boyfriend. He hit her on the right side of the neck near her jaw, causing her head to snap around to the left. Her neurological examination is completely normal. She is in a great deal of pain, but it seems to be related to the soft-tissue injury from the hit, because her non-contrast CT head and c-spine are negative. I’m going to treat her pain and see how she feels.”**

Pain due to the trauma could mask specific signs or symptoms of dissection. In these patients, relying on the history to identify high-risk factors is important. Due to the location of the blow, it may have caused a hyperextension and rotation of her head in addition to direct trauma, which could have caused a dissection. Patients with risk factors should have advanced vascular imaging (CTA or MRA).
- 4. “I couldn’t do a neurological examination because she was in too much pain. I’ll treat her headache and then try again later.”**

Although it seems kind to give patients a little time to obtain comfort before performing an examination, a prompt neurological examination is absolutely necessary in order to determine any findings that need to be addressed immediately, such as an acute stroke.
- 5. “A 12-year-old boy fell off of his bike after running into a parked car, and then he had a seizure. The noncontrast CT head and c-spine were normal. He is still in some pain, but I don’t see anything abnormal on his neuro examination, so I’m going to clear his c-spine.”**

Pediatric patients with dissection have different symptoms from adults; seizure has been shown to be a presenting symptom in 12.5% of cases. The seizure, along with the mechanism, should prompt vascular imaging to assess for a cervical artery dissection before the cervical collar is removed.

Get access to more content like this with an individual or group subscription.

Visit www.ebmedicine.net/EMPinfo to find out more!

Risk Management Pitfalls For Cervical Artery Dissections (Continued from page 16)

6. **"I really thought that patient with the headache, anterolateral neck pain, and partial Horner syndrome had a carotid dissection, but the CTA was read as negative, so I guess I was wrong. I'll just treat her pain and send her home."**

CTA is an excellent screening tool, but it is not 100% sensitive and can miss small intimal flaps, intramural hematomas, or a slight fusiform dilatation of the vessel. In patients for whom there is a high suspicion of dissection and a negative or equivocal CTA or MRA, further imaging with MRI or digital subtraction angiography is indicated.

7. **"The CTA showed a dissection, so I gave him an aspirin and called neurology. However, he now says he doesn't want to wait and wants to go home. His neuro examination is normal, so I was thinking of sending him out on aspirin."**

Sending the patient home in the acute setting without consultation is not a good idea. Due to high risk of stroke in the first 24 hours and the high incidence of progression of lower-grade dissections, these patients warrant close monitoring and early follow-up imaging to determine the need for escalation of care.

8. **"The intubated trauma patient had his noncontrast CT head and c-spine and the radiologist just called and said there is a temporal bone fracture through the carotid canal. I'm going to pass it along and let the trauma service finish the workup after he gets to the intensive care unit."**

This will lead to a significant delay in diagnosis, which could be devastating for the patient. Due to its sensitivity and availability in the ED, a CTA should be performed prior to the patient being transported upstairs, so treatment can be started immediately.

9. **"The CTA showed a vertebral artery dissection on that patient from the roller coaster ride, so I consulted the neurology service for admission. Her neuro examination is normal, so I'm going to wait to treat her and see what they recommend."**

An antithrombotic agent for stroke prevention needs to be started on this patient and can be started in the ED to avoid treatment delays. Studies in this population have not shown superiority of one over the other, so the choice of aspirin or heparin depends on patient factors. For uncomplicated dissections, antiplatelet agents are sufficient, and heparin is preferred in patients with an acute thrombus or high risk for thromboembolic events if no contraindications exist.

10. **"The patient is a 42-year-old man presenting with an acute onset of right-sided hemiplegia and global aphasia that started 1 hour ago while at the grocery store. His CT head was negative for hemorrhage, but the CTA showed a dissection in his left carotid artery with about 50% vessel occlusion. Unfortunately, that excludes him from treatment with rtPA due to the risk of hemorrhage or intramural hematoma expansion."**

Data have shown rtPA to be as safe in patients with cervical dissections as with patients with strokes due to other causes. Therefore, this patient should be treated with rtPA as soon as possible if there are no contraindications. Endovascular treatment should also be considered if there are contraindications to IV rtPA or if he does not improve after treatment.

Get access to more content like this with an individual or group subscription.

Visit www.ebmedicine.net/EMPinfo to find out more!