

**Pain in the Neck:
Cervical Artery
Dissection**

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Loyola University Medical Center
Resident Program Director
Assistant Professor of EM

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**Disclaimers and
Disclosures**

I have no relevant disclosures for this lecture.

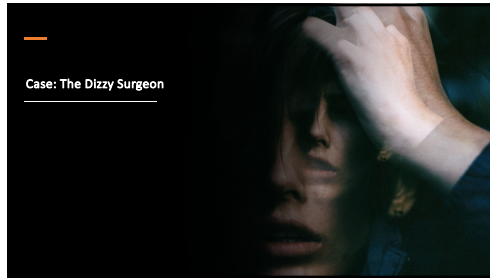
This lecture has material based on a real patient encounter with actual imaging results, but the patient identifiers have been removed and the demographics have been changed to maintain HIPAA compliance.

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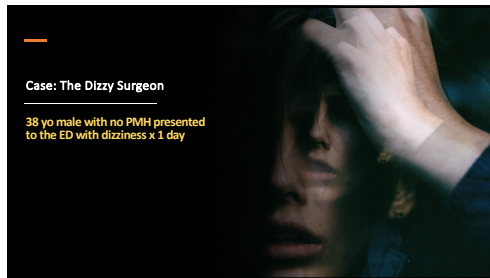
Objectives

- **Review** the pathophysiology and etiology of cervical artery dissection (CAD)
- **Review** the clinical presentation of CAD
- **Develop** a general approach to the dizzy patient
- **Discuss** diagnostic testing for CAD
- **Review** the current treatment recommendations for patients with CAD

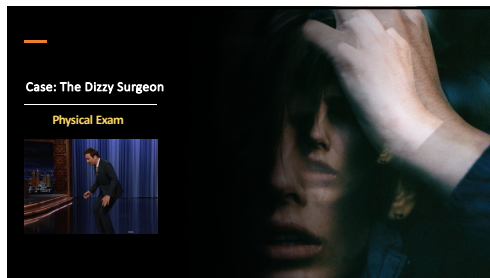
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A dizzy detour...

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A - B - C

HR 120 BP 85/60



A dizzy detour...

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A - B - C

Neurologic Assessment

A dizzy detour...

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A – B – C

A dizzy detour...

Neurologic Assessment

HINTS

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Cervical Artery Dissection

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Cervical Artery Dissection

Fast Facts:

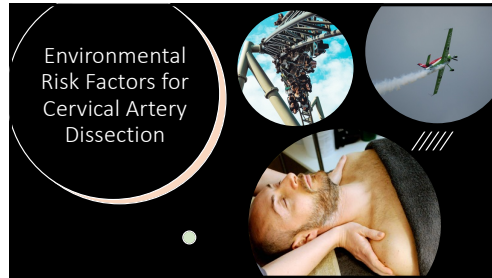
What is it?

- Tear in the arterial wall under pressure, leading to a false lumen and hematoma formation
- Involves either the internal carotid artery or the vertebral artery

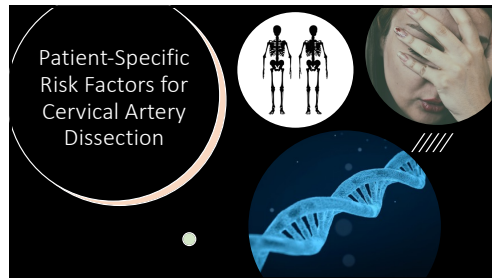
Why should I care?

- Causes 1-2% of all ischemic strokes BUT is the underlying cause of up to 25% of ischemic strokes in young patients

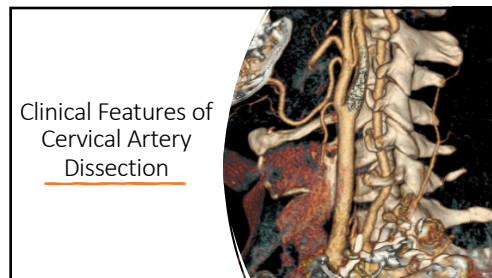
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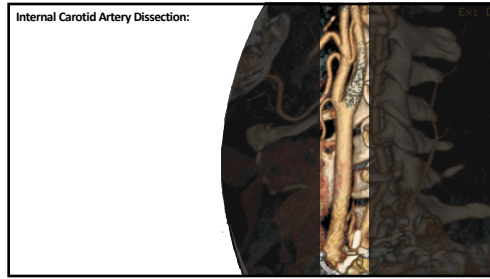
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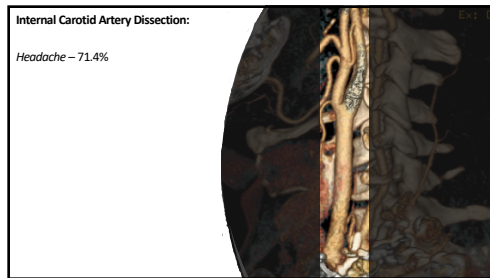
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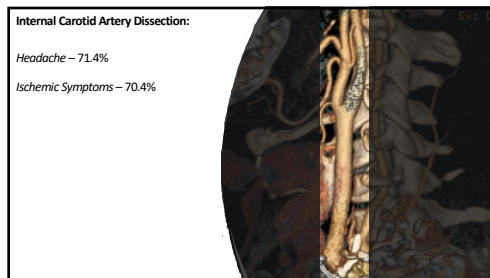
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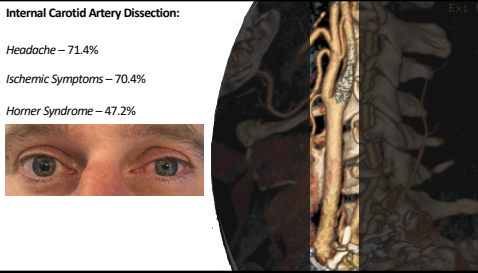
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Internal Carotid Artery Dissection:

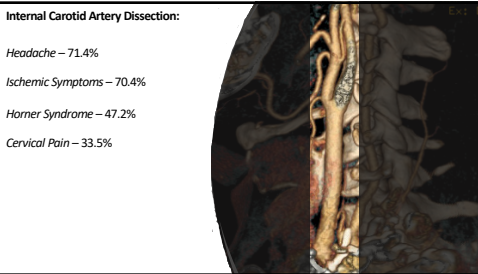
- Headache – 71.4%
- Ischemic Symptoms – 70.4%
- Horner Syndrome – 47.2%



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Internal Carotid Artery Dissection:

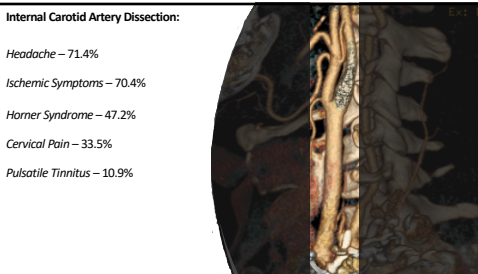
- Headache – 71.4%
- Ischemic Symptoms – 70.4%
- Horner Syndrome – 47.2%
- Cervical Pain – 33.5%



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Internal Carotid Artery Dissection:

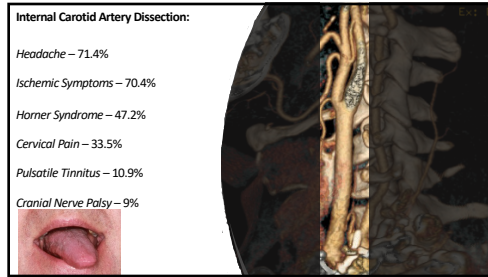
- Headache – 71.4%
- Ischemic Symptoms – 70.4%
- Horner Syndrome – 47.2%
- Cervical Pain – 33.5%
- Pulsatile Tinnitus – 10.9%



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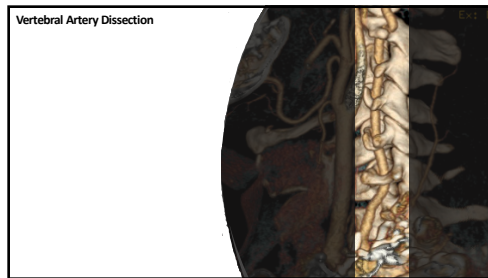
Internal Carotid Artery Dissection:

- Headache – 71.4%
- Ischemic Symptoms – 70.4%
- Horner Syndrome – 47.2%
- Cervical Pain – 33.5%
- Pulsatile Tinnitus – 10.9%
- Cranial Nerve Palsy – 9%



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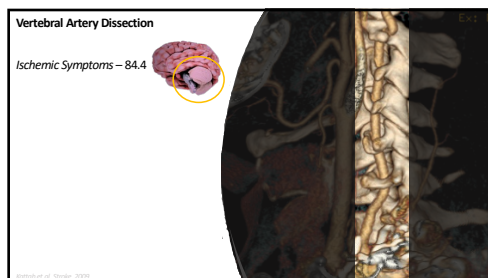
Vertebral Artery Dissection



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Vertebral Artery Dissection

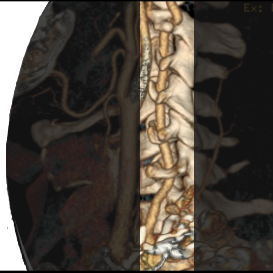
Ischemic Symptoms – 84.4



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Vertebral Artery Dissection

Ischemic Symptoms – 84.4
Headache – 70.4%
*Thunderclap – 9.2%



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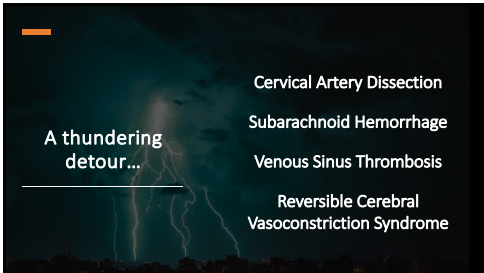
A thundering
detour...



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A thundering
detour...

- Cervical Artery Dissection
- Subarachnoid Hemorrhage
- Venous Sinus Thrombosis
- Reversible Cerebral Vasoconstriction Syndrome



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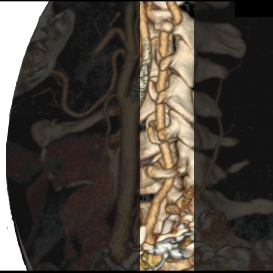
Vertebral Artery Dissection

Ischemic Symptoms – 84.4

Headache – 70.4%

*Thunderclap – 9.2%

Cervical Pain – 65.8%



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Diagnostic Imaging of Cervical Artery Dissection

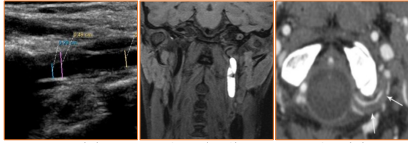
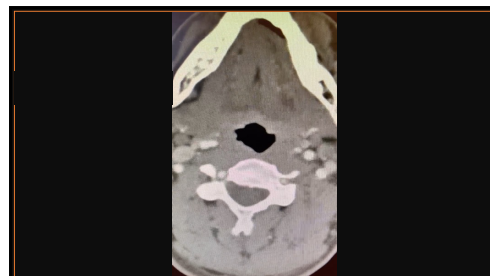


Image 1. Vertebral artery dissection on ultrasound.

Image 2. Internal carotid artery dissection and mural hematoma on MRA.

Image 3. Vertebral artery occlusion from dissection on CTA.

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Treatment of Cervical Artery Dissection

| Dissection with ischemic stroke < 4.5 hours from symptom onset | Dissection with ischemic stroke > 4.5 hours from symptom onset | Dissection without ischemic stroke |
|--|--|---|
| <ul style="list-style-type: none"> • Consider thrombolytics • Antiplatelets OR Anticoagulants • +/- Mechanical intervention | <ul style="list-style-type: none"> • Antiplatelets OR Anticoagulants • +/- Mechanical intervention | <ul style="list-style-type: none"> • Antiplatelets OR Anticoagulants |

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Treatment of Cervical Artery Dissection

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****Caveat: Intracranial Dissection**

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— Post-infarct Cerebellar Edema

A swollen detour...

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References

1. American College of Radiology. Cervical Artery Dissection: ACR Appropriateness Criteria®. Accessed June 12, 2023.

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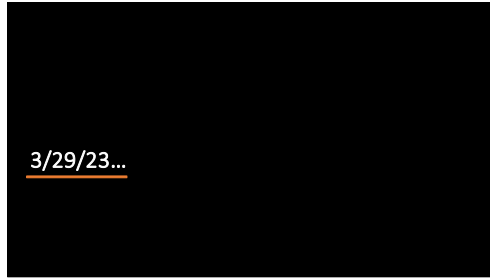
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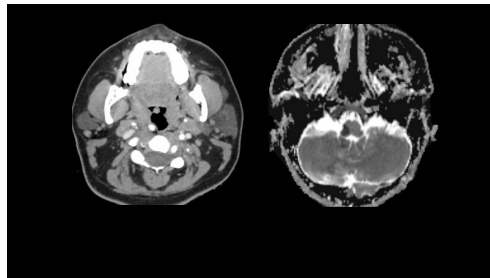
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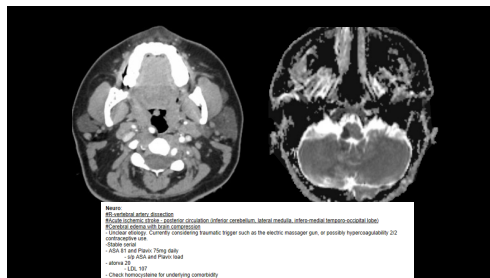
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