

A Most Perilous Sneeze

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Vinayak Ganeshan MS4, Sophia Milburn BS,
Vernard Fennell M.D., Andrew Steven M.D

Disclosures

- ◆ I have no actual or potential conflict of interest in relation to this presentation

Background

- ◇ Sneezing: a protective respiratory reflex secondary to stimulation of the upper respiratory tract
- ◇ Two phases: sensitive phase (nociceptive), efferent phase
- ◇ Efferent phase: eye closing, deep inspiration, forced expiration with *closing of the glottis, increasing intrapulmonary pressure*
- ◇ A closed-airway sneeze increases intranasal pressure up to 176 mmHg, transmits high Valsalva pressure to other systems [1]



Avoid if possible. Photograph: Freerange Public Domain Archives

Clinical Presentation

- ◇ 29F presented to the ED complaining of epistaxis, pain and pressure in L ear, left-sided hearing loss developed after sneezing 30m ago
- ◇ Vitals Signs Stable
- ◇ Scant blood in left nares and left-sided hemotympanum
- ◇ Discharged with outpatient ENT follow-up
- ◇ ENT confirmed hemotympanum and described blood draining from left eustachian tube on nasal endoscopy
- ◇ Further work up with CTA head and neck

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CT



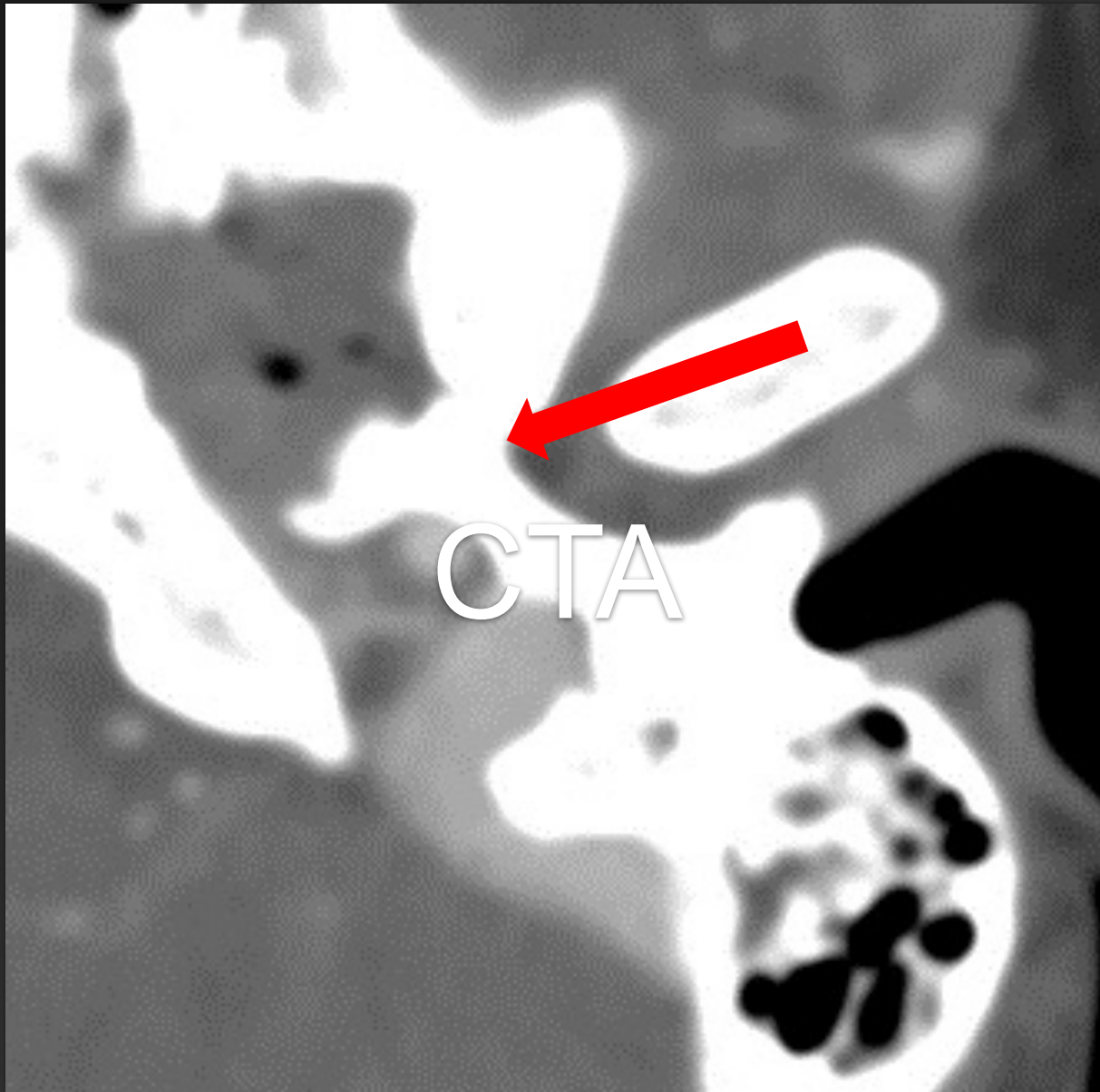
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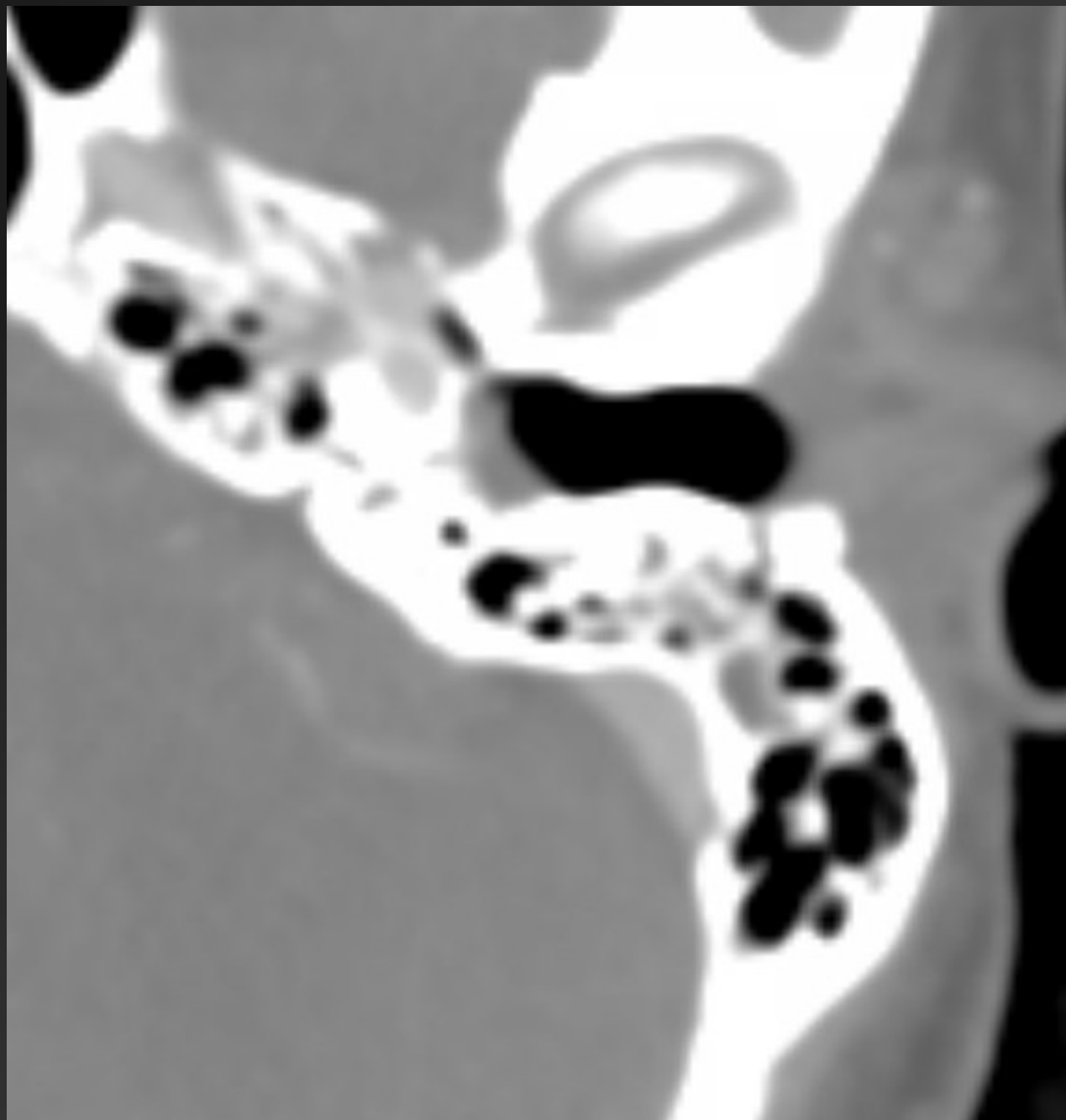
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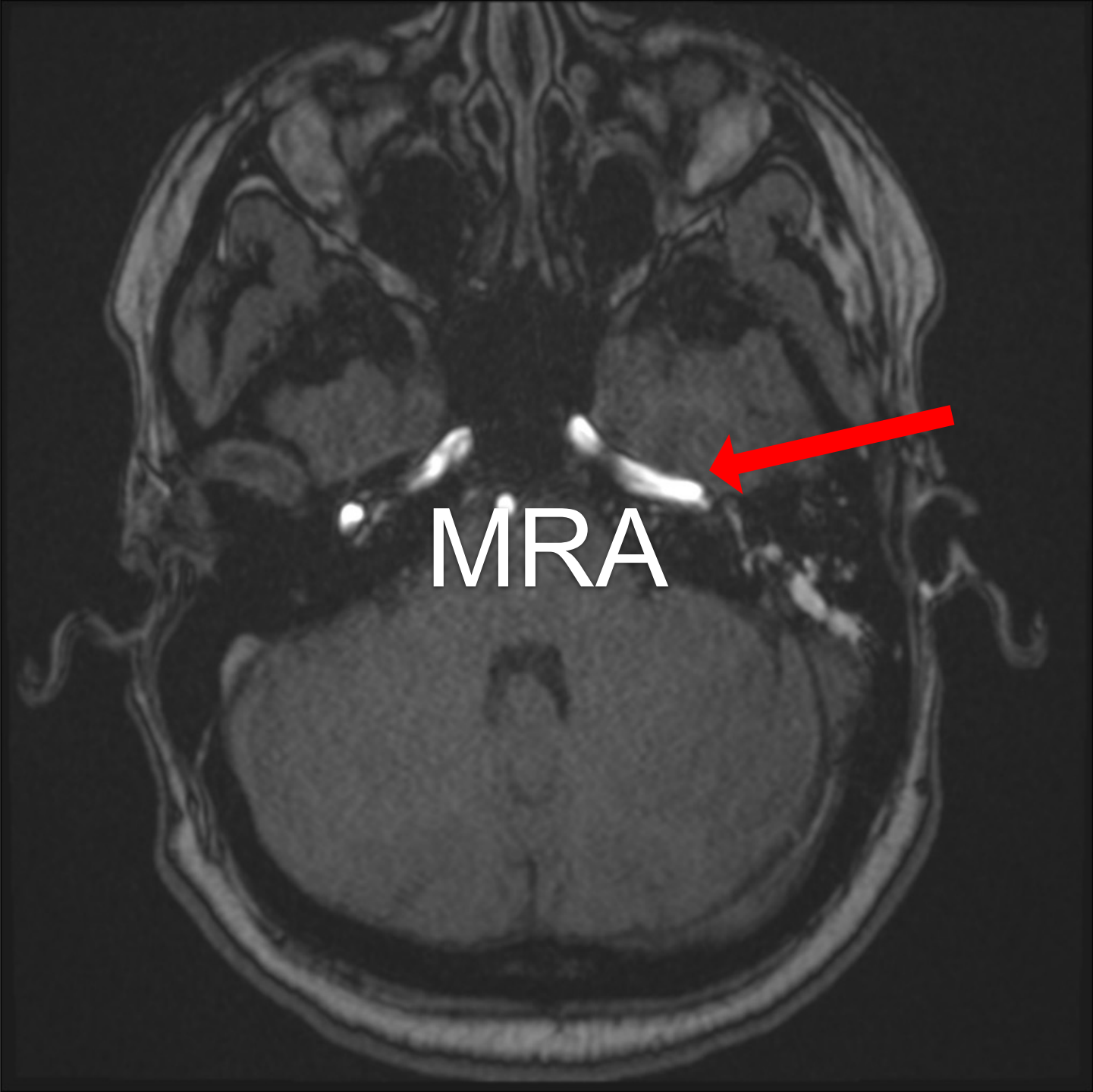
BONE W/O
CTA HEAD AND NECK (XPD)

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P







MRA

MRA Spin



DSA



- ◇ Pseudoaneurysm dimensions: 4 mm x 2.5 mm x 2.5 mm with daughter sac at superior wall
- ◇ Daughter sac dimensions: 2.2 mm x 1.8 mm



Management and Outcome

- ◆ Surpass EvolveT™ Flow Diverting Stent (Stryker) placed across petrous segment of L ICA
- ◆ Serial MRAs showed gradual occlusion
- ◆ Patient reported no further episodes of epistaxis, and her hearing symptoms resolved



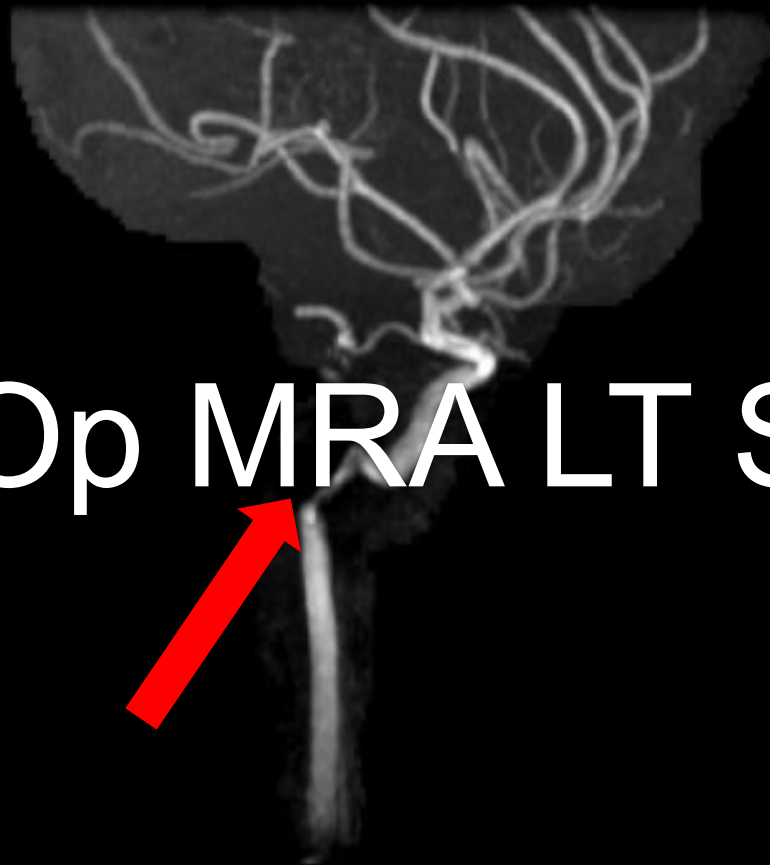
A grayscale Digital Subtraction Angiography (DSA) image showing the cerebral vasculature of a patient's head in a lateral view. The image displays a complex network of arteries and veins, with a central focus on the middle cerebral artery (MCA) territory. The text "Post-Op DSA" is overlaid in white, bold, sans-serif font in the center of the image. The background is a light gray, and the overall image has a slightly grainy texture typical of medical imaging.

Post-Op DSA

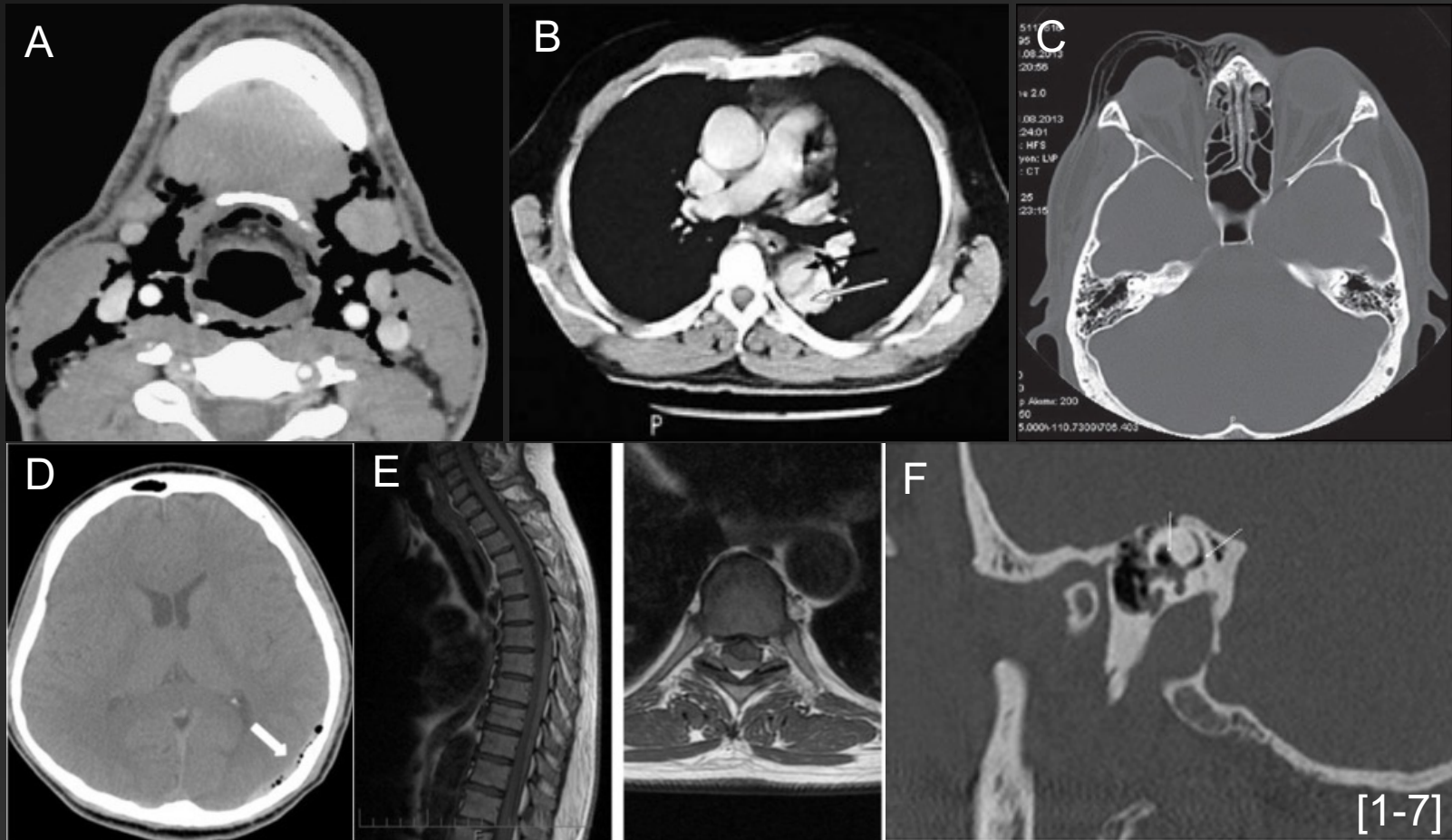
An axial magnetic resonance angiography (MRA) scan of the brain. The image shows the internal carotid arteries and other major vessels. A red arrow points to a specific area on the right side of the image (patient's left), likely indicating a post-operative site or a specific vessel. The text "Post-Op MRA" is overlaid in white.

Post-Op MRA

Post-Op MRA LT Spin



Fascinating Sneeze-Related Injuries



Take Home Points

- ◆ Having a high index of suspicion from a detailed clinical history can be helpful to identify subtle sneeze-associated injuries
- ◆ Sneeze physiology leads to burst of pressure (~ 1 kPa) travelling through upper airway; airway occlusion can transmit pressures on adjacent structures, causing trauma [8]
- ◆ A variety of rare vascular post-sneeze injuries have been described, but ICA pseudoaneurysms due to sneezing are extremely rare [9]

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Questions?

