



Vestibular Schwannoma Surgery— Decision Making in the Operating Room



A 55-year-old female presents with a gradual onset of unilateral hearing loss, tinnitus, and balance issues. These symptoms have been progressively worsening over the past 6 months, significantly affecting her quality of life. She has no prior history of head trauma or sudden neurological changes. Upon clinical examination, she shows signs of sensorineural hearing loss and mild gait imbalance.



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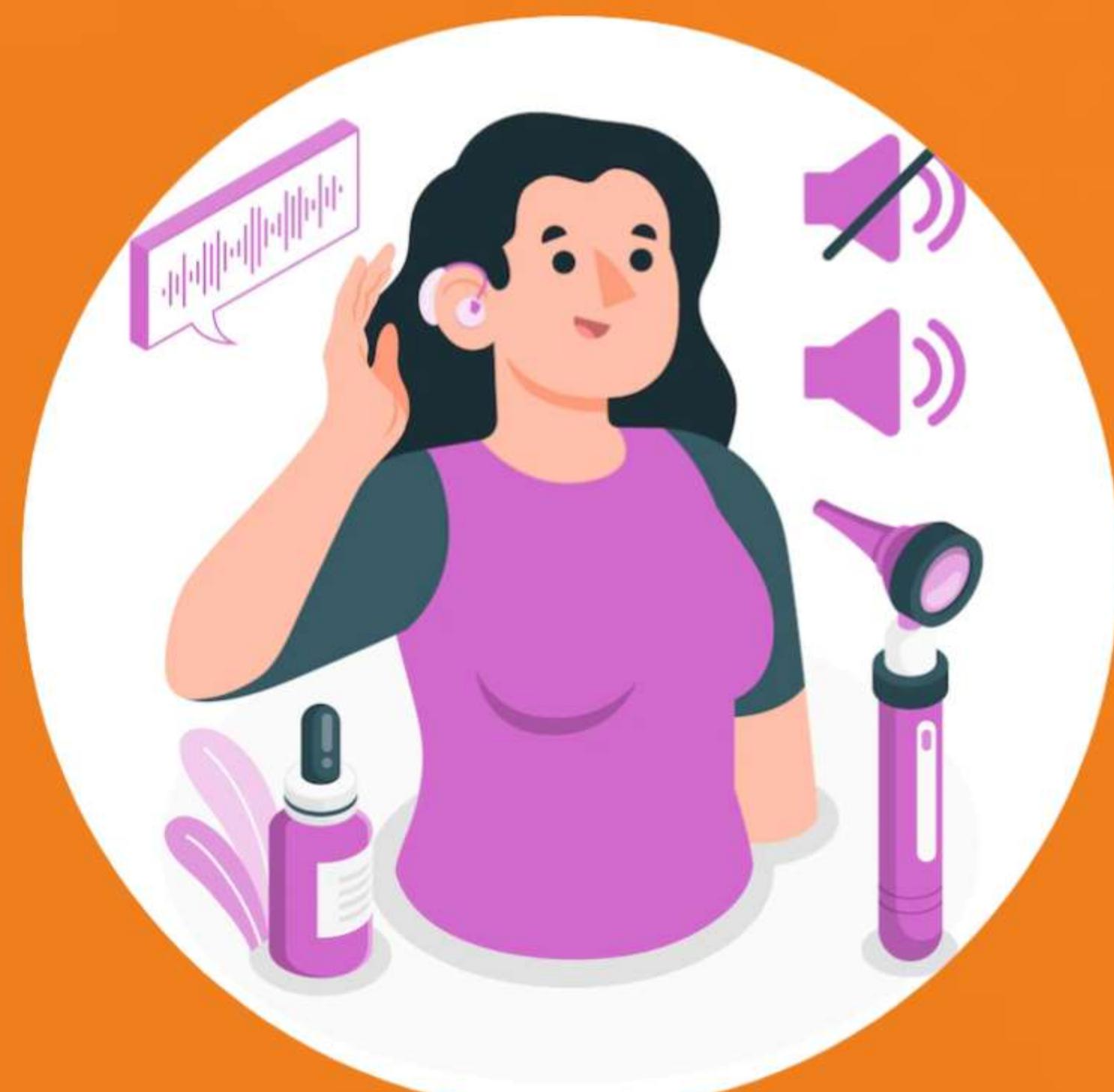
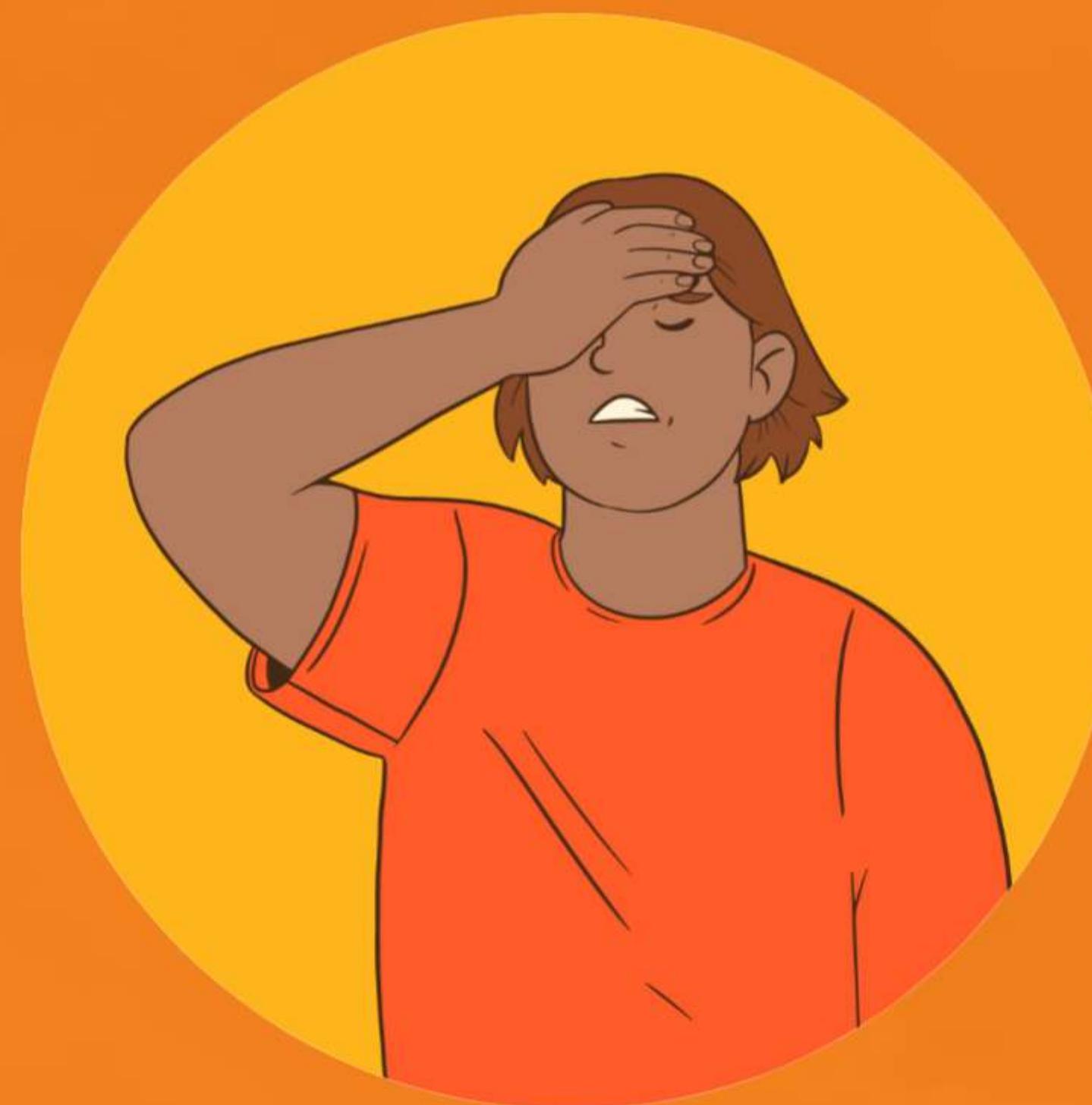
STEP 1 OF 5

RECOGNIZING THE SYMPTOMS

The patient's clinical presentation points toward a possible vestibular schwannoma, which is a benign tumor growing on the vestibulocochlear nerve (cranial nerve VIII).

Symptoms often include:

- Hearing loss (sensorineural)
- Tinnitus (ringing or buzzing sound)
- Balance issues (dizziness or vertigo)



These tumors typically grow slowly and can be asymptomatic for many years. When they do present with symptoms, it's usually due to the compression of the nerve.



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STEP 2 OF 5

DIAGNOSTIC IMAGING

To confirm the diagnosis, an MRI of the brain was ordered. The MRI revealed a well-defined, contrast-enhancing mass in the cerebellopontine angle (CPA), which is the typical location for an acoustic neuroma.

Key MRI Findings:

- Mass size:
3.2 cm x 2.5 cm
- Location:
Cerebellopontine
angle, compressing the
vestibulocochlear nerve
- Appearance: Hypointense on T1-weighted
images and hyperintense on T2-weighted images,
with significant enhancement after contrast.

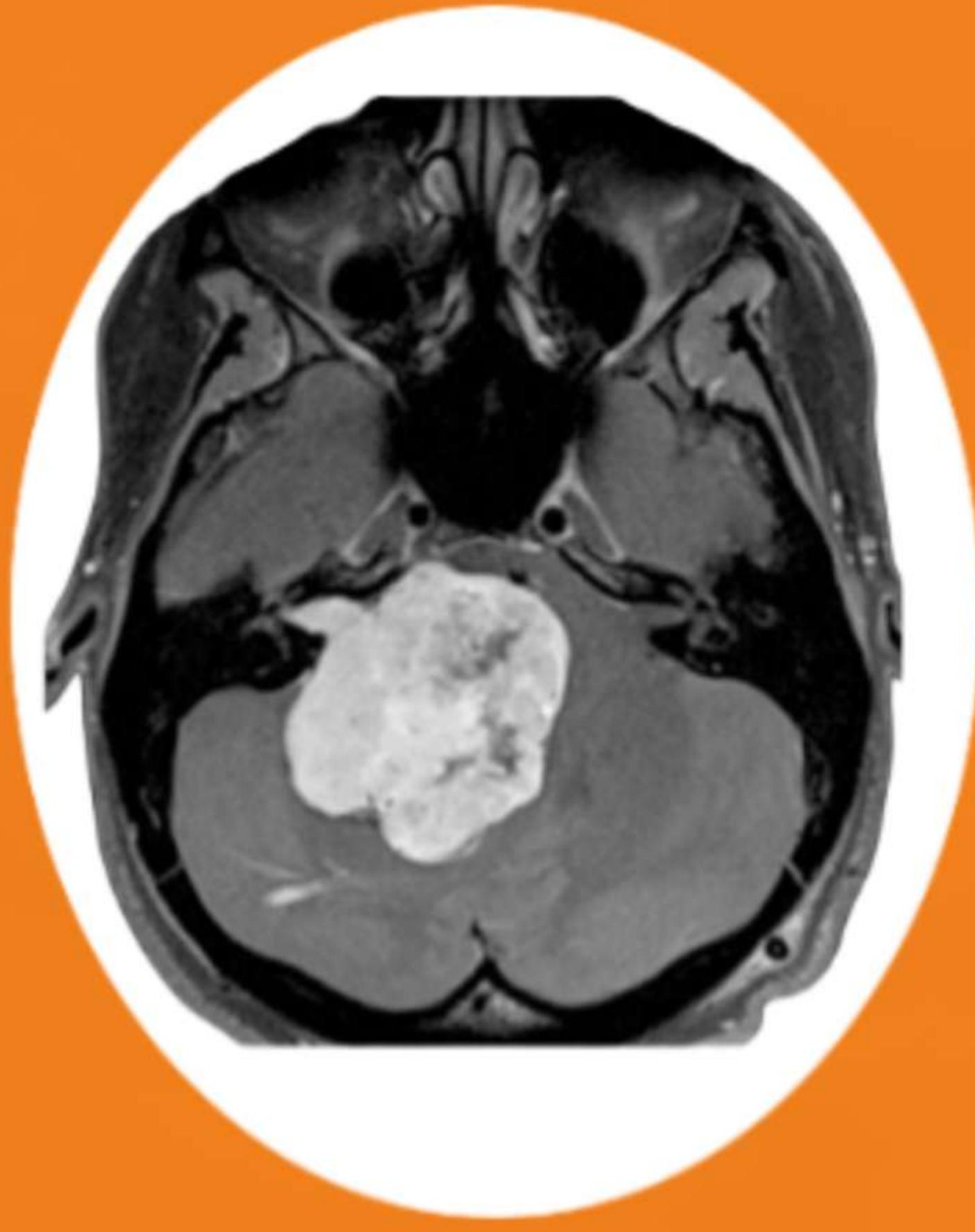
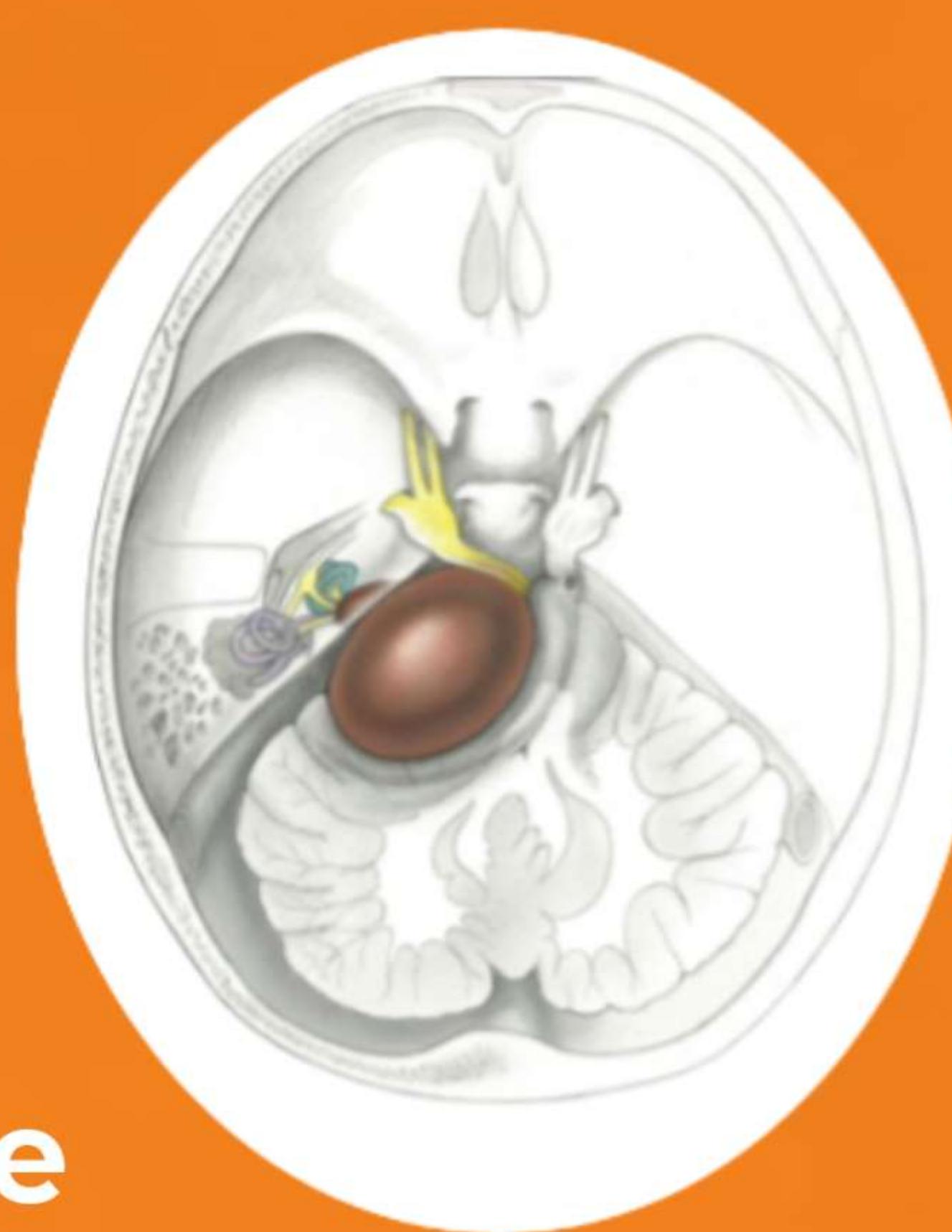


Image Credit: Neurosurgical Atlas



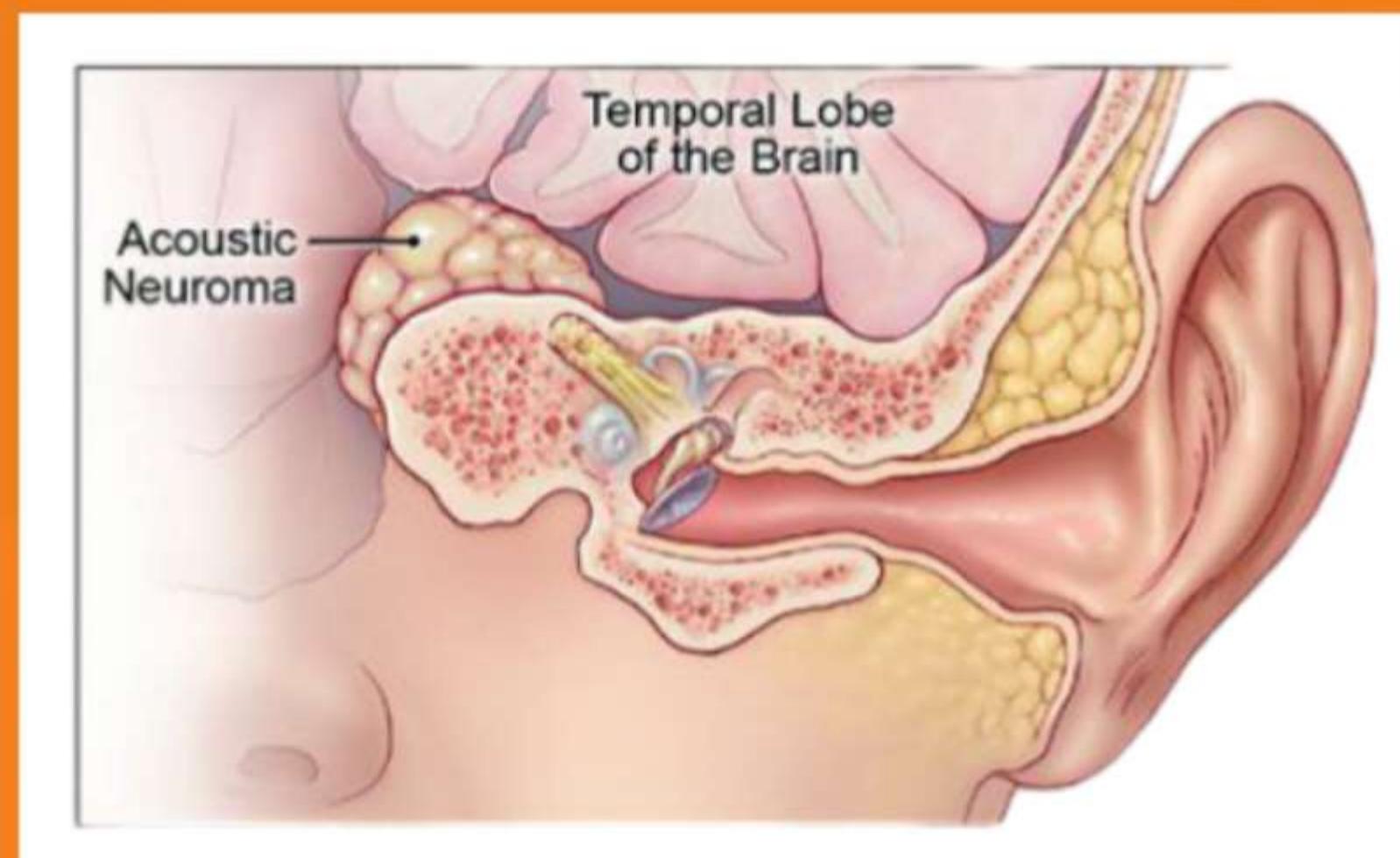
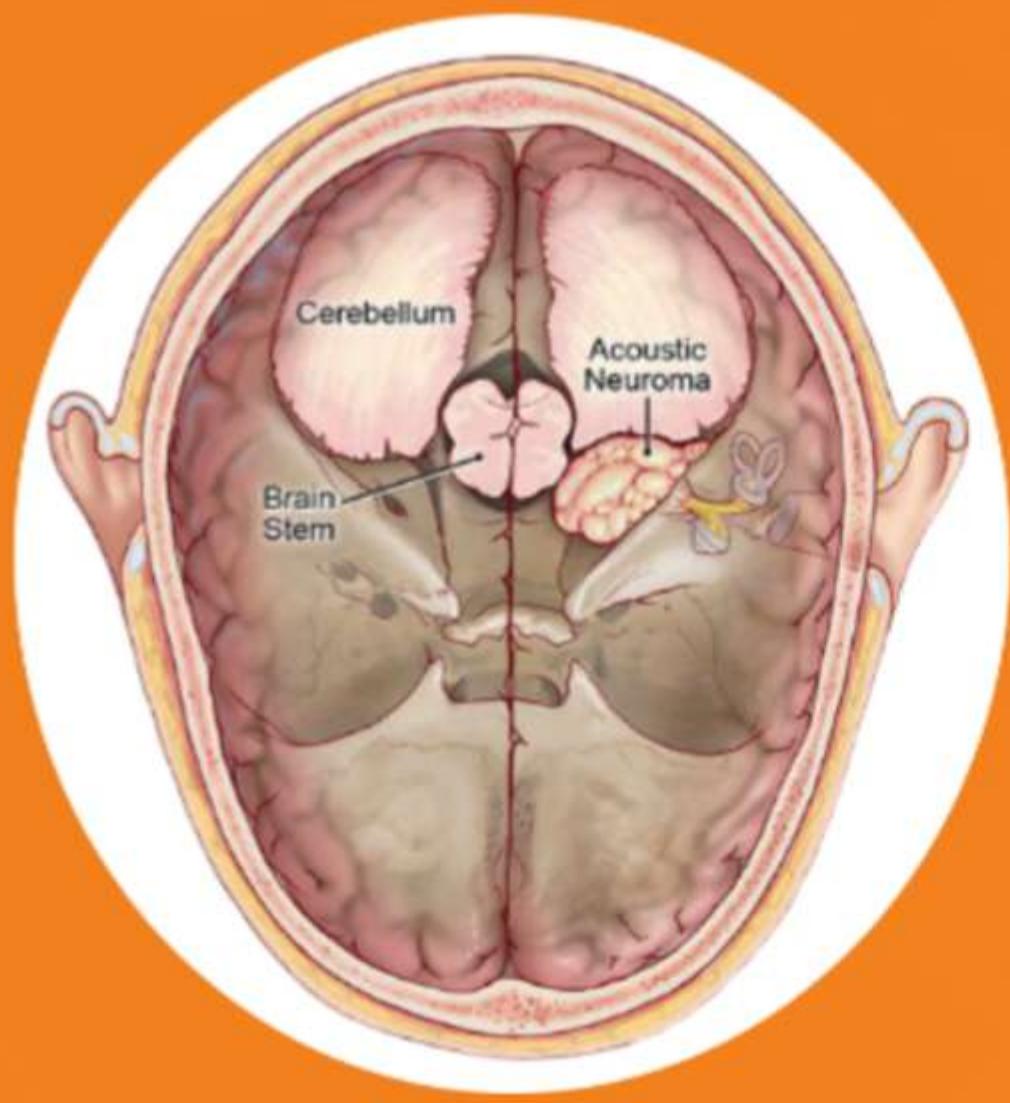
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STEP 3 OF 5

SURGICAL DECISION-MAKING

The patient was presented with two primary treatment options:

1. Surgical removal of the tumor via a retrosigmoid craniotomy.
2. Observation with regular MRI follow-ups, as the tumor is benign and may not significantly impact the patient's life.



After a thorough discussion with the patient regarding the risks and benefits of surgery (including hearing loss, facial nerve damage, and other surgical risks), the decision was made to proceed with surgery due to the size and symptomatic nature of the tumor.

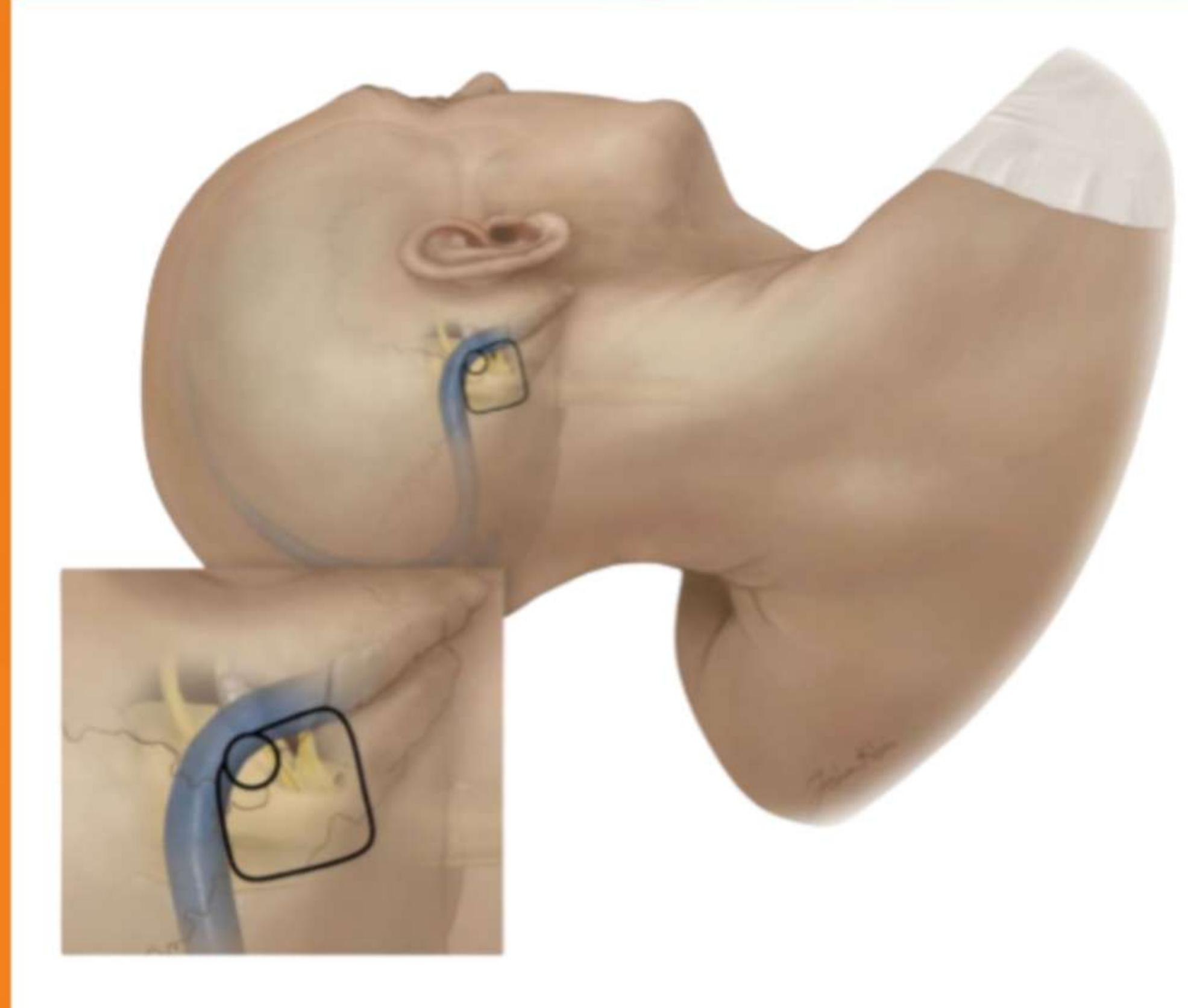
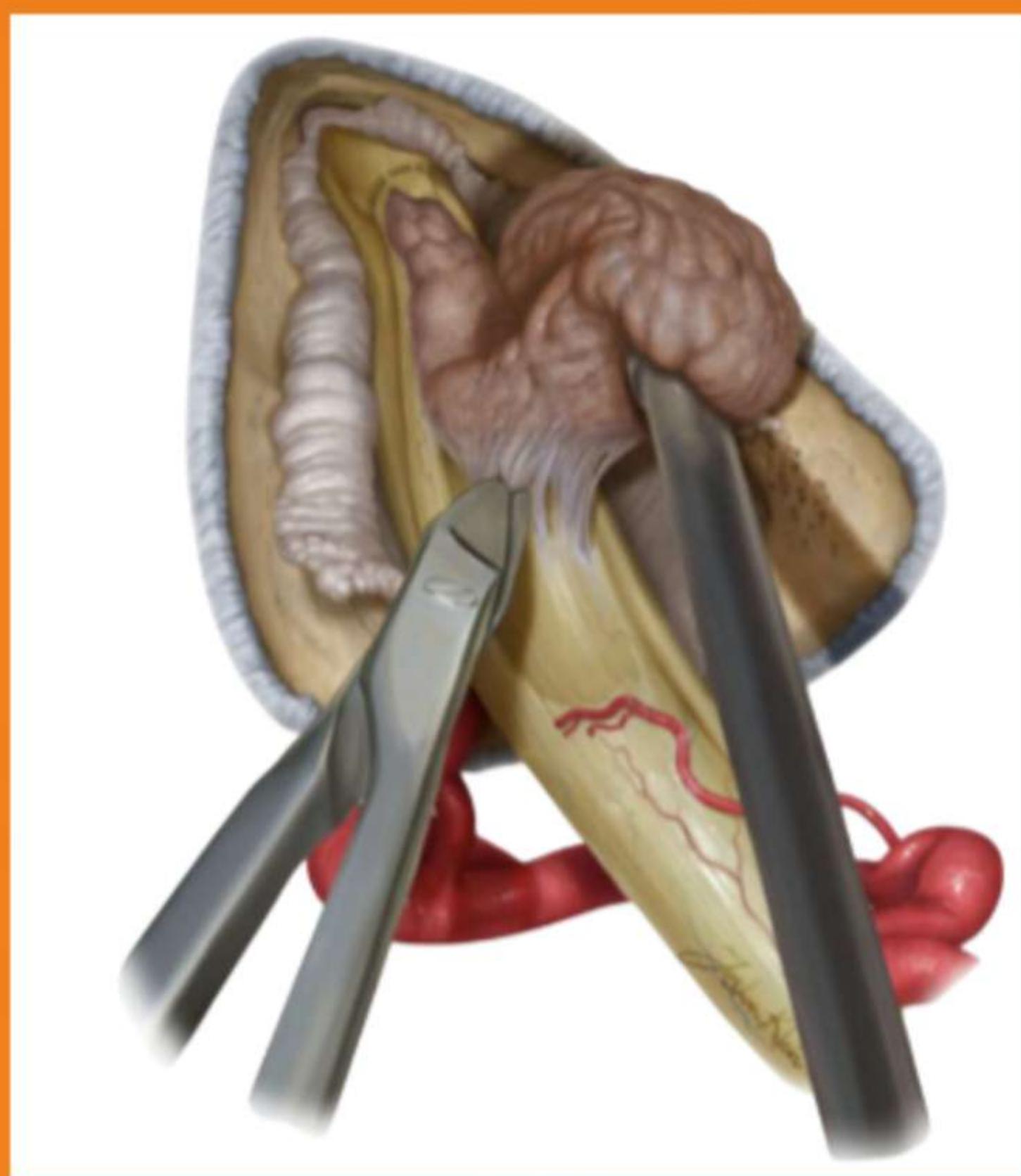


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STEP 4 OF 5

SURGERY AND APPROACH

The surgical team chose retrosigmoid craniotomy due to its ability to provide excellent access to the cerebellopontine angle while minimizing the risk to the facial nerve and cerebellum.



The patient was placed under general anesthesia, and a small incision was made behind the ear to expose the posterior fossa. The tumor was carefully dissected and removed under microsurgical technique, using intraoperative monitoring to preserve the facial nerve.

Image Credit: Neurosurgical Atlas



BEHIND THE SCENES SERIES

STEP 5 OF 5

POSTOPERATIVE OUTCOME

The surgery was successful, and the patient showed no signs of postoperative complications. Postoperative MRI confirmed that the tumor was grossly resected with no residual mass.

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VESTIBULAR SCHWANNOMA SURGERY— DECISION MAKING IN THE OPERATING ROOM

KEY TAKEAWAYS

1. Acoustic neuromas are benign tumors, but their location in the cerebellopontine angle makes them difficult to manage. The retrosigmoid approach is the gold standard for removing these tumors safely.
2. Early intervention is key for patients with symptomatic tumors, as it prevents further deterioration of hearing and balance.

