

# Perplexing Case of Facial Palsy and a Vanishing Facial Nerve Lesion

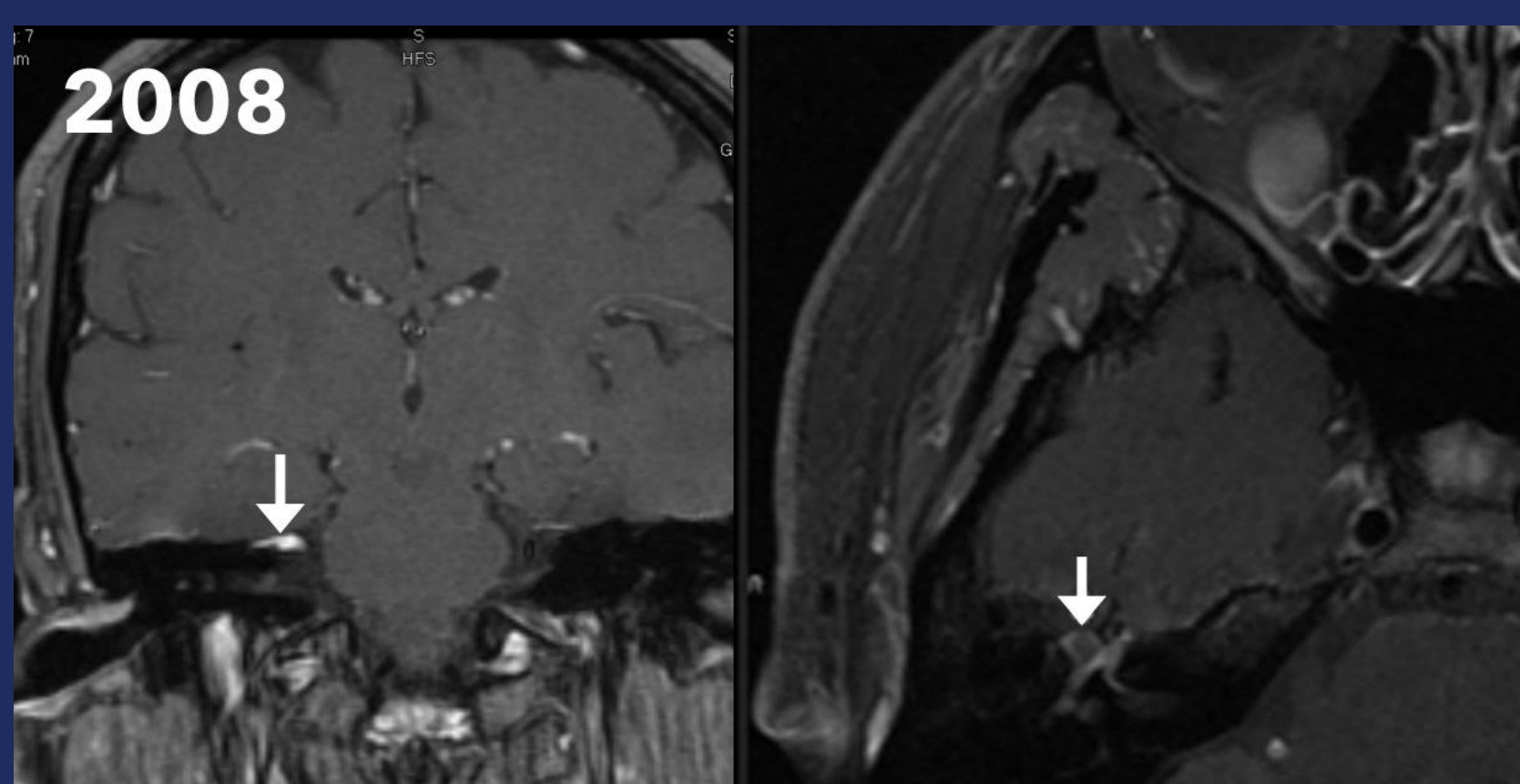
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## CASE REPORT

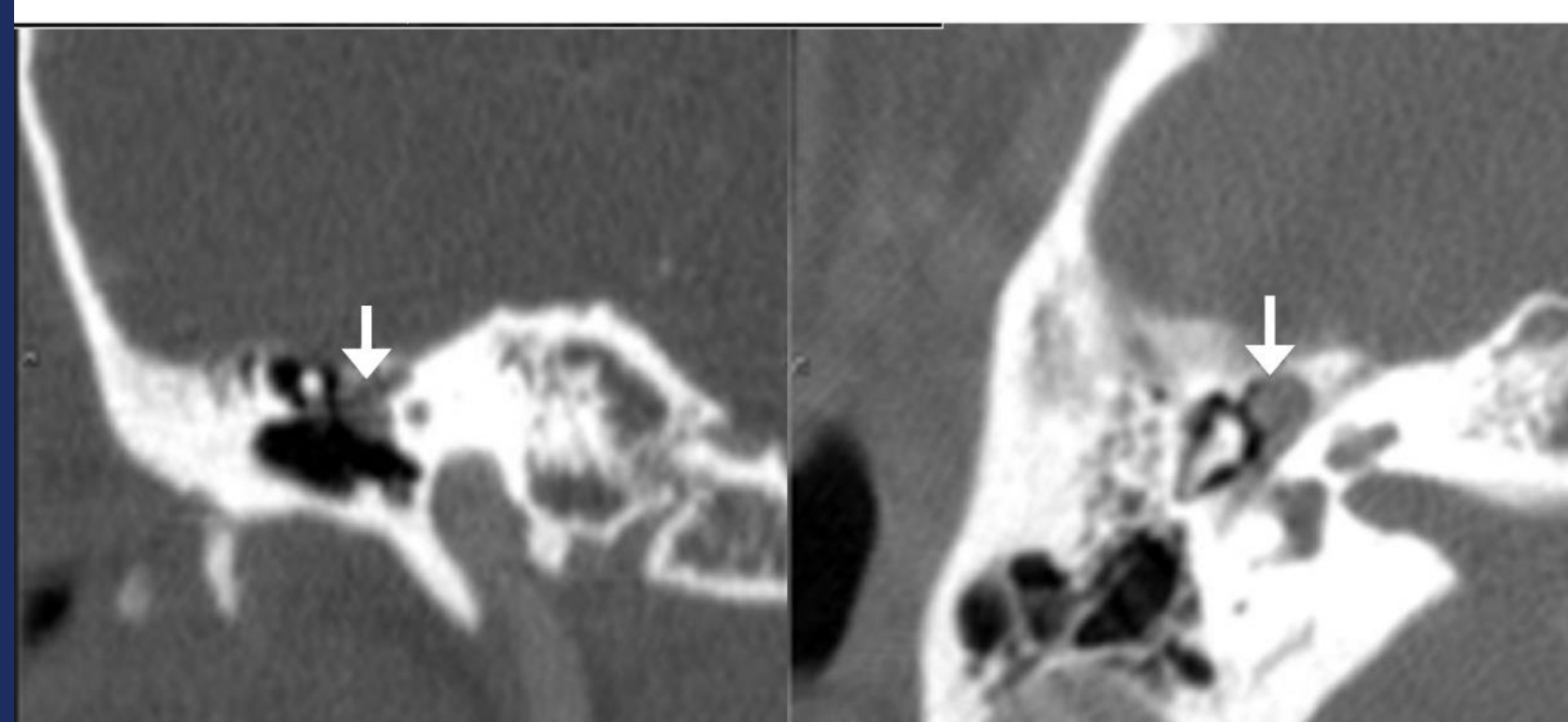
A 40-year-old woman presented with a history of a mild right-sided facial palsy (House-Brackmann II) and diagnosed at an outside hospital with “Bell’s Palsy.” Due to persistent facial palsy 6 months later, she underwent an MRI and CT which demonstrated an enhancing mass in the area of her geniculate ganglion and surrounding bony scalloping, which was consistent with a facial hemangioma. She had no hearing loss or tinnitus. The patient favored observation over surgery.

She was followed with serial examinations over 8 years, without any clinical decline or radiographic change. She then presented with worsening facial palsy (House-Brackmann IV) but, perplexingly, MRI showed that the enhancing mass in her geniculate ganglion had disappeared.

Given her acute worsening facial paralysis, she was taken to surgery for facial nerve decompression via middle-fossa craniotomy. The geniculate ganglion as well as the labyrinthine portion of the facial nerve down into the middle ear was completely decompressed. There was no evidence of a facial nerve tumor of any kind. The nerve stimulator was then used to test the integrity of the nerve. No stimulation was obtained, despite stimulating up to a level of 30 milliamps. At this time, the epineurium of the nerve was gently cut and the nerve again was stimulated. At this time, the nerve was stimuable down to a level of 0.3 milliamps (*see link to surgical video below*). This completed the surgery and upon awakening from anesthesia, the patient was noted to have improved facial function, back to a HB II. At follow-up 5 months later, she demonstrates a durable improvement in her facial nerve function, which remains a HB II.



**2008**  
6 months after “Bell Palsy,” MRI shows enhancing lesion in region of geniculate ganglion

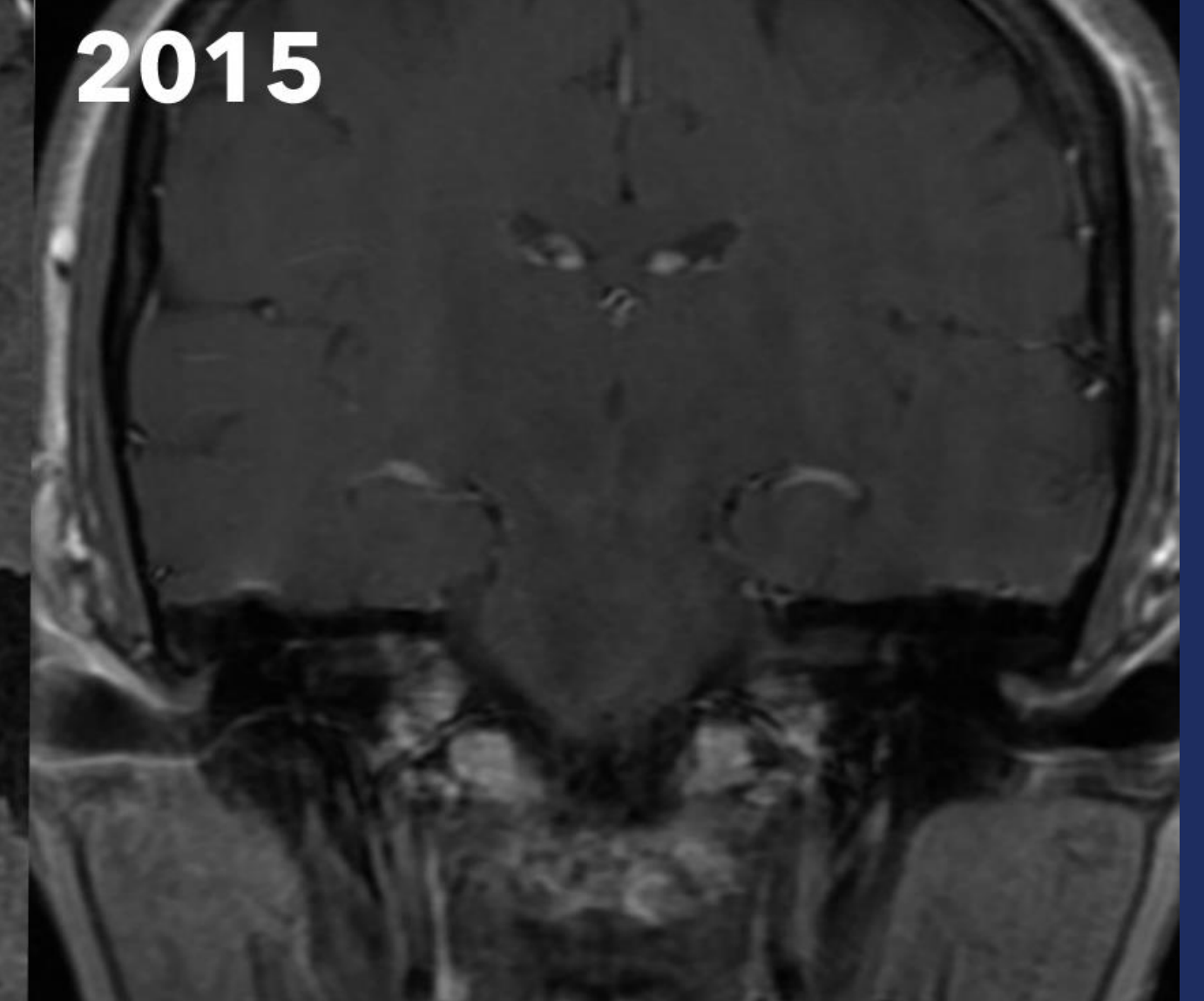


CT shows 4 mm area with mild bony scalloping along tympanic facial nerve adjacent to geniculate ganglion, consistent with a facial hemangioma.

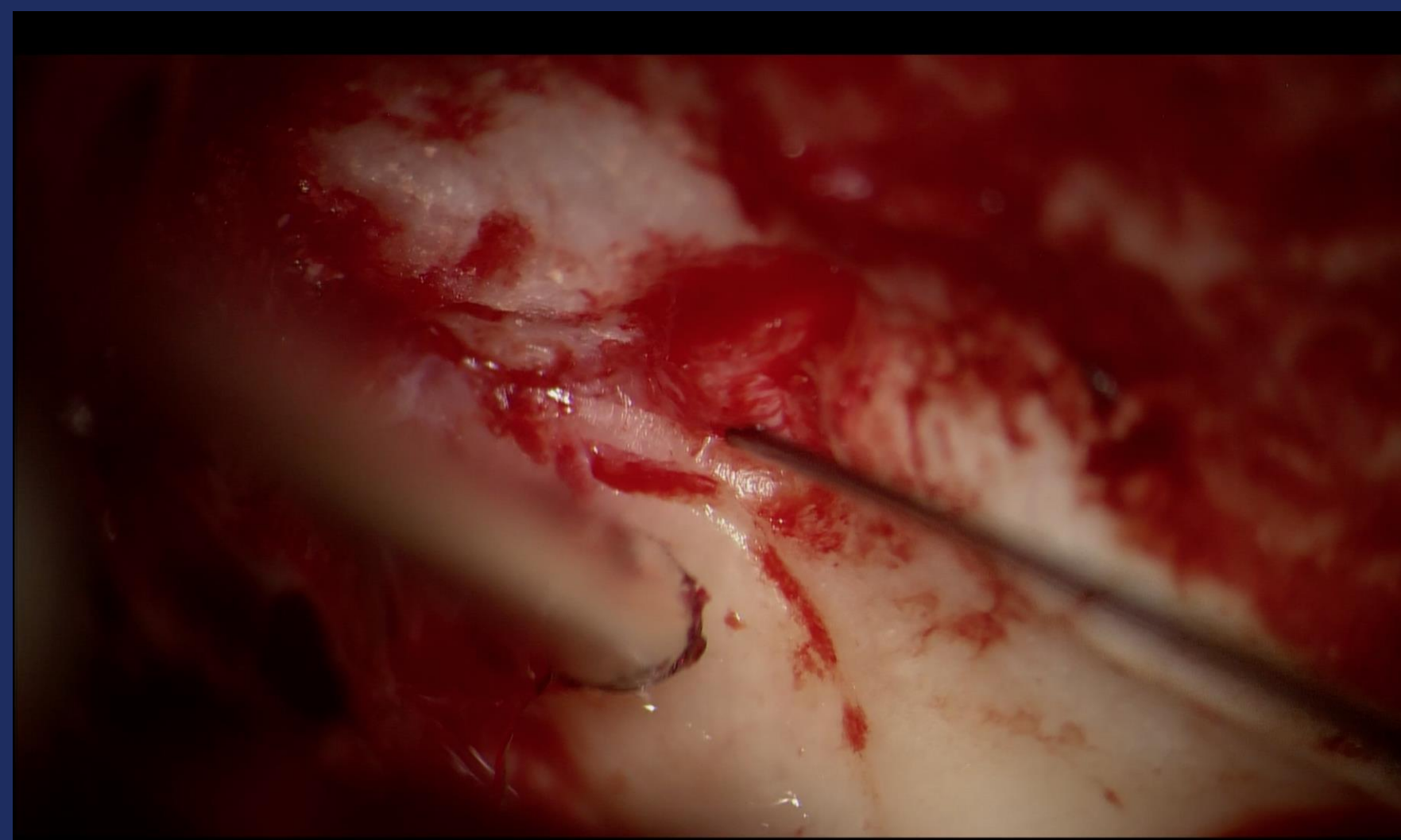
**2009**  
1 year later, there is no change in her symptoms nor CT. Persistent scalloping in the area of geniculate ganglion is noted



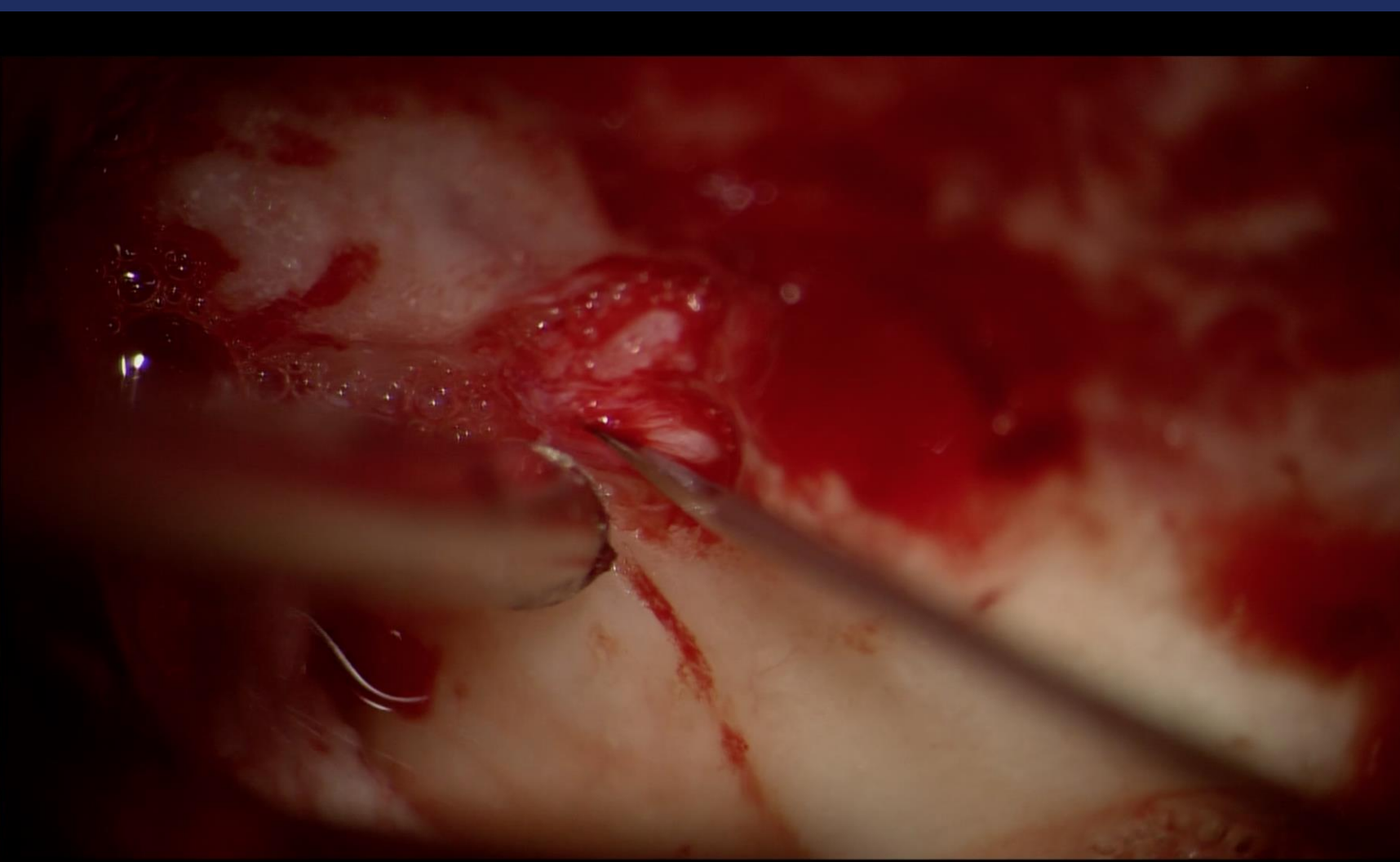
**2013**  
Patient remains stable (HB II). No hearing loss. MRI depicts stable enhancing lesion.



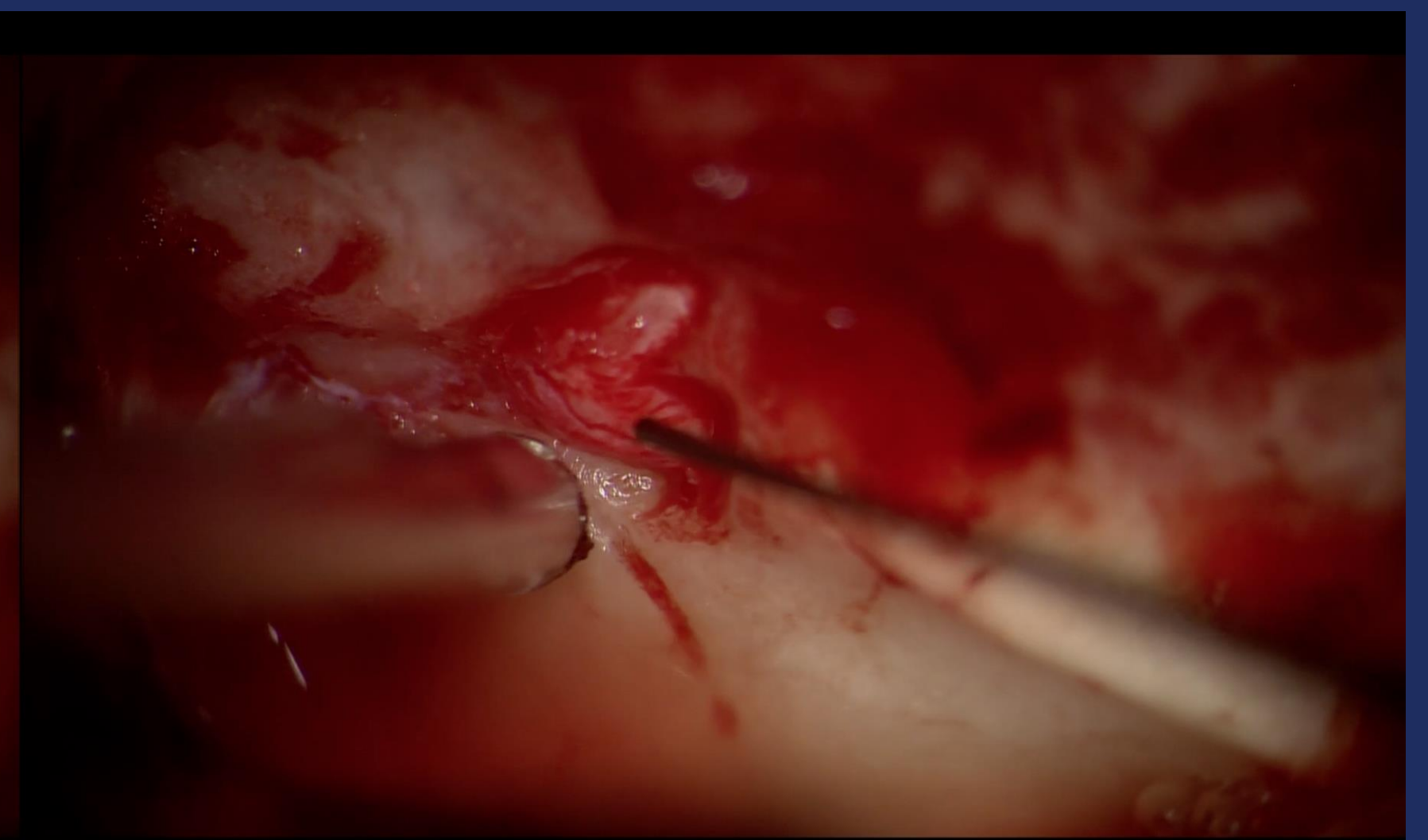
**2015**  
Sudden worsening of facial palsy (HB IV) but enhancing facial nerve lesion has now disappeared.



Upon exposing the facial nerve, stimulation up to 30 mA was attempted, with no response.



Epineurium was cut.



Immediate facial nerve stimulation was achieved and was stimuable down to 0.3 mA.

## SURGICAL VIDEO



<https://vimeo.com/192862439>

## CONCLUSIONS

- Facial nerve decompression with release of the epineurium may be considered prior to nerve grafting. We relied on stimulation of the facial nerve to guide intraoperative management decisions.
- Release of the epineurium resulted in improved facial nerve stimulation and was associated with improvement in our patient’s facial function.
- The etiology of our patient’s enhancement seen on MRI and the reasons for its subsequent disappearance remains unclear. We hypothesize this could represent a facial nerve hemangioma that ossified itself out of existence. Alternatively, it may represent an idiopathic inflammatory lesion that ultimately resulted in significant inflammation of the epineurium surrounding the nerve and geniculate ganglion, leading to scarring, contracture, and ultimately worsening facial paralysis.