Gross total resection of a complex right cerebellopontine angle tumor with the help of neuro-endoscopy

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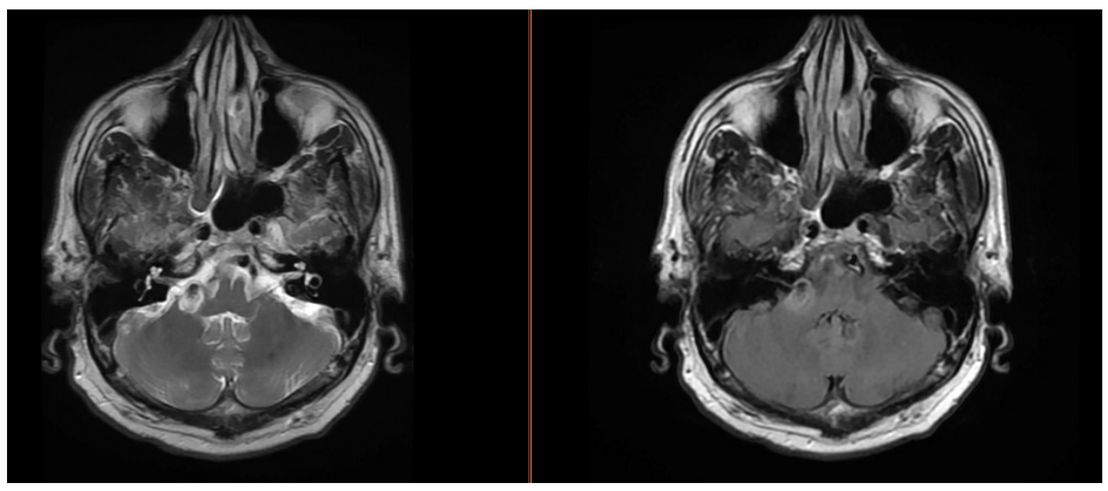
Abstract

A 63 year old male presented with a complex right cerebellopontine mass manifested by headaches, hearing loss and syncopal events. A right retrosigmoid craniotomy revealed a keratin filled cystic structure adherent to the eighth cranial nerve. The lesion was removed with careful sharp dissection and preservation of cranial nerve eight and the labyrinthine artery. Neuro endoscopy allowed for gross total resection of the complex mass found to be a mature teratoma on final pathology.

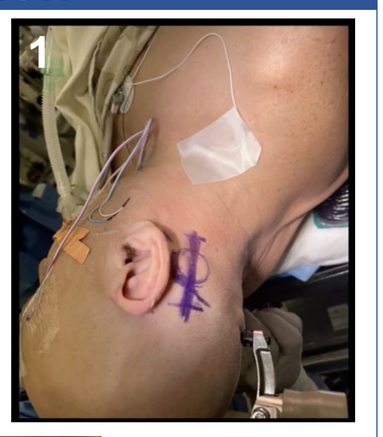
Introduction

63 year old man presented with a newly discovered right cerebellopontine mass discovered on work-up for neck pain and radiculopathy. On further questioning he endorses syncopal episodes, sudden onset of right sided hearing loss a few months ago and generalized headaches.

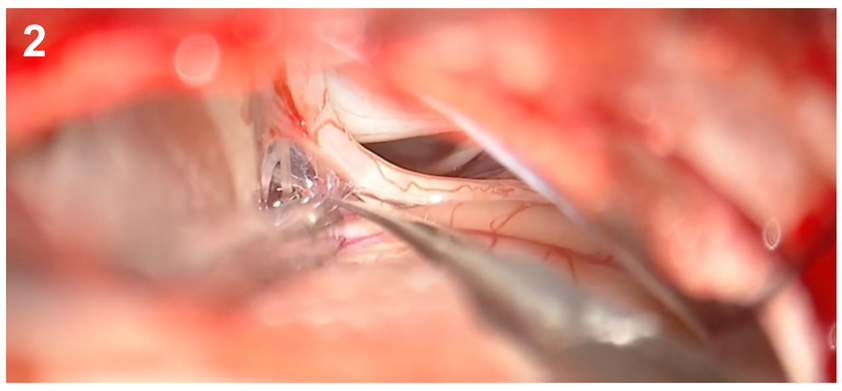


Surgical Approach

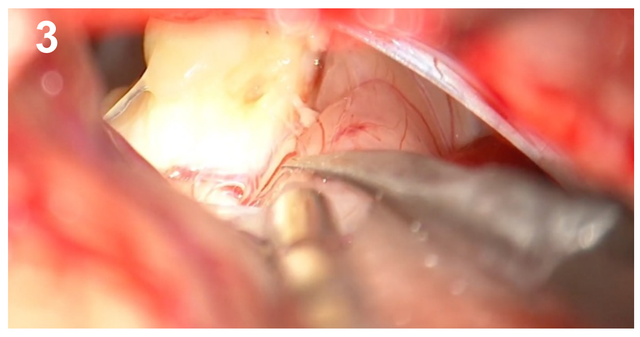
1) A right retrosigmoid approach was taken to access the cerebellopontine angle. The patient was positioned supine with a large bump under the right shoulder and the head fixed in a Mayfield clamp allowing for frameless stereotactic navigation.

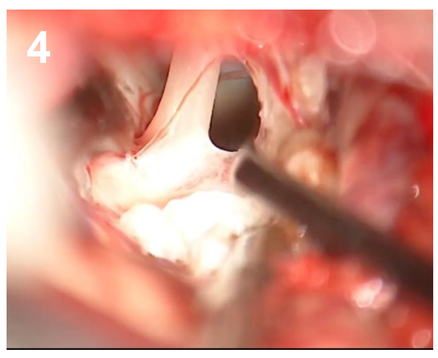


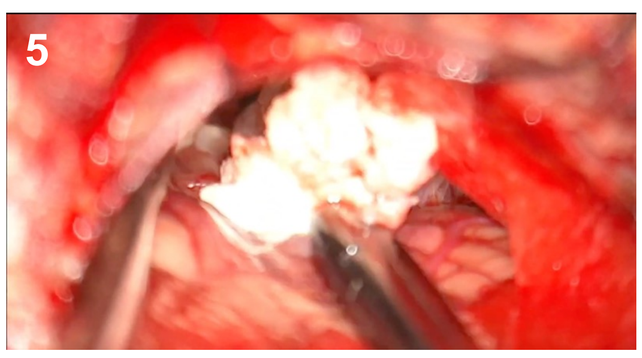
2) The 7th and 8th cranial nerve complex was encountered just superior to the lesion.



3-5) The lesion was internally debulked and the capsule was circumferentially dissected extending towards the pons and cerebellum as well as the foramen of Lushka interiorly and laterally

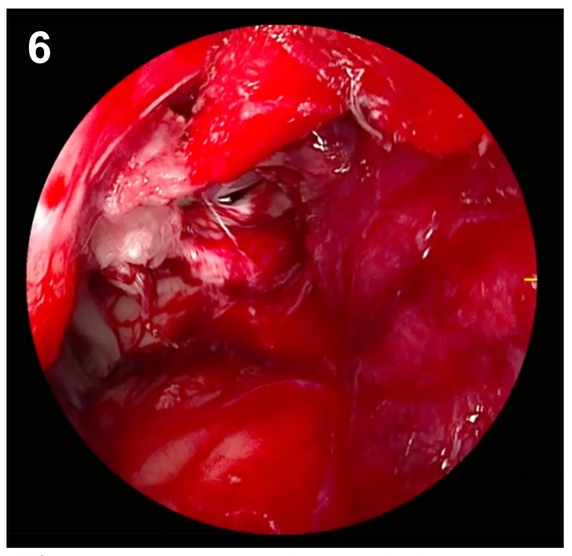


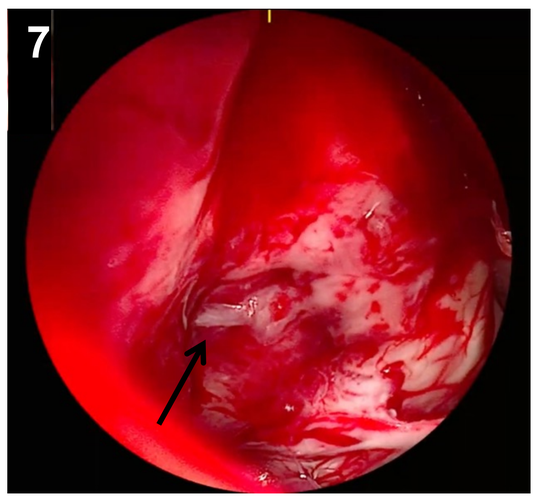




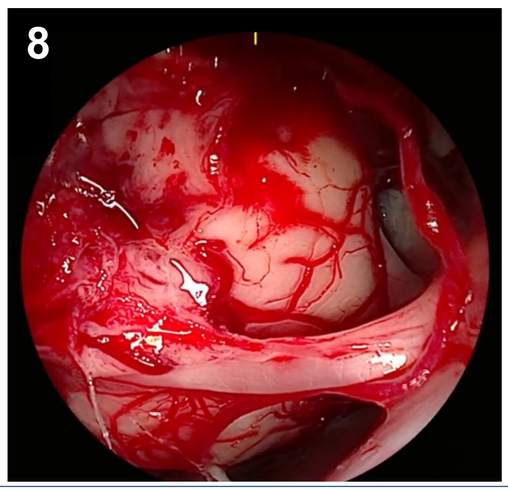
Use of Neuroendoscopy

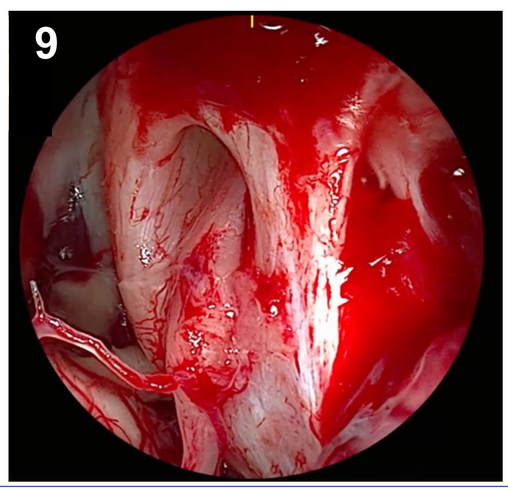
6) The neuroendoscope was introduced with at 45 degree angle camera to inspect the internal auditory meatus and cerebellopontine angle. Residual keratin material was identified and easily removed after some irrigation and gentle dissection.





7) Upon re-inspection with the neuro-endoscope a small amount of additional tumor was identified that was resected with a micro bayonet.
8-9) Further inspection confirmed a gross total resection and preservation of the labyrinthine branch of the anterior inferior cerebellar artery.

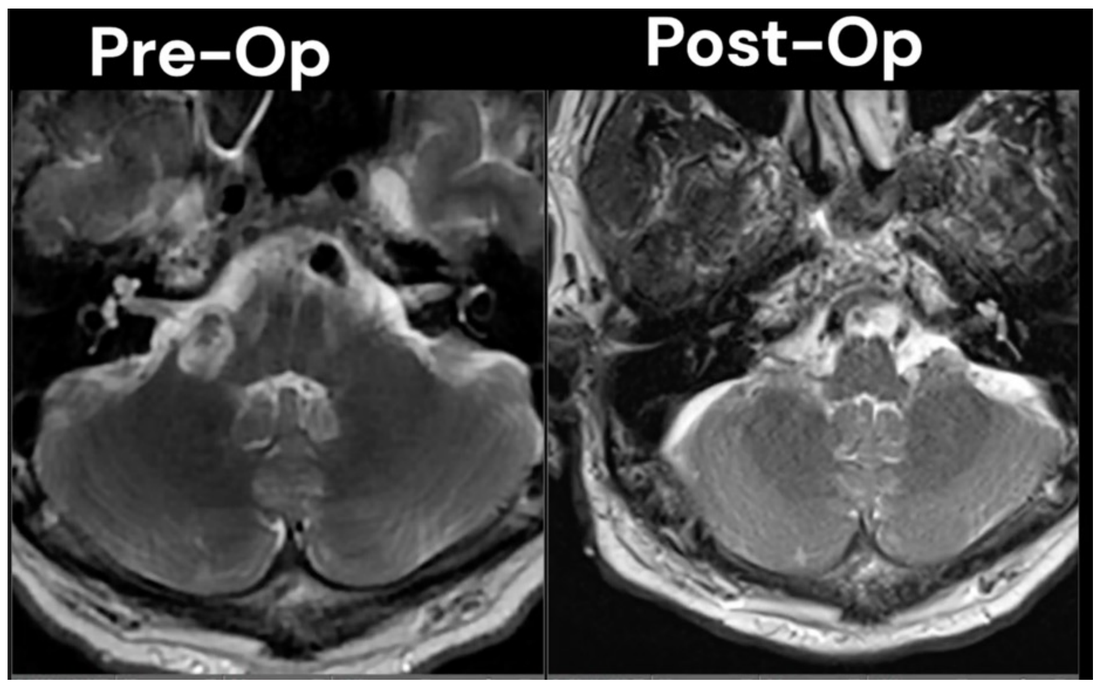




Post-Operative Course

The patient recovered well from surgery and had no new neurologic deficits. He was discharged on post-operative day one and on follow up his headaches had completely resolved.

The final diagnosis based on Pathology was mature teratoma.



Conclusions

This case demonstrates the utility of endoscopic assistance in achieving gross total resection in complex lesions of the CP angle, providing sight lines and confirmation of the extent of resection

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