
ICG-assisted endoscopic transorbital resection of orbital apex cavernous hemangioma – First reported case

■ Authors: ■

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BACKGROUNDS

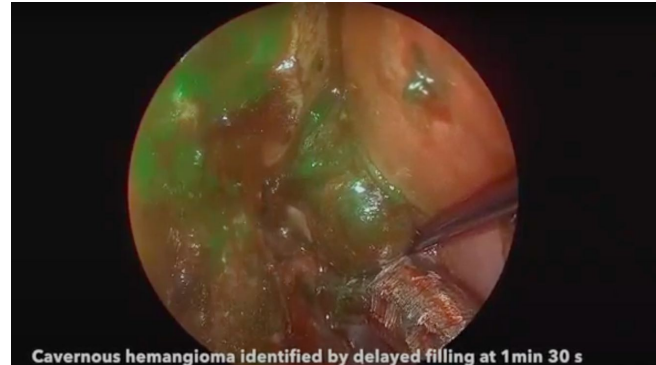
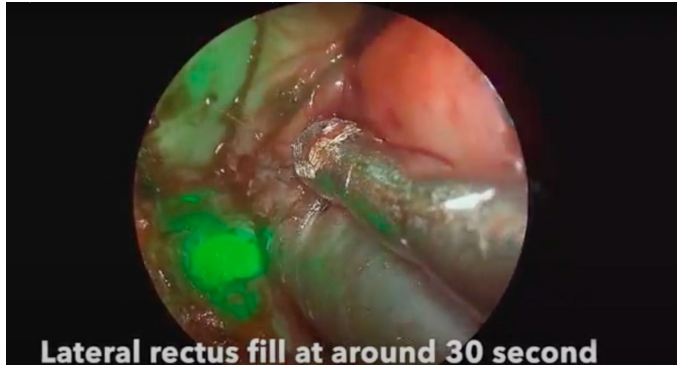
- The application of Indocyanine green (ICG) in medical field is common.
- It is used in ophthalmology including assessment of the retinal and choroidal circulation.
- Posterior orbital tumor is very challenging to orbital surgeon due to the poor surgical access, limited visualization and close proximity to important neurovascular structure
- This is a case report to illustrate the use of indocyanine green fluorescence integrating with endoscopic transorbital technique to facilitate the removal of posterior orbital pathology

METHODS

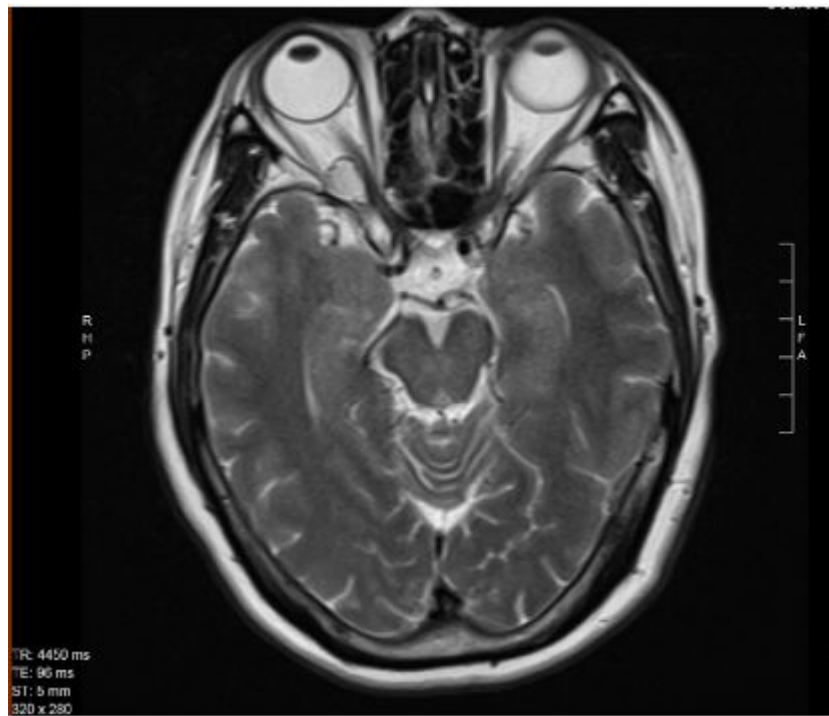
- A 64 years old Chinese woman was diagnosed with orbital cavernous malformation of right eye, causing compressive optic neuropathy.
- Presented with painless blurry vision of right eye
- Physical examination demonstrated a superior and infra temporal visual field defect of right eye with right optic disc swelling
- CT showed 1cm oval lesion posterior intraconal space near orbital apex
- Features suggested of orbital cavernous malformation
- Right endoscopic transorbital excision was performed with ICG-assisted endoscopic technique, jointly operated by oculoplastic surgeon and endoscopic skull base neurosurgeon

FINDINGS

- The use of ICG during operation resulted in delayed enhancement of the lesion at around 1 minute 30 seconds
- Surrounding recti muscles showed rapid enhancement at around 30 seconds
- The incision of periorbita was guided by ICG enhancement
- Total excision of tumor was achieved. Patient enjoyed good visual recovery and cosmetic results



Preop scan



Postop scan



CONCLUSION

- This case report demonstrated good result of the use ICG integrated endoscopic transorbital technique for orbital cavernous malformation successfully
- To our knowledge, this is the first case report of this integrating technique in management of orbital cavernous malformation