



Vertebral Artery-to-Vertebral Artery Bypass with Radial Artery Graft: a Local Experience

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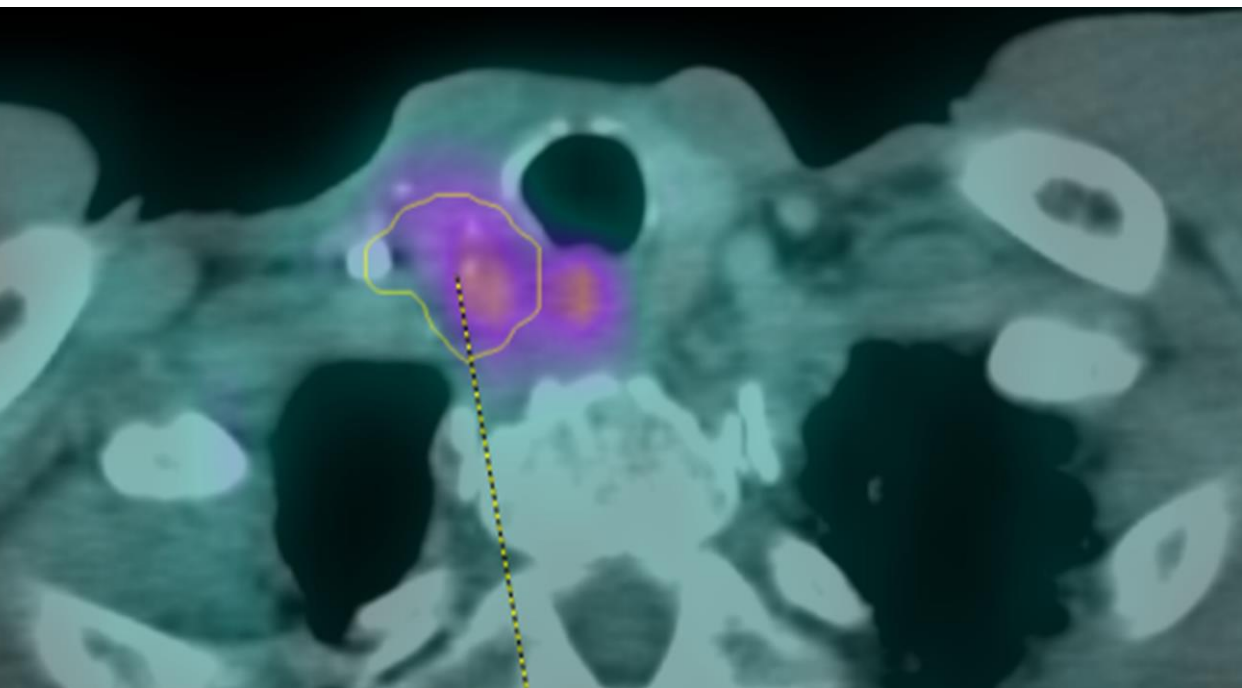
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Background

The treatment of recurrent head and neck tumours involving major vessels is among one of the most formidable challenges for surgeons. To achieve disease clearance major arteries which also have intracranial supply may need to be sacrificed. Vertebral artery reconstruction using VA-VA bypass with a radial artery graft or an occipital artery graft had previously been reported for treatment of PICA aneurysm but not for recurrent head and neck tumours.

History

Mr. Lam was diagnosed with cancer of oesophagus, having previously underwent oesophagectomy and adjuvant radiotherapy.

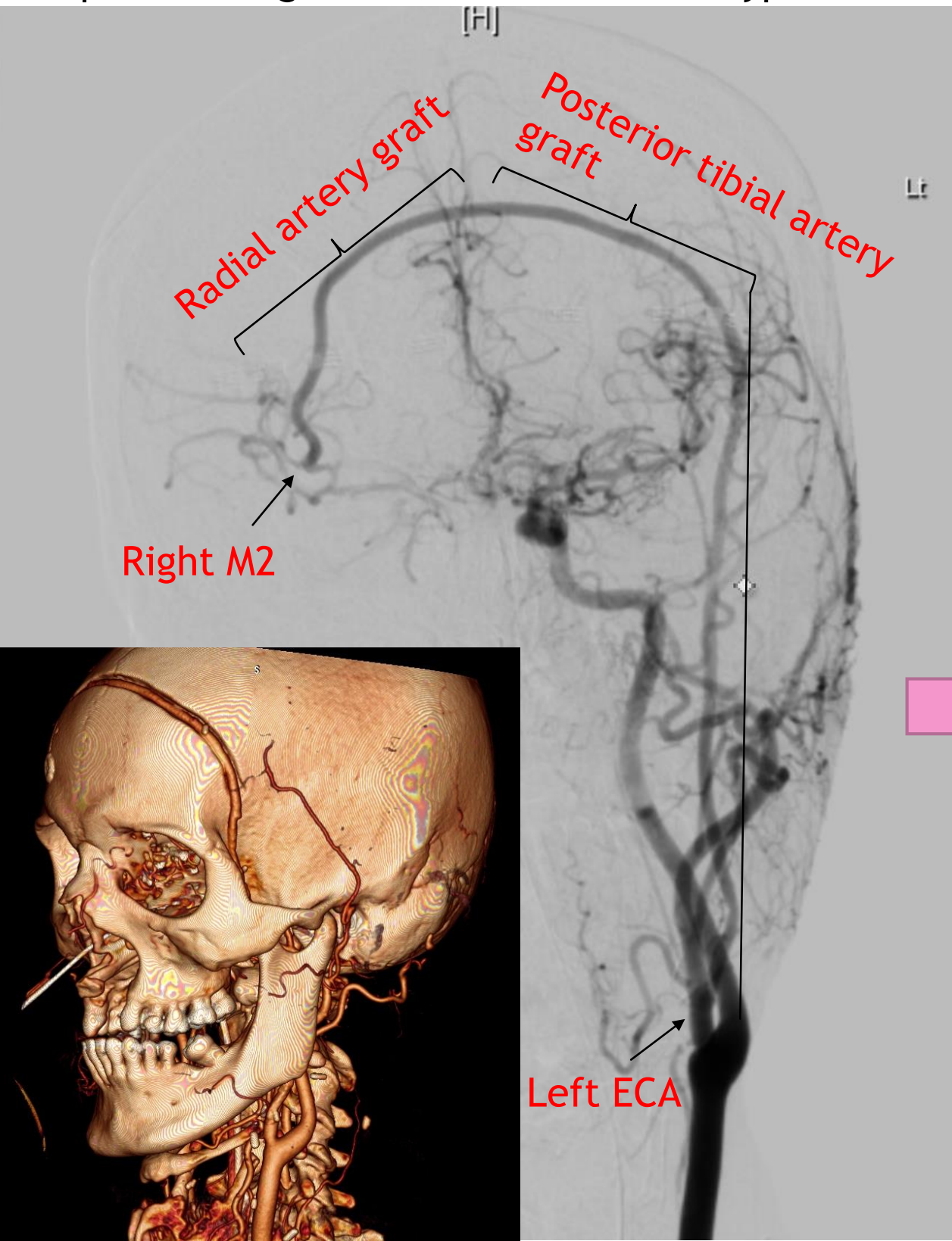


Follow-up PETCT showed FDG-avid recurrent tumour localized to right tracheo-oesophageal groove partially encasing right common carotid, abutting the right subclavian ostium and right VA.

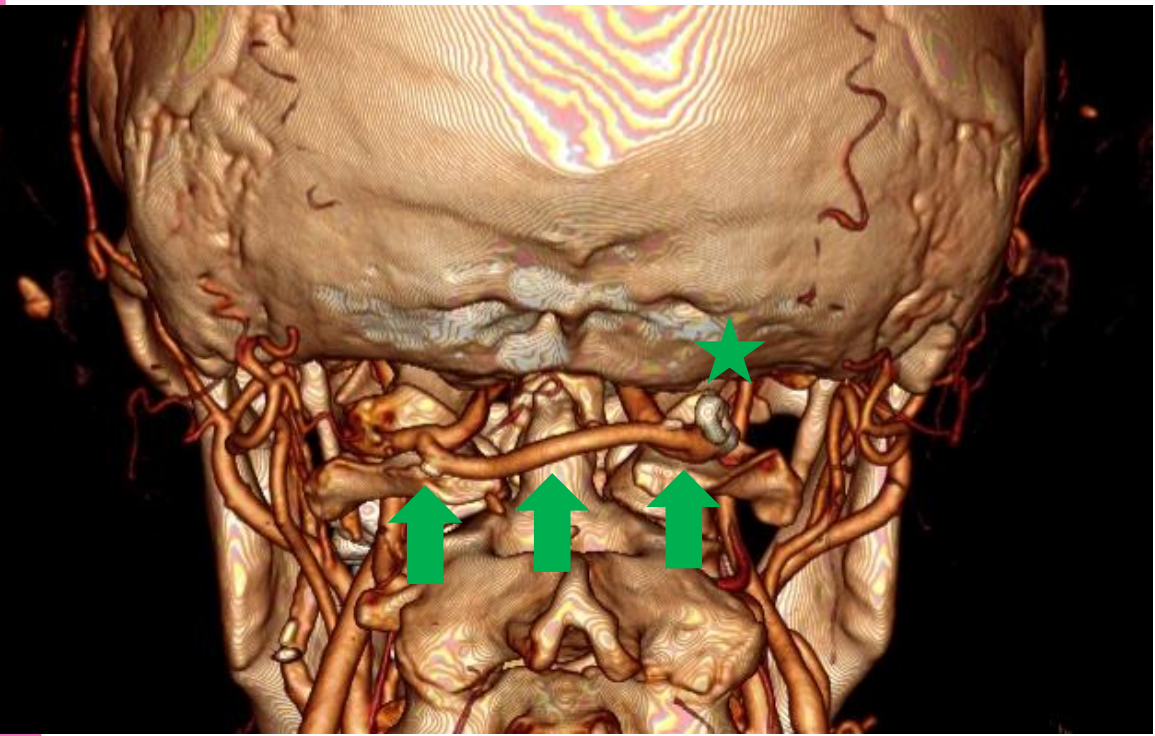
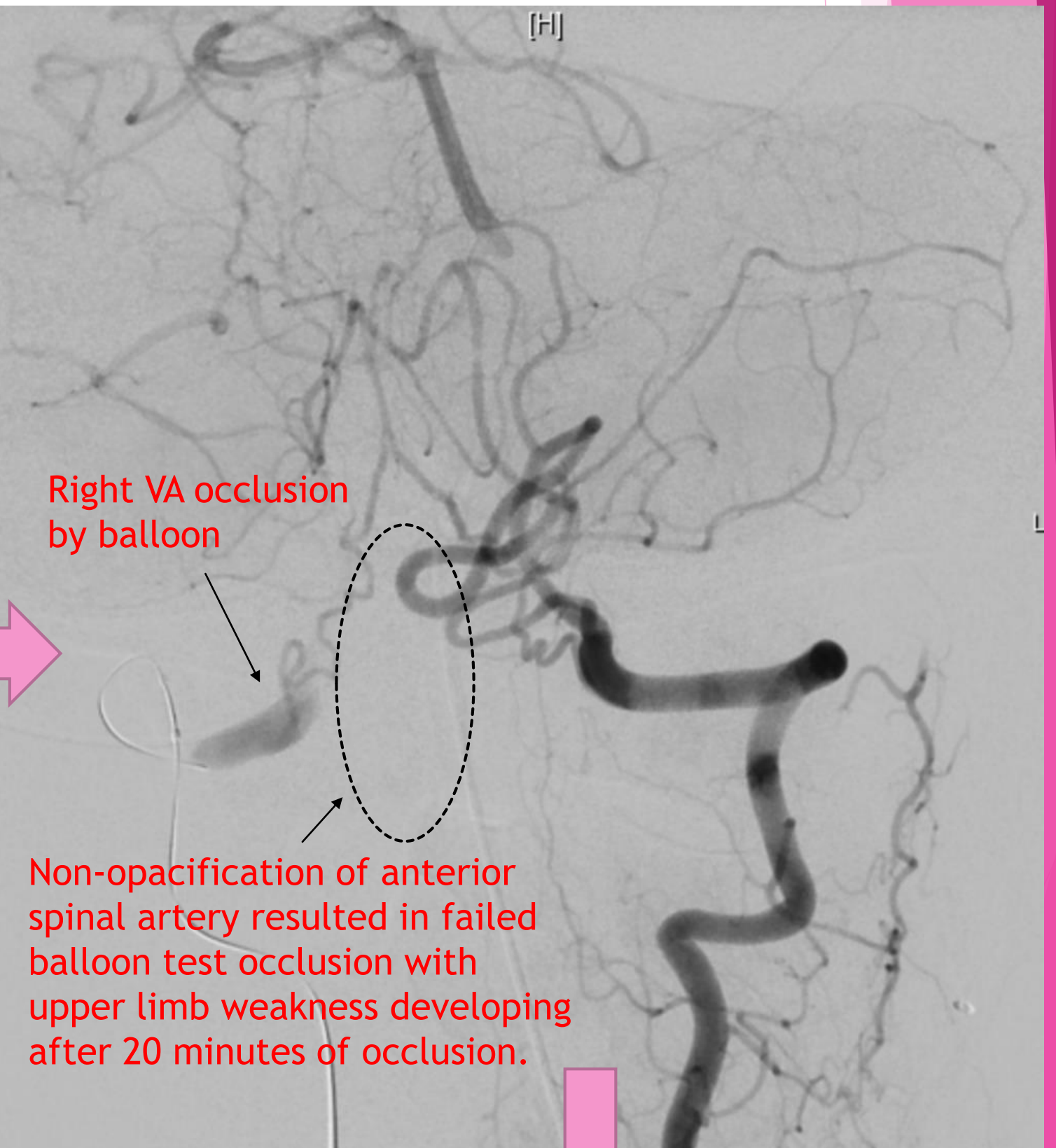
Surgical plan



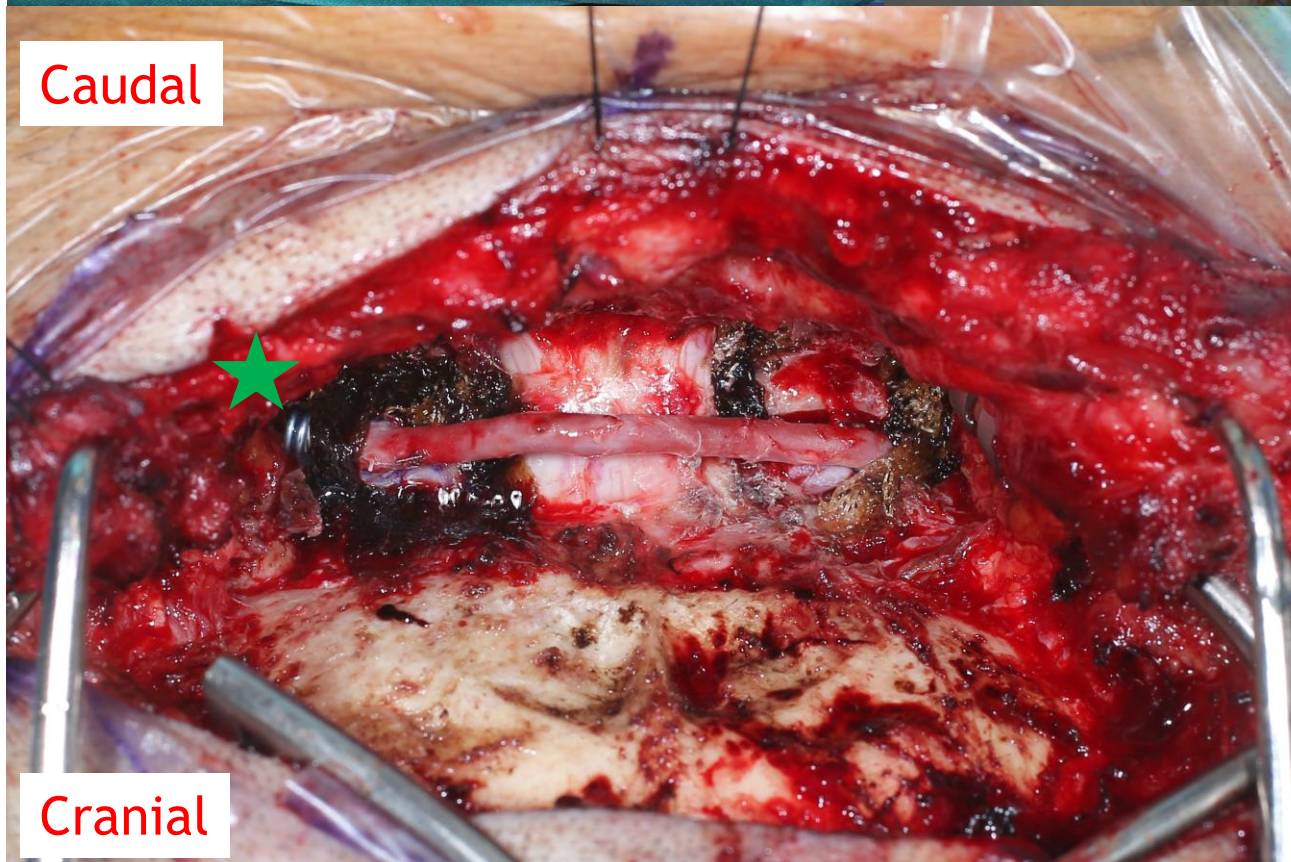
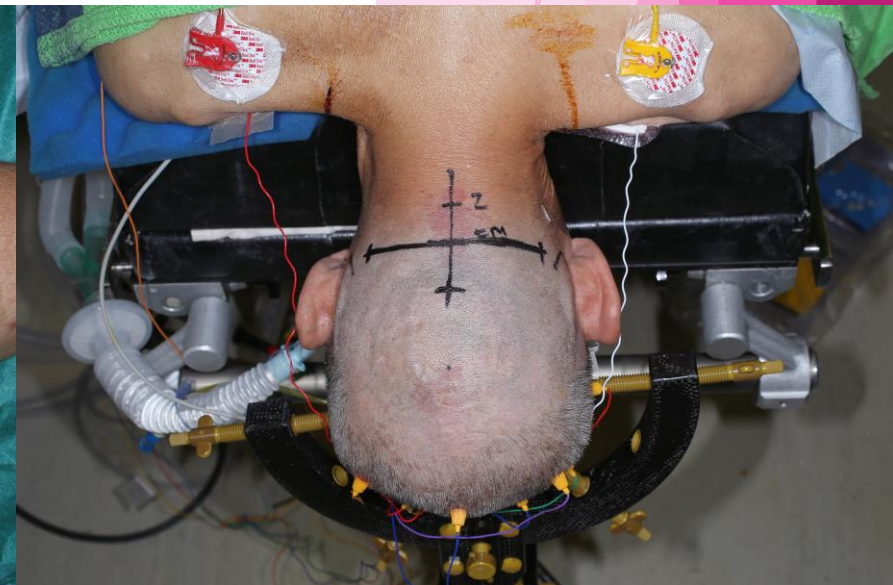
DSA post 1st stage LECA-PTAG-RAG-RM2 bypass.



Balloon test occlusion of RVA.



Reconstruction CTA post VA-VA bypass showing patent VA-RAG-VA bypass (arrows). Aneurysm clip seen applied to right VA post bypass (star).



Clockwise from left: Right arm photo indicating RAG harvest site. Patient positioned prone for 2nd stage VA bypass. Intra-op photo showing completed VA-VA bypass, star indicating clip to right VA.

Conclusion

VA-VA bypass using a radial artery graft is a viable option that can be considered in the strategy for treating recurrent head and neck tumours involving major vessels of the head and neck region.

References:

Kubota H *et al.* Vertebral artery-to-vertebral artery bypass with interposed radial artery or occipital artery grafts: surgical technique and report of three cases. *World Neurosurg.* 2014 Jan;81(1):202.e1-8.

