

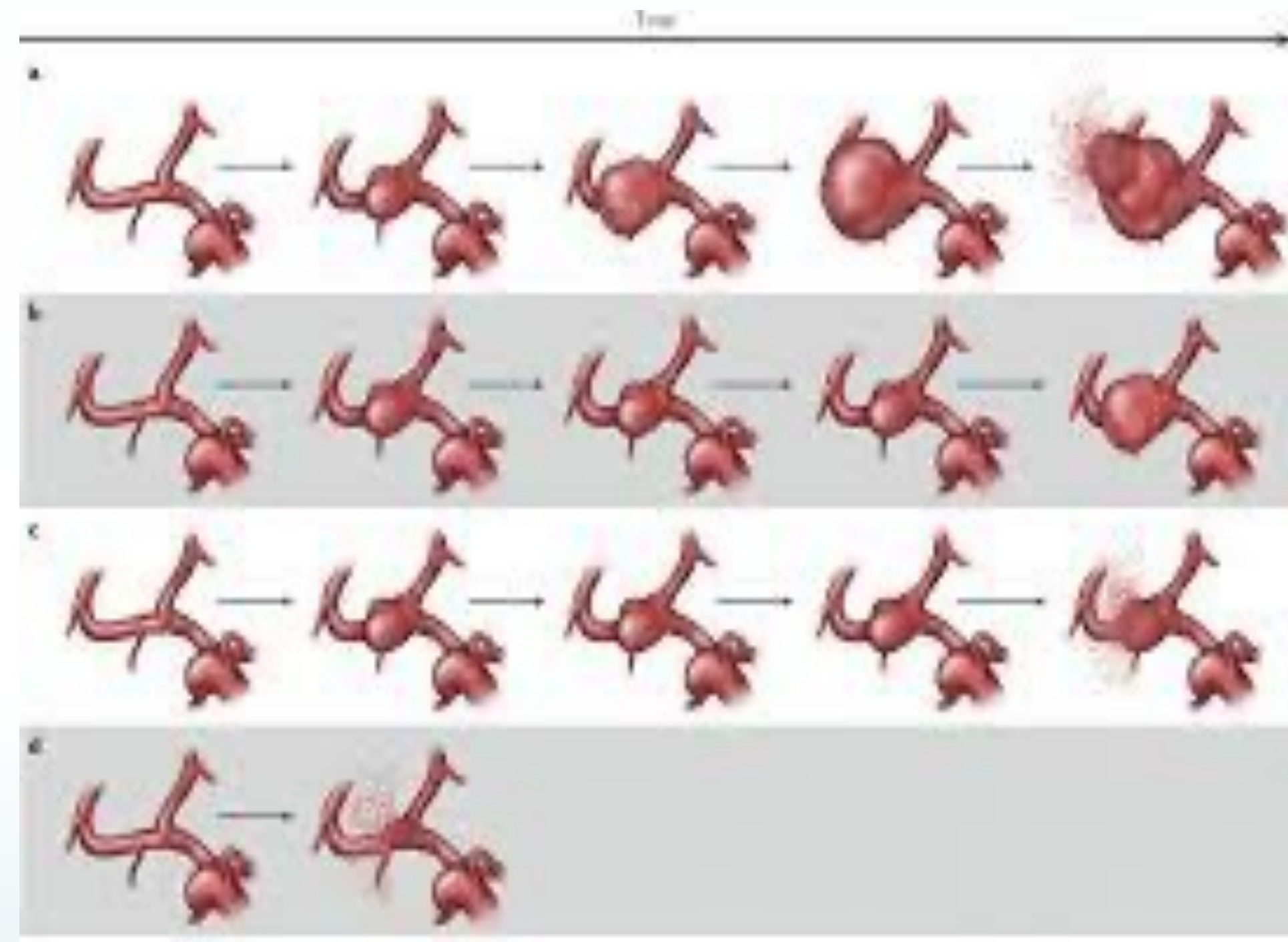
Embolization of a Giant Aneurysm

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Introduction

A weakness in a blood vessel in the brain that balloons and fills with blood is called an intracranial aneurysm. A key symptom of an aneurysm is a sudden, severe headache. Treatment for an unruptured aneurysm include medical intervention to control blood pressure and procedures to prevent future rupture or surgical intervention may be warranted.



TYPES OF INTRACRANIAL ANEURYSMS.

Objectives

To demonstrate whether endovascular embolization is effective in treating non ruptured intracranial aneurysms.

Methods

- ❖ 66-year-old white female admitted due to headache. She for right cavernous aneurysm embolization and coils. She was intubated, sedated, and placed on the Angio table.
- ❖ A 5-French micro puncture technique was used to insert into the femoral artery. She was given heparin.
- ❖ A BMX 96 Penumbra catheter and vert catheter to catheterize the right common carotid artery (CCA), right internal carotid artery, left common carotid artery, left internal carotid artery, right and left vertebral arteries.
- ❖ A DAC 044 and Phenom catheter and 24 wire switched to a synchro-2 wire. An Aristotle 24 wire and Synchro-2 wire was used to catheterize around the aneurysm across into the right Middle cerebral artery (MCA).
- Then a 5 x 40 Surpass was deployed to the genu of the cavernous segment across the aneurysm neck Into the aneurysm and then until the proximal end was narrowed, however as the push coil was capturing the stent moved proximally and it was hanging into the aneurysm.
- ❖ The aneurysm was re-accessed back to the MCA, the wire was placed in again. It was placed in the horizontal segment of the cavernous, stented up to three previous Surpass Evolve in the aneurysm. It was brought back to the proximal carotid.
- ❖ The micro catheters and Synchro-2 wires and Aristotle 14 wires were then removed, and 3D reconstructions were done. The post and pre-procedure reconstructions were compared, and the results were satisfactory.

Results



RT ICA aneurysm

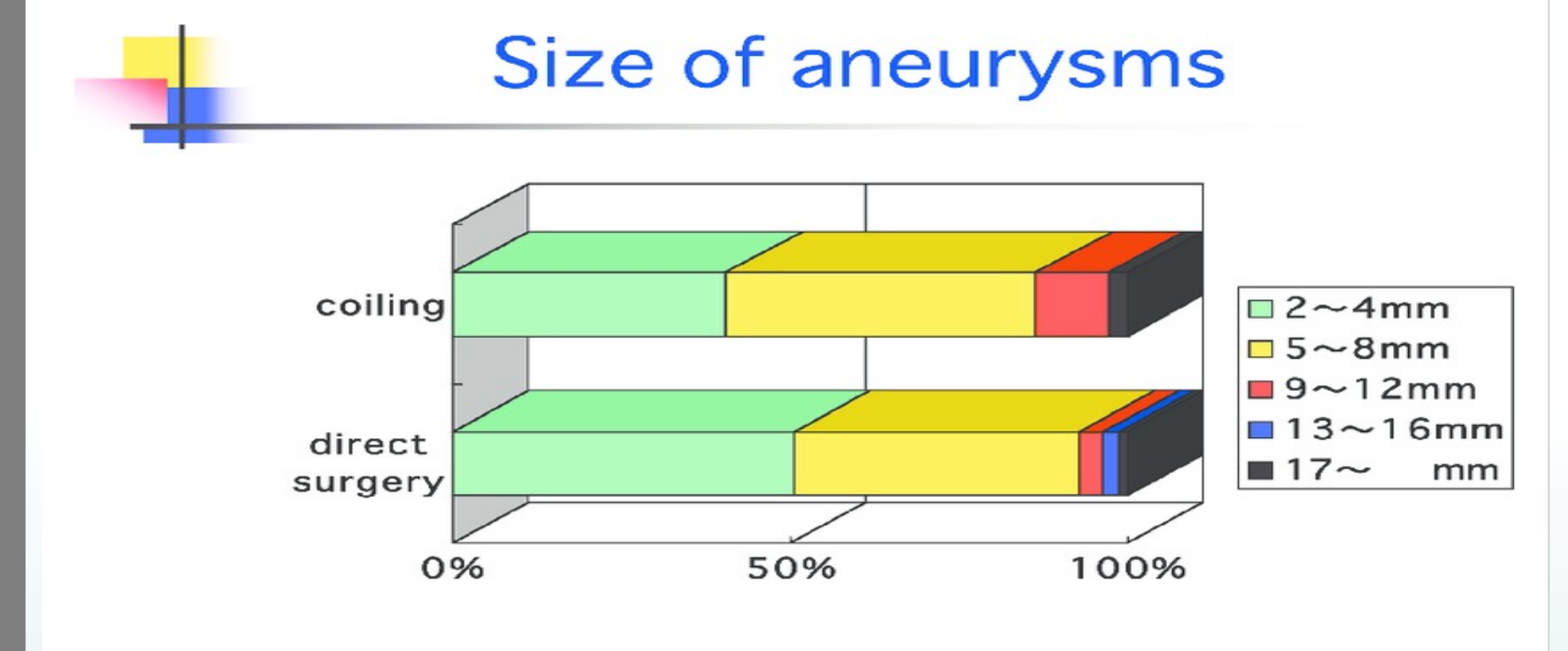
ICA embolization and stent placement

Post embolization and stent placement

- ❖ Post procedure 3 D reconstruction and right femoral artery injection revealed stagnation of the aneurysm with good flow to surrounding vessels.
- ❖ The patient tolerated the procedure well and was observed and monitored in the Intermediate Care Unit . There were no significant events during the day and the patient was discharged home post-operative day one on clopidogrel (Plavix)and apixaban(Eliquis.) Upon discharge the patient was alert and oriented x 3, moved all extremities on command but still complained of the headache she had prior to admission.

Conclusions

- ❖ Endovascular therapy is a well-established treatment modality for intracranial aneurysms. Large, complex, wide-necked, and fusiform aneurysms were initially considered unamenable to endovascular coil embolization. With the advent of stents designed specifically for the intracranial circulation, such aneurysms can now be safely and efficiently managed endovascularly
- ❖ Stent-assisted coiling of intracranial aneurysms is safe, effective, and provides durable aneurysm closure. Higher complication rates and worse outcomes are associated with treatment of ruptured aneurysms
- ❖ Coil embolization, is a viable endovascular option for treating ICA aneurysms, allowing for parent artery preservation



Acknowledgements

- Jamesa Fabien

References

- Neurointerventional surgery. (2021). *Neurointerventional Surgery*. <https://doi.org/10.1055/b-0041-182650>
- Neurointerventional surgery. (2021). *Neurointerventional Surgery*. <https://doi.org/10.1055/b-0041-182650>
- <http://neuroangio.org/anatomy-and-variants/internal-carotid-artery-and-its-aneurysms/>: Internal carotid artery, carotid artery, radiology imaging. Pinterest. (n.d.). Retrieved January 19, 2022, from <https://www.pinterest.com/pin/191191946665278492/>
- Gaughen, J. R., Hasan, D., Dumont, A. S., Jensen, M. E., Mckenzie, J., & Evans, A. J. (2010). The efficacy of endovascular stenting in the treatment of supraclinoid internal carotid artery blister aneurysms using a stent-in-stent technique. *American Journal of Neuroradiology*, 31(6), 1132–1138. <https://doi.org/10.3174/ajnr.a2016>