

Flow Diverter

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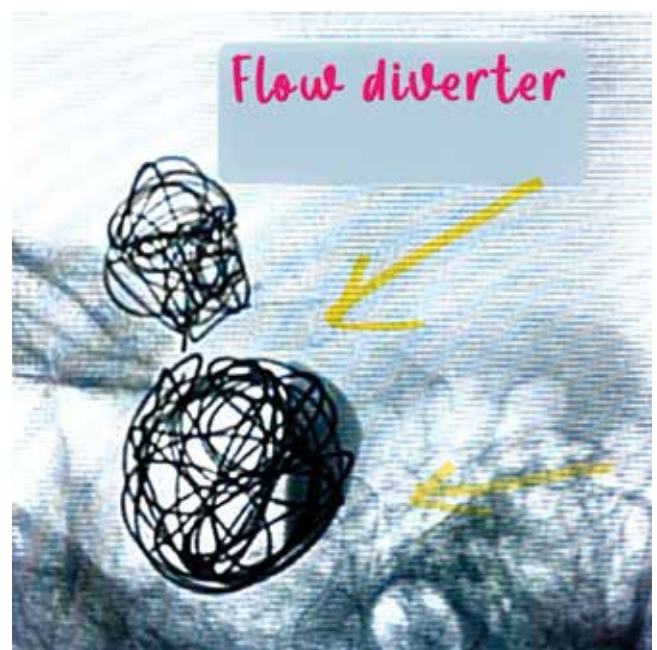
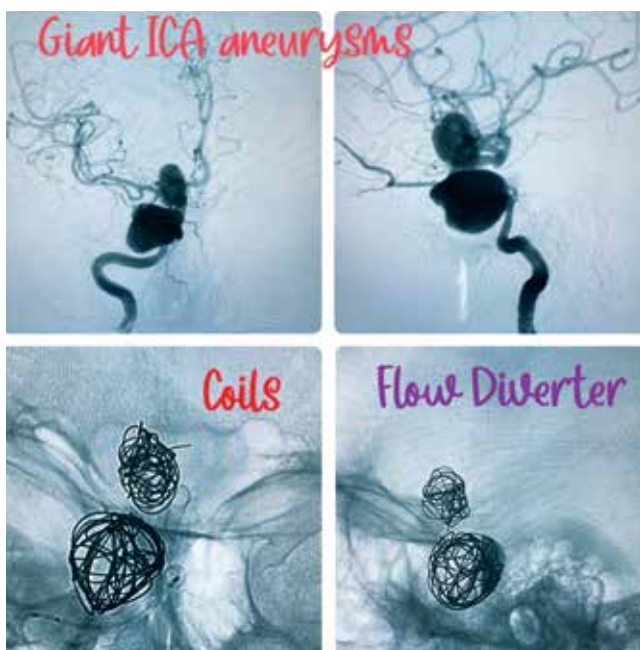
Discussion

The flow diverter is a relatively new but revolutionary technology in the realm of Endo vascular management of complex cerebral aneurysms. The traditional approach in the past has been stent deployment assisted coil embolisation. However, this maybe associated with partial occlusion or late recanalisation of the aneurysm. While planning the procedure for any cerebral aneurysm, the neurosurgeon needs to consider the morphology of the intracranial aneurysm as well as its proximity to the vascular branches and perforators. Giant (>25mm diameter), large (>10mm diameter), wide necked and fusiform aneurysms are the most challenging ones to treat.⁽¹⁾ The flow diverter works on the following principles (a) the stent deployed disrupts the blood flow from the parent vessel into the aneurysm (b) the stent works like a scaffolding for the growth of endothelial cells and separates the aneurysm from the parent vessel and gradually blocks it.⁽²⁾ It is inducing endoluminal reconstruction in contrast to endosaccular filling in the older procedures. Moreover, it spares the origin of perforators from getting occluded. The sac gradually shrinks and finally collapses. This has excellent outcomes in

comparison to conventional procedures for large or wide-necked aneurysms. This fascinating, innovative technology is associated with lesser complications and higher success rates. It is backed by landmark trials including the 'Pipeline Embolisation Device for the Intracranial treatment of Aneurysms (PITA)' trial and the 'Pipeline for Uncoilable or Failed Aneurysms (PUFs)' trial.⁽¹⁾ The device has thrombogenic potential and the patient needs to be on anti platelet therapy to prevent thromboembolism and late in-stent stenosis.

A diversified complex case of multiple giant internal carotid artery aneurysms managed by latest phenomenal advanced technique of flow diversion in Neurointervention spectrum, that is, FLOW DIVERTER (FD).

This young lady presented with sudden onset right sided complete ophthalmoplegia and headache. Her investigations revealed bilateral ICA large to giant aneurysms. Considering all aspects of her case, she was counselled and planned for FD placement with some coils.



This flow diverter is covering both the aneurysms neck with some coils just to shrink it early. Gradually new endothelialisation will happen over this FD and remodelled new vessel will form.

She did well with no peri-operative complications and discharged in stable conditions.

The case was effectively managed by multidisciplinary approach starting from emergency team to Anaesthetists, Cath lab staff and critical care team who helped in managing this case so well.

Jain Shailesh. FLOW DIVERTER (FD). MMJ. 2024, May. Vol 1 (2).

References

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