SHORT TERM IMAGING ENDPOINTS OF FLOW DIVERTER IMPLANTS WITH AND WITHOUT COATING FOR TREATMENT OF BRAIN ANEURYSMS: A MATCHED PAIR ANALYSIS

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Introduction Evidence for benefit of aneurysm treatment using coated Flow Diverter devices compared to uncoated devices is limited.

Aim of study To compare short term imaging endpoints of flow diverter implants with and without coating for treatment of saccular aneurysms in a matched pair analysis.

Methods We retrospectively included patients with incidental aneurysms who were treated with one or more flow diverters. Coated flow diverters included p64 HPC, p48 HPC, Derivo2 heal and PED2 shield. Uncoated flow diverters included p64, Derivo2 and Evolve. Coated and uncoated flow diverters were matched by location and diameters (within 20% difference) of distal and proximal landing zones and antiplatelet treatment (DAPT and SAPT). 7 patients were treated with 2 flow diverters, 7 coated and 7 uncoated. Imaging endpoints included lumen diameter, stent diameter, neointimal thickness and neo-intimal ratio (stent – lumen diameter)/stent diameter), rate of occlusion and MRI lesions. Peri- and postprocedural complications and clinical outcomes were evaluated.

Results 71 patients with 90 aneurysms were included. Average early follow up was 4.3 months. Periprocedural lumen diameter decreased on follow up by 27% in uncoated vs. 18% in coated devices. Neointimal thickness on follow up was 0.33 mm in coated vs. 0.45 mm in uncoated devices. Neointimal ratio was 0.32 in uncoated vs. 0.18 in coated devices. There was no difference occlusion rate, complications or clinical outcomes.

Conclusions Coated Flow Diverters showed less lumen narrowing and neointimal thickness compared to uncoated devices. This did not affect outcome and occlusion rate on short term follow up.

REFERENCES

Do you have any conflict of interest to declare?: No

STENT IN STENT FOR THE TREATMENT OF GIANT BASILAR ANEURYSM

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Basilar artery aneurysms account for 7–8% of all intracranial aneurysms. They are often wide necked, thereby posing a great challenge in their treatment. Endovascular treatment represents the main method of treatment using stents, flowdiverters, balloons and detachable coils. We present a patient with partially thrombosed basilar tip aneurysm, which we treated using the stent-in-stent technique. A 35 years old female presented with dizziness and gait disturbances. Brain MRI with MR angiography was performed and has shown a giant partially thrombosed basilar tip aneurysm with brainstem compression.

On admission the patient was adynamic, bradypysic, she was walking with aid, she complained of double vision, nystagmus and inability to swallow solid food. Due to clinical deterioration, brain CT scan was performed and has shown the presence of hydrocephalus, thus the VP shunt placement procedure was performed. Endovascular treatment was performed several days later. Patient was prepared with dual antiplatelet therapy (Aspirin and Plavix) for 3 days before the intervention. VerifyNow has shown that the patient was Plavix hyperresponder (PRU 7).

DSA has shown giant basilar tip aneurysm. In the further course of the procedure jailing technique was performed, followed by stent in stent technique with LVIS and LVIS junior stents. Postprocedural course went uneventful. 6 months clinical follow-up showed complete remission of almost all symptoms with complete occlusion of the aneurysm without neuroradiological or neurological complications. Our case report has shown that stent-in-stent technique, used as homemade flowdiverter, can be a suitable, safe and technically feasible alternative treatment option for the basilar tip aneurysms. However further larger studies are required to assess long term complications, such as aneurysmal recanalisation, in these patients.