Distal intracranial aneurysm

Distal Middle Cerebral Artery Aneurysm.

Flow diversion is increasingly used for endovascular treatment of distal intracranial aneurysms and has led to the development of small diameter flow diverters such as p48-MW (phenox, Bochum, Germany). Use of flow diverters is limited, however, as patients require dual antiplatelet treatment to avoid thromboembolic complications. Hydrophilic Polymer Coating was developed to reduce platelet aggregation on the p48-MW (p48-MW-HPC). This study reports preliminary experience with p48-MW-HPC in aneurysm treatment in two centers.

Materials and methods: Patients with ruptured, unruptured, and recanalized aneurysms treated with p48-MW-HPC were prospectively included and retrospectively analyzed for safety and efficacy. Safety was evaluated by analyzing intra- and postoperative complications as well as thromboembolic events depicted by DWI in the 72 h post-procedure. Efficacy was evaluated at 6 months based on aneurysm occlusion.

Results: From April 2019 to May 2020, 28 patients aged 25-82 years with 29 aneurysms were treated. Two thromboembolic events (7.1%) were reported with good clinical outcome. Final morbidity and mortality were both 0.0%. Post-operative DWI-MRI was depicting lesions in 70.0% of patients. Short-term (6 months) anatomical results were complete aneurysm occlusion in 87.0% of aneurysms, neck remnant in 8.7%, and aneurysm remnant in 4.3%.

Conclusion: This preliminary clinical evaluation conducted in a relatively small sample size shows high feasibility (100.0%) of p48-MW-HPC aneurysm treatment, without morbidity or mortality, and high efficacy (complete occlusion in 90.0%). Additional larger comparative studies are needed to confirm these results and optimize perioperative antiplatelet treatment [1].

1)
Pierot L, Soize S, Cappucci M, Manceau PF, Riva R, Eker OF. Surface-modified flow diverter p48-MW-HPC: Preliminary clinical experience in 28 patients treated in two centers. J Neuroradiol. 2020 Dec 17:S0150-9861(20)30290-X. doi: 10.1016/j.neurad.2020.11.006. Epub ahead of print. PMID: 33340638.