



PulseRider Stent for the Treatment of Intracranial Wide-necked Bifurcation Aneurysms – Report of the First Nine Cases in Europe

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Introduction

We aimed to assess the safety and effectiveness of PulseRider – a novel endovascular stent – in the treatment of intracranial bifurcation aneurysms with complex necks. We present the initial results of the first nine cases in Europe employing the PulseRider device.

Methods

Patients whose aneurysms were intended to be treated with the PulseRider device at two UK institutions were identified prospectively. Aneurysms arising at either the carotid terminus or basilar apex that were broad necked were considered candidates for treatment with the novel device. Patient demographics, procedural details, immediate neurological and clinical status, and immediate angiographic outcomes were recorded prospectively.

Results

Patients were pre-treated with dual antiplatelet therapy. All cases were performed under general endotracheal anaesthesia. An appropriately sized PulseRider device was deployed across the neck of the aneurysm. A microcatheter was then navigated over a 0.014 inch microwire through the device into the aneurysm. Coil embolisation was subsequently performed. At the end of the procedure, all nine cases showed complete aneurysm occlusion (Raymond 1) and there were no intraprocedural complications.

Conclusions

Our early experience demonstrates that PulseRider is a safe and effective adjunct that provides a scaffold at the neck of the bifurcation aneurysm enabling neck remodelling and coil support whilst maintaining parent vessel intraluminal patency. This suggests the versatility of the device. In each of the nine cases presented, the procedure was successfully completed without aneurysm rupture or vessel dissection. Further data are needed to assess medium and long-term outcomes with PulseRider.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the limitations of previous endovascular stents in wide-necked bifurcation aneurysms, 2) Describe the rationale for the novel Pulse Rider stent, and 3) Discuss the initial clincial data using the new device

References

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