

Introduction

The Benchmark (Penumbra, Inc., Alameda, CA) is a novel guide catheter that provides stability proximally and has a hyper flexible and atraumatic distal tip. We assessed the use of the Benchmark for placement of Pipeline Embolization Device (PED) for intracranial aneurysms.

Methods

We retrospectively reviewed consecutive patients with intracranial aneurysms undergoing PED placement using the Benchmark from April to October 2015. Guide catheter performance was measured by the number of 90° turns the catheter could safely cross. One point was assigned for each 90° turn and points were added. Landing and final position of the guide catheter tip was recorded.

Results

A total of 26 procedures were performed in 25 patients (mean age 59.5 ± 10.3 years; male: female = 5 :20). Eighteen aneurysms were located in the anterior and 8 in the posterior circulation. In only one case (3.8%) the Benchmark guide catheter had to be substituted for the a traditional triaxial system. The Benchmark was able to cross at least one 90° turn in 12 (48%) and two 90° turns in 10 (40%) of 25 patients. It crossed three 90° turns in 2 (8%) patients. There was 1 (3.8%) thromboembolic event and no arterial dissections.

Conclusions

Preliminary experience shows that the Benchmark is a good alternative to the traditional triaxial guide catheter system such as the Navien (Covidien, Plymouth, MN) for placement of PED and may reduce the complexity of the procedure.

Learning Objectives

Benchmark guide catheter can be use easily and safely for placement of PED for the treatment of a cerebrovascular aneurysm. It can be placed in distal most place within the intracranial vasculature to provide more stability.

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