pseudoaneurysm with only coils in two or more stages while maintaining the patency of the vertebral artery.

**Material and Methods**

A 34-year-old male patient was admitted to Neurosurgery Department due to alarming signs and symptoms such as escalating headache, tachycardia. Magnetic resonance imaging (MRI) revealed a high-flow VAVF from the right vertebral artery at the V3 level. The structure of this fistula contained a pseudoaneurysm. A two-stage endovascular coil embolization of the VAVF was performed. In the first stage, a skeleton-type structure was created inside the fistula structure to prevent additional coils from falling in the central venous system. This construction was designed to slow blood flow and thus initiate the formation of clots inside the fistula. In the second stage, embolization of the rest of the fistula was completed.

**Results**

After completion of the second stage of the procedure, the patient reported resolution of the tinnitus that he had experienced since childhood. An MRI examination at three months after the procedure showed complete exclusion of the fistula from the bloodstream. At the control visit all symptoms had resolved completely. The results were considered a complete cure, and a 36-month period of observation showed no evidence of recurrence.

**Conclusions**

Endovascular coiling treatment in two or more stages could be successful to close high-flow VAVF while maintaining the patency of the vertebral artery.

**Disclosures**

M. Sowa: None.

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**TECHNICAL REPORT AND PATIENT SPECIFIC 3-D EXPERIMENTATION OF COMANECE STENT VS BALLOON ASSISTED DISTAL MICRO-CATHETERIZATION OF BRAIN ARTERIOVENOUS MALFORMATION**

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**Introduction/Purpose**

Catheterization of brain arteriovenous malformations (AVMs) can be challenging when small arterial feeders arise with sharp angles. We report the use of the Comaneci device to catheterize a small feeder with hyperacute angle, along with 3-D in-vitro model reconstruction and experimentation of balloon vs Comaneci stent micro-catheterization. We also developed a 3-D model of the arterial
anatomy to compare Comaneci vs balloon assisted catheterization of small feeders.

Methods and Methods Patient is a 37-year-old man who presented with sudden onset of severe headache and left sided weakness. Initial CT head and MRA showed left basal ganglia hemorrhage associated with left thalamic AVM. Using a 3D model of the AVM, 30 iterations of micro-catheterization was performed with balloon (Hyperform 4x7mm), Comaneci Petit (24mm length) stent, and without any device assistance (10 each).

Results During the embolization procedure, Comaneci stent provided adequate support distal to the origin of the arterial feeder to the AVM, and the microcatheter was successfully navigated into the small sharply angled feeder (figure 1A). Experimental model showed similar effectiveness of balloon and Comaneci stent with 3/10 first-attempt success rate for micro-catheterization, and 0/10 without any device (figure 1B). Patient tolerated the procedure well with no ischemic or hemorrhagic complications.

Conclusion Comaneci stent showed similar efficacy compared to a balloon for distal micro catheterization without distal flow-arrest. Our technical report along with the 3-D model experiments provide insights into the utility of Comaneci vs balloon assisted micro-catheterization of the small sharply angled feeders in AVM embolization.

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