excluded. Finally 88 patients (59 females, 67.1% and 29 males, 32.9%) aged 30 to 83 years (mean: 52 ± 13 years) with 97 aneurysms (57 ruptured, 58.7% and 40 unruptured, 41.3%) were included. Aneurysm locations were internal carotid artery (36 aneurysms, 30.9%), anterior communicating and anterior cerebral arteries (31 aneurysms, 31.9%), middle cerebral artery (16 aneurysms, 16.5%), vertebrobasilar system (14 aneurysms, 14.4%). Seventy-seven aneurysms (79.4%) were treated with simple coiling and 20 (20.6%) with balloon-assisted coiling.

Aneurysm coiling was feasible in all aneurysms. Thromboembolic events with or without clinical worsening were encountered in 14/97 procedures (14.4%) intraoperative rupture in 6 aneurysms (6.6%), all without clinical worsening. Overall the procedural morbidity and mortality were encountered in 2 patients (2.1%) and 1 patient (1.0%), respectively.

Post-operative anatomical results were complete aneurysm occlusion in 79 aneurysms (81.4%), neck remnant in 13 aneurysms (13.4%) and aneurysm remnant in 5 aneurysms (5.2%).

Conclusion Preliminary results in this prospective series show good safety and efficacy of Barricade coils in aneurysm treatment.

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E-042 EFFICACY OF AN AVM CLASSIFICATION SYSTEM THAT DIRECTS ENDOVASCULAR THERAPIES ACCURATELY

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Purpose To determine if AVM angioarchitecture characteristics can be predictive and direct specific curative endovascular procedures accurately and consistently to treat high-flow malformations.

Materials and methods Angiographic analysis of high-flow vascular malformations determined 4 major angioarchitectures. Type I: Direct arterial/arteriolar to vein/venule connection; e.g., as commonly seen in pulmonary AVF, congenital renal AVF, etc. Type II: Arterial/arteriolar connections to a “nidus” that then have several out-flow veins with no intervening capillary beds in any of the vascular interconnections. Type

IIIa: Arterial/arteriolar connections to an aneurysmal vein (“nidus” is the vein wall) that drains into a dominant out-flow vein with no intervening capillary bed in these connections. Type IIIb: Same angioarchitecture as Type IIIa, except that there are more than one (several) out-flow veins. Type IV: “Infiltrative” form of AVM whereby innumerable micro-arteriolar branches fistulize through a tissue (e.g., ear) totally infiltrating it, shunting into multiple out-flow veins. Capillary beds also exist in the tissue and are mixed with the innumerable AVFs. Without the capillaries the tissue could not be viable, therefore must be present.

Results Type I: Can be effectively treated with mechanical devices; e.g., coils, Amplatzer Plugs, etc. Type II: Can be effectively treated with ethanol embolization. Type IIIa: Can be effectively treated by transcatheter ethanol, retrograde vein catheter access or direct puncture access of the aneurysmal vein and treatment with ethanol and coils, or even by coils alone. Type IIIb: Can be effectively treated as above, but can be more challenging by the vein route as more veins (not a single out-flow vein) require closure. Type IV: Can be effectively treated by transcatheter or direct puncture of the innumerable microfistulous AVFs by embolization with 50%–50% ethanol non-ionic contrast mixture.

Conclusion This never before reported classification system has a direct impact on determining the curative endovascular and direct puncture embolization procedures and also determines the embolic agents that will successfully treat complex AVMS in the body.

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E-043 REVERSIBLE CEREBRAL VASOCONSTRICTION SYNDROME: NON-INVASIVE IMAGING FINDINGS AND ANGIOGRAPHIC EVALUATION

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Purpose Reversible Cerebral Vasoconstriction Syndrome (RCVS) is a transient disorder of cerebral arterial auto regulation that may have a non-specific clinical presentation, most typically initiating as an acute episode of severe (thunderclap) headache. The clinical scenario and the non-invasive imaging

Abstract E-043 Figure 1 48-year old female presenting with severe headache and evidence of subarachnoid hemorrhage on head CT (not shown). No aneurysm or other causes for intracranial bleed was demonstrated on DSA. (A) Multiple segmental areas of vasoconstrictions of the MCA and ACA branches are demonstrated. (B) There is significant improvement of the degree if vasoconstriction after intra-arterial administration of calcium channel blocker.