treated metastases, controlled systemic disease, RPA class 1 and BRAF-M patients had extended overall survival. *Conclusions:* Patients with BRAF-M treated with both SRS and BRAF inhibitors, at or after SRS, have increased overall survival. As patients live longer due to more effective systemic and local therapies, close surveillance and early management of intracranial disease with SRS will become increasingly important.

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Large partially thrombosed posterior circulation aneurysms: A treacherous masquerader of benign brain tumors

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Background: On imaging, thrombosed aneurysms can be mistaken for tumor with potentially disastrous consequences. *Methods:* We present two cases of aneurysms mimicking tumor. *Results:* Patient 1 (6 months of left-sided facial weakness): MRI demonstrated a 3.3cm, T1-isotense, T2-hypertense heterogeneous enhancing mass favored to represent a CPA schwannoma. Biopsy revealed a thrombosed aneurysm. DSA subsequently revealed an area of contrast penetration, treated by parent artery (AICA) obliteration. Two-year follow-up revealed stable occlusion with reduced mass effect. *Patient 2* (1 year of headaches): Imaging demonstrated an extra-axial T1-mixed, T2-hyperintense heterogeneously enhancing mass in the left CPA adjacent to the vertebral artery, enlarging from 1.7cm to 3.2cm over 2 years. DSA revealed slow, crescentic filling with suggestion of arborisation distally. Patient deteriorated due to mass effect requiring a VP shunt and passed away from SAH 3 months later. Imaging review revealed crescentic filling of the remnant lumen on CE-MRA and signal voids on T2 in both cases, which may suggest the aneurysm diagnosis. However our cases did not have other features such as lamellated thrombus or pulsation artifact. *Conclusions:* Central contrast enhancement does not necessarily preclude the diagnosis of thrombosed aneurysm. The possibility of revascularization or penetration of contrast through the thrombus in giant aneurysms needs to be considered.

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Mechanical properties of fusiform aneurysms in a rabbit model

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Background: Animal models of human cerebral aneurysms have been a vital part of the development of endovascular treatments for decades. Rabbit models have been successfully used to simulate the morphology and hemodynamics of human intracranial aneurysms. However, the lack of mechanical testing of human intracranial aneurysm tissue limits our understanding of the mechanisms of aneurysm rupture. The goal of this project is to develop techniques for the mechanical testing of fusiform aneurysms in a rabbit model. *Methods:* Fusiform aneurysms were created using the right carotid artery using an elastase-based method. Thirty fusiform aneurysms and healthy rabbit carotid artery samples were then collected from our lab and tested with a uniaxial and biaxial loading system. Rectangular strips of aneurysm and healthy tissue were obtained in the axial and circumferential direction with a micro-cutting instrument. The test samples were gripped by a custom-designed micro-clamp and placed in a bath of phosphate-buffered saline at 37˚C temperature. *Results:* Maximum stress of healthy and aneurysm arteries are 50 Kpa and 0.6 Kpa *Conclusions:* The strength of healthy tissue was significantly higher than tissue from the fusiform aneurysm. These techniques will provide us with strategies for the eventual testing of human intracranial tissue and may help us to understand mechanisms of aneurysm rupture.

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Validation and standardization of cerebral vasospasm grading on CT angiography

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Background: The diagnosis of cerebral vasospasm, either by digital subtraction angiography (DSA), or now more commonly by computerized tomographic angiography (CTA) occurs in up to 70% of patients with aneurysmal subarachnoid hemorrhage (aSAH). The lack of standardization among vasospasm grading has made its clinical correlation with delayed cerebral ischemia challenging *Methods:* 36 of the 764 aSAH patients found on the St. Michael's Hospital RIS database had both DSA and CTA performed, at time of admission and again between day 2 and 14 following SAH. Two blinded neuroradiologists graded all vessels for vasospasm on two separate scales, by consensus for DSA and independently for CTA *Results:* Comparing CTA and DSA, Grading Scale (GS)1 had the highest Spearman Correlation Coefficient (SCC): 0.691 ($P<0.001$) for Rater (R)1, and 0.687 ($P<0.001$) for R2. SCC was higher when only considering proximal vessels. Cohen's Kappa (CK) measuring inter-rater reliability was 0.695 ($P<0.001$) for GS2 and 0.681 ($P<0.001$) for GS1. CK was higher in anterior circulation vessels, and tended to decrease with increasing vasospasm grade. *Conclusions:* Although either scale will provide the benefits of standardization to clinical practice and research, GS1 is recommended as it is more intuitive and provides higher SCCs, with only slightly lower CKs.