

Brainstem cavernous malformations: Conservative or surgical approach?

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Cavernous malformations (CMs) are low-flow vascular lesions with an incidence of 0,4-0,8%. 20-35% are infratentorial with a predilection for the pons. Although frequently incidental, they can cause intracranial hemorrhage and focal neurological deficits. No clear consensus exists on whether CMs should be managed conservatively, surgically or with radiosurgery. We present the case of a 66-year old female who was referred for neurological evaluation due to recent onset double vision. She had a history of hypothyroidism and atrial fibrillation. Neurological examination revealed right abducens palsy. Brain MRI and MRA demonstrated a cavernous angioma of the right pons with intralesional bleeding. She received oral dexamethasone with a tapering regimen, showing full remission. There is a long-standing controversy on the optimal approach to brainstem cavernomas. A minimal consensus holds for incidental lesions where surgical-associated morbidity argues for conservative management. Radiosurgery, although presented as a treatment option, is not recommended. Regarding surgical treatment no clear consensus has been reached. Infratentorial CMs seem to have an increased risk of hemorrhage (3.8% per patient-year). This rate is further elevated in patients initially presenting with hemorrhage, those with deep CMs and female sex. Conversely there is a temporal decline in the hemorrhage risk within 2 years (up to 0.8%). This effect is influencing treatment options because the risk of hemorrhage and neurological deficit may decline based on natural history alone. Several studies propose surgical removal in cases of progressive neurological deficit, after the first clinically significant hemorrhage in noneloquent areas or after the second clinically significant hemorrhage in eloquent areas. No level A evidence exists and management still relies on clinical judgment. In our patient we chose a conservative approach under close future surveillance but more studies are warranted to form a reliable treatment algorithm.