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CEREBROVASCULAR DISORDERS

ARTERIOVENOUS MALFORMATIONS: PRESENTING SYMPTOMS, TREATMENT, AND OUTCOME

The records of 39 patients with arteriovenous malformations (AVM) treated at the University of Utah during a 15-year period (1989-2004) were reviewed and analyzed for presentation, location, Spetzler-Martin grade (size, eloquence of adjacent brain, and superficial or deep venous drainage), obliteration rate following surgery, and recurrence rate. Twenty five were girls and 14 boys. Their average age was 10.3 years (range 1 month to 16 years), and average follow-up was 30 months. Spontaneous intracerebral hemorrhage (ICH) was the most common presentation (n=22, 57%), followed by new-onset seizures (15%) and headaches (10%); the remaining 7 cases were discovered incidentally. The location of the AVM was parietal lobe in 14 (36%), cerebellum (18%), frontal lobe (15%), occipital lobe (10%), and thalamus (8%). AVM was compact in 32 (82%), and diffuse in 18%. Primary treatment was microsurgical resection in 35 (90%). Obliteration rate was 89%. Nine (23%) had a residual nidus, of which 4 had a diffuse AVM. Five (13%) developed a recurrent AVM, of which 4 were diffuse-type AVM; 3 resolved after repeat surgery. The mean latency between an apparent cure and recurrence was 43 months (range, 6 months to 6 years). Preoperative embolization was used as an adjunct to surgery in 18 (46%) patients, and stereotactic radiosurgery for inoperable AVMs in 2 and recurrences in 1 patient. (Klimo P Jr, Rao G, Brockmeyer D. Pediatric arteriovenous malformations: a 15-year experience with an emphasis on residual and recurrent lesions. *Child's Nerv Syst* January 2007;23:31-37). (Respond: Douglas Brockmeyer MD, Department of Neurosurgery, University of Utah, Primary Children's Medical Center, 100 N Medical Drive, Salt Lake City, UT 84113).

COMMENT. A similar review and retrospective analysis of 62 children with AVM treated at the Hospital B, Lille, France, showed that intracranial hemorrhage and stroke

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were the presenting manifestations in 54 (87%); 7 had a history of headache, and 5 had been treated for epilepsy. (Hladky JP et al. **Child's Nerv Syst** 1994;10:328-333; **Ped Neur Briefs** Sept 1994). AVMs were supratentorial in 41 (79%) and infratentorial in 11 (21%). The smaller the AVM, the higher the risk of hemorrhage, and the greater the need for early diagnosis and surgical resection. Postoperative angiography is recommended at 1 year after surgery to exclude recurrence, and after 5 years for diffuse AVMs.

SPONTANEOUS INTRACRANIAL ARTERIAL DISSECTION

A 14 year-old male with intracranial carotid artery dissection had transient neurologic symptoms and no antecedent illness or trauma, as reported from the University of Kentucky, Lexington. Diagnosis made by dynamic CT was confirmed by catheter arteriography. The dissection involved the supraclinoid segment of the left internal carotid. Vasculitis, prothrombotic states, and collagen defects were excluded as possible causes. (Robertson WC Jr, Given CA II. Spontaneous intracranial arterial dissection in the young: diagnosis by CT angiography. **BMC Neurol** 2006;6:16). (Respond: William C Robertson Jr: wcrobe2@email.uky.edu).

COMMENT. Occlusion of the supraclinoid segment of the internal carotid artery is a common arteriographic finding in children with acute hemiplegia. Associated disorders include pre-existing heart disease, trauma, CNS infection, sickle cell disease, and moyamoya disease, but a high proportion are idiopathic.

Traumatic vertebral artery dissection may present with vomiting, occipital headache, stiff neck, and ataxia. A review of 19 published cases found 1 died, 2 had residual quadriplegia, 9 had mild to moderate hemiparesis, ataxia, and/or dysarthria, and 7 (37%) recovered (Garg BP et al. Strokes in children due to vertebral artery trauma. **Neurology** 1993;43:2555-2558; **Ped Neur Briefs** Jan 1994).

TEMPORAL LOBE EPILEPSY

FACTORS PREDICTIVE OF SEIZURE OUTCOME IN NEW-ONSET TEMPORAL LOBE EPILEPSY

A community-based cohort of 77 children with new-onset temporal lobe epilepsy (TLE) were followed prospectively and reviewed at 7 and 14 years after seizure onset, and clinical, EEG, and neuroimaging findings and seizure outcome are reported from the Royal Children's Hospital and University of Melbourne, Australia, and Starship Children's Hospital, Auckland, New Zealand. Age at follow-up was a median of 20 years (range, 12 to 29 years), and the median follow-up period was 13.7 years. Of 62 patients completing the study, 19 (30%) were seizure free and off treatment, with no seizures for 5 to 15 years, while 43 had ongoing seizures or were treated surgically. MRI lesions identified in 28 patients with seizures included hippocampal sclerosis in 10, tumor in 8, and cortical dysplasia in 7. Focal slowing on the EEG was also associated with persistent seizures. Twenty one (75%) patients with positive neuroimaging studies underwent surgery, and 67% became seizure-free. Factors