

DEVELOPMENTAL DISORDERS

ARTERIOVENOUS MALFORMATION

Three children, ages 5 to 9 years, with A-V malformations that ruptured after trivial head trauma, are reported from the Departments of Neurosurgery, University Medical School and Red Cross Hospital, Kumamoto City, Japan. They represented 12% of 25 consecutive patients with proven AVM's and 30% of 10 patients under 15 years of age. Two received blows on the forehead and one on the occipital region. Intracerebral hematomas were located in the sub-cortical area of the parietal or temporal lobe. Cerebral angiography revealed AVM's with feeding arteries from the anterior or middle cerebral arteries. At surgery there was no evidence of cortical contusion and excision of the AVM's was successful. (Nishi T et al. Ruptures of arteriovenous malformations in children associated with trivial head trauma. Surg Neurol 2987;28:451-7).

COMMENT. The authors found only 7 other case reports in the literature where hemorrhage from an AVM was associated with head trauma. All were in children. It is suggested that a larger shearing force can be produced in a child's brain than in an adult's, particularly during acceleration of the head in the AP or PA direction.

TOXIC DISORDERS

NEUROTOXIC COMPLICATIONS OF CONTRAST CT

Four children, ages 4-10 yrs, with brain tumors treated at the Univ of Calgary, Alberta, Canada, developed alterations in consciousness and vital signs after contrast-enhanced cranial computed tomography (CT). Each had increased intracranial pressure but was alert and coherent before the IV injection of diatrizoate meglumine 60%, 2 to 2.5 ml/kg. Two children had generalized seizures and two died immediately after the procedure. The authors caution that CT with contrast should be reserved for children who warrant the additional procedure and when the necessity for urgent neurosurgical intervention is not resolved after the nonenhanced scan. (Haslain RHA et al. Neurotoxic complications of contrast computed tomography in children. J Pediat 1987;111:837-40).

COMMENT. Reactions to contrast enhanced CT are sufficiently frequent to avoid its use as a routine neurodiagnostic procedure, especially in children with brain tumor and raised intracranial pressure. Neurologists requesting a CT in nonsurgical cases will usually specify a pre-infusion scan only, unless the diagnosis suspected requires enhancement of the lesion. Magnetic resonance imaging is a noninvasive technique that provides images of comparable or superior quality without exposure to contrast effects or ionizing radiation. When available, MRI should be used in preference to contrast-enhanced CT, particularly in children.