NEUROPATHOLOGY OF ATTENTION DEFICIT DISORDERS

PUTAMEN STROKE LESIONS AND ADHD OR ADHD/TRAITS

Twenty-five children with single focal stroke lesions, and without evidence of prestroke ADHD, were studied clinically for ADHD symptomatology and by brain magnetic resonance imaging at University of California, San Diego, CA. Fifteen (60%) had either ADHD or ADHD/Traits; 11 with ADHD (5 inattentive type), 3 with ADHD/Traits (2 with hyperactivity/impulsivity symptoms). In 13 subjects with stroke lesions <10 cm^3, 6/7 with and only 2/6 without putamen lesions had ADHD.Traits (p=0.1). One half of those with (4/8) and none of 5 without ADHD/Traits had overlapping lesions involving the posterior ventral putamen (p=0.1). Lesions within the ventral putamen increased the risk of ADHD.Traits. (Max JE, Fox PT, Lancaster JL et al. Putamen lesions and the development of attention-deficit/hyperactivity symptomatology. J Am Acad Child Adolesc Psychiatry May 2002;41:563-571). (Reprints: Dr Max, Department of Psychiatry, University of California, 3665 Kearny Villa Rd, Suite 101, San Diego, CA 92123).

COMMENT. A striatal lesion caused by stroke and involving the posterior ventral putamen may underly symptoms of ADHD, in the absence of damage to the caudate nucleus, an area often implicated in previous imaging studies. The dopamine-rich ventral putamen is part of the limbic striatum or cortico-striato-thalamocortical loop, Pathology and dysfunction in this loop, or a "disinhibition syndrome," may be a factor in the cause of the ADHD syndrome. These authors have also demonstrated a correlation between childhood stroke and psychiatric disorders in childhood (Max JE et al. J Am Acad Child Adolesc Psychiatry May 2002;41:555-562).

Punctate brain MRI lesions in preterm infants do not appear to correlate with delay in neurodevelopment in a study at Leeds General Infirmary, UK. (Cornette LG, Tanner SF, Ramenghi LA et al. Arch Dis Child Fetal Neonatal Ed May 2002;86:F171-F177). Punctate lesions occur in 30% of preterm and 5% of term infants. Lesions are usually linear and located in the centrum semiovale.

NEUROECTODERMAL DISORDERS

PERIPHERAL NERVE INVOLVEMENT IN NEUROFIBROMATOSIS 2

The occurrence and etiology of peripheral nerve involvement in 15 patients with neurofibromatosis type 2 were investigated at the University of Ulm, Germany. All had bilateral VIII nerve schwannomas. Clinical signs of neuropathy occurred in 47% and electrophysiological evidence of neuropathy was found in 10 (66%). Age of onset of NF2 ranged from 12 to 44 years, 8 were <20 years. Mean age at evaluation was 38 years (range 27-57 yrs). Only 3 patients had a moderate or severe neuropathic syndrome. Ten had cutaneous abnormalities related to disease duration. All 8 with skin tumors had electrophysiological signs of neuropathy, mostly axonal in type. Compression effects of multiple tumorlets on the nerves might cause the neuropathy. (Sperfeld AD, Hein C, Schroder JM et al. Occurrence and characterization of peripheral nerve involvement in neurofibromatosis type 2. Brain May 2002;125:996-1004). (Respond: Dr CO Hanemann, Department of Neurology, University of Ulm, Helmholtzstrasse 8/1, 89081 Ulm, Germany).

COMMENT. Peripheral nerves are frequently involved in NF2.