at ages 29 and 21 years. The brain of the patient poisoned at 8 years and dying at 29 showed cortical atrophy, neuronal loss and gliosis. Total mercury level in the occipital cortex was 1,974 ng/gm, 50 times that of a control; the Hg was mainly inorganic. Hair and systemic organs had Hg levels comparable to controls. (Davis LE et al. Methylmercury poisoning: Long-term clinical, radiological, toxicological, and pathological studies of an affected family. Ann Neurol June 1994;35:680-688). (Respond: Dr Davis, Chief, Neurology Service (127), Albuquerque VA Hospital, 2100 Ridgecrest Drive SE, Albuquerque, NM 87108).

COMMENT. Methylmercury crosses the blood-brain barrier easily while inorganic mercury does not. Biotransformation to inorganic Hg over time may account for the high level of inorganic Hg and absence of methyl Hg in the patient's brain at autopsy. The possible role of inorganic Hg in the brain damage is debatable; it is usually considered to be inert and nontoxic. See Environmental Poisons in Food , Chicago, PNB Publishers, 1993, for an account of the sources, metabolism, epidemiology, clinical manifestations, treatment, and prevention of mercury poisoning. Accidental exposure to mercury vapor is a persisting hazard in nurseries with broken thermometers and in school science labs. The symptoms of mild exposure, *micromercurialism*, are subtle and difficult to diagnose without a high index of suspicion. Acrodynia, or Pink disease, is a relatively rare occurrence, but a diagnosis which should be familiar to the pediatric neurologist and pediatrician.

ATTENTION DEFICIT AND LEARNING DISORDERS

ADDH AND METHYLPHENIDATE RESPONSE

The dose-response, clinical effectiveness, and response prediction in 76 children with ADDH treated with methylphenidate (MPH) were evaluated by a double-blind, placebo-controlled, crossover study at the Department of Psychology, University of Hawaii, Honolulu. Four dose levels (5, 10, 15, and 20 mg) were employed. Effects on classroom functioning, (on-task attention, correct completion of assignments, and teacher ratings), were linear and dose related. Accuracy was enhanced at all dose levels, and task completion was significantly greater at doses above 5 mg. Academic improvement was associated with behavioral gains on teacher ratings. In children failing to respond to low dose MPH, attention changes were responsive to dose increments whereas academic and behavioral improvements failed to occur. A significant subset failed to gain academically from treatment with MPH. (Rapport MD et al. Attention deficit disorder and methylphenidate: Normalization rates, clinical effectiveness, and response prediction in 76 children. J Am Acad Child Adolesc Psychiatry July/Aug 1994;33:882-893). (Respond: Dr Rapport, Dept of Psychology, University of Hawaii, 2430 Campus Rd, Gartley Hall, Honolulu, HI 96822).

COMMENT. Methylphenidate is again proven effective in the treatment of children with ADDH, and improvements in behavior, attention, and academic functioning may be expected in a large percentage. Response to MPH is related to the dose, especially in tasks requiring attention. In one subset, however, academic performance is unrelated to attentional and behavioral response to MPH. In another subset, MPH is ineffective

in all domains of classroom functioning. A child's academic functioning is most important in assessing response to methylphenidate and the need for dose increments.

The need for subtyping is stressed by reports of brain structural changes in a group of 15 children with ADDH examined by MRI at the Massachusetts General Hospital.The splenial area of the corpus callosum was smaller in ADDH children compared to normal controls. Age was not a factor. (Semrud-Clikeman M et al. Attention-deficit hyperactivity disorder: Magnetic resonance imaging morphometric analysis of the corpus callosum. J Am Acad Child Adolesc Psychiatry July/Aug 1994;33:875-881).

Differences in brain glucose metabolism in girls with ADDH compared to boys are reported in PET studies at the National Institute of Mental Health, Bethesda, MD. Global cerebral glucose metabolism in 5 ADDH girls was 15% lower than in 6 normal girls, but was unchanged in ADDH boys compared to normal boys; it was 20% lower in ADDH girls compared to ADDH boys. Adolescents showed no changes in cerebral glucose metabolism. (Ernst M et al. Reduced brain metabolism in hyperactive girls. J Am Acad Child Adolesc Psychiatry July/Aug 1994;33:858-868).

Attention deficit hyperactivity disorder in adults is reviewed from the New York State Psychiatric Institute (Shaffer D. Am J Psychiatry May 1994;151:633-638. Editorial). Placebo-controlled studies of MPH in adults are infrequent and largely disappointing. Psychoactive substance use disorder is commonly associated with diagnoses of ADDH in adults and stimulant medication should be used with caution. Adult ADDH is often a self-diagnosed condition, and an excuse for job failure, divorce etc, according to one practicing psychiatrist.

MRI CHANGES IN DYSLEXIA: A REAPPRAISAL

The convolutional surface area of the planum temporale, temporal lobe volume, and brain volume were compared by MRI in 17 dyslexic children (7 girls) and 14 controls (7 girls) at Yale University School of Medicine, New Haven. All measurements were significantly larger in boys. Age was directly correlated with brain region volumes. Analyses that controlled for age and overall brain size failed to confirm smaller left hemisphere structures previously reported in dyslexics. The authors suggest that differences in sex, age, handedness, and definition of dyslexia as well as methods of measurement of the planum temporale may explain apparent discrepancies in results of neuroimaging studies in dyslexic subjects. (Schultz RT et al. Brain morphology in normal and dyslexic children: The influence of sex and age. Ann Neurol June 1994;35:732-742). (Respond: Dr Shaywitz, Department of Pediatrics, PO Box 3333, New Haven, CT 06510).

COMMENT. This important study casts doubt on the significance of reports of differences in brain morphology in children with dyslexia and other learning disabilities. It should be noted in the Massachusetts General Hospital report of corpus callosal changes in ADDH children, a smaller splenium was unrelated to the age of the children. (see above).