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TOXIC-METABOLIC DISORDERS

PERINATAL IV ALUMINUM AND DEVELOPMENTAL DELAY

The effect of perinatal exposure to intravenous aluminum on the neurologic development of 227 premature infants (<34 weeks gestation, <1850g weight) from the neonatal intensive care unit of Rosie Maternity Hospital, Cambridge, UK was studied at the Dunn Nutrition Unit, Cambridge, and the Institute of Child Health, London. The 90 infants who received standard IV feeding solutions, containing 25 mcg Al/dl, had a lower Bayley Mental Development Index at 18 months than the 92 infants who received aluminum-depleted solutions (2.2 mcg Al/dl). Aluminum exposure (45 mcg/kg/day) caused a mean loss on the Bayley Index of 1 point per day. Infants receiving standard IV solutions for 10 or more days had a 10 point deficit in their Mental Development Index and were twice as likely to have an index below 85. (Bishop NJ, Morley R, Day JP, Lucas A. Aluminum neurotoxicity in preterm infants receiving intravenous feeding solutions. *N Engl J Med* May 29, 1997;336:1557-1561). (Reprints: Dr Nicolas J Bishop, Genetics Unit, Shriners' Hospital for Crippled Children, 1529 Cedar Ave, Montreal, QC H3G 1A6, Canada).

COMMENT. Aluminum exposure from standard intravenous solutions in preterm infants may cause neurotoxicity and developmental delay at 18 months. The majority of cases of aluminum poisoning occur as dialysis encephalopathy in adult patients on hemodialysis and peritoneal dialysis. Tap water, especially when treated with aluminum sulfate to remove organic contaminants, contains high concentrations of aluminum and is a frequent cause of dementia following repeated dialyses. Memory loss, malaise, and speech disturbance are followed by myoclonus, somnolence, and dementia. The EEG shows bursts of delta activity and high voltage, symmetric spikes. (Millichap JG. *Environmental Poisons in Our Food*. Chicago, PNB Publ, 1993).

DIABETES MELLITUS AND DRUG REFRACTORY EPILEPSY

Three teenagers with well-controlled epilepsy who developed drug refractory partial seizures correlated with nonketotic hyperglycemia and insulin-dependent diabetes mellitus are reported from the Children's Hospital

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