and irreversible impairment of brain and body growth are determined within the first trimester of pregnancy.

METABOLIC AND DEGENERATIVE DISEASE

LEIGH SYNDROME AND CYTOCHROME OXIDASE

Mitochondrial enzymes were studied in 5 unrelated children with neuropathologically proven subacute necrotizing encephalomyelopathy (Leigh syndrome) at the College of Physicians and Surgeons, New York. Four patients showed psychomotor regression, opthalmoparesis, nystagmus, optic atrophy, hypotonia, areflexia, ataxia, and abnormal breathing beginning in the second year and died after 3 to 4 years of an intermittently progresssive course. The fifth child was floppy at birth, regressed at 5 mos, and died of congestive heart failure at 7½ mos. All had lactic acidosis and autopsies showed typical symmetrical necrotic and cystic lesions in the brain stem and cerebellum. Muscle biopsy was normal by light microscopy but showed mitrochondrial changes on ultrastructural examination. A decrease in cytochrome c oxidase (COX) activity was found in brain, muscle, kidney, heart, liver and in cultured fibroblasts. The authors conclude that COX deficiency is an important cause of Leigh syndrome (DiMauro S et al. Cytochrome c oxidase deficiency in Leigh syndrome. Ann Neurol 1987:22;498-506).

COMMENT. The family history was negative in these patients but previous reports of autosomal recessive inheritance and occurrence in siblings are common. In one family from Quebec, 7 members in two generations had a mitochondrial encephalopathy and COX deficiency. Diverse clinical and pathological expressions of Leigh's disease in this family was explained by maternal transmission of varying proportions of mutant mitochondrial DNA. (Berkovic SF et al. Neurology 1987:37 (Suppl 1);223). Leigh syndrome, previously termed Leigh's disease and first described in 1951, appears to be nonspecific biochemically as well as clinically. In addition to the COX deficiency described above, defects of the pyruvate dehydrogenase multienzyme complex and pyruvate carboxylase have been reported. An inhibitor of the brain enzyme that catalyzes the formation of thiamine triphosphate has been found in the urine but the test is not diagnostic. Consistent early clinical features in the infantile cases are a quiet immobility with lack of crying and hypotonia.

REYE SYNDROME AND ASPIRIN

Twenty-six cases of Reye syndrome occurring between 1973 and 1982 have been reviewed in relation to aspirin ingestion at the Children's Hospital, Camperdown, Australia (formerly the Royal Alexandra Hospital for Children in Sydney), where Reye first described his syndrome of encephalopathy and fatty degeneration of the viscera in 1963. The ages ranged from 3 mos to 7 yrs (median 22 mos). Only 5% of patients had ingested aspirin and 30% acetaminophen. For the period of this study, aspirin accounted for 0.3% and acetaminophen for 99.7% of all pediatric analgesic/antipyretic sales. Despite this lack of association of Reye syndrome with aspirin use, Reye syndrome has been as common in Australia as in the US (9 cases per/million children c.f. 10-20 cases/mil in US and 3-7/mil in UK). The authors conclude that the purported association of

Reye syndrome with aspirin use in the US is coincidental. (Orlowski JP et al. A catch in the Reye. Pediatrics 1987;80:638-642).

COMMENT. Rupert Murdoch, the Australian journalist and publisher, would approve of this apt title, a refreshing innovation for our generally plain medical style of writing. Despite the conclusions drawn here and supported by a study from Japan, which also failed to show an association between aspirin and Reye syndrome, it is unlikely that the pediatric usage of aspirin will be resumed in the US. The massive public education campaign launched by the Government in 1982 to caution parents against aspirin use for colds, influenza or chicken pox has been very successful, notwithstanding the persisting mystery regarding the true cause or causes of Reye syndrome.

NUTRITION, DIET AND THE NERVOUS SYSTEM

ADVERSE REACTIONS TO FOOD ADDITIVES

As part of a multicentre study of food additive intolerance commissioned by the UK Ministry of Agriculture, Fisheries and Food, the prevalence of reactions to food additives was studied in a survey population by the Depts of Dermatology and Community medicine, Wycombe General Hospital, High Wycombe, Bucks, and St. Thomas' Campus, London University. Of 18,582 respondents to questionnaires, 7.4% had reactions to food additives, 15.6% had problems with foods, and 10% had symptoms related to aspirin. The incidence of a personal history of atopy reported in 28% of all respondents was significantly higher in those reacting to additives, food, and aspirin (50%, 47.5%, and 36% respectively). A preponderance of reactions occurred in children, boys more than girls. Older patients were affected less often and with a female preponderance.

Abnormal behavior and mood changes were mainly related to additives whereas headache was associated with foods more frequently than additives. Of 44 individuals (7% of 649 interviewed) who reported monosodium glutamate sensitivity, 13 (30%) suffered headache, and 8 (18%) had behavioral or mood changes. Headache was related to food intolerance in 14% of those interviewed but had not previously been regarded as migrainous in nature. Of 81 reactive subjects who completed an additive challenge with annatto or azo dye, only 3 showed consistent reactions. The authors estimated the prevalence of food additive intolerance in the study population at 0.01-0.23%. (Young E et al. J Roy Coll Physicians London 1987;21:241-247).

COMMENT. The debate in the UK on food additives and behavior waxes while in the USA interest wanes, with more attention being given to sugar and the effectiveness of stimulants in therapy (see Ped Neur Briefs 1987;1:5,22,38). In the same issue of the JRCP London, Pollock I and Warner JO at the Brompton Hospital report a follow-up of children with food additive intolerance showing that symptoms were mainly transient, 76% showing no reaction on rechallenge studies, and Lessof MH at Guy's Hospital reviews the literature and concludes that more reliable diagnostic tests and toxicological screening methods are needed. A food intolerance databank has been compiled at the Leatherhead Food Research Association, UK, that will provide constantly updated information on food product composition and brands free from