We have developed a technique to assess overall neuropsychiatric disability in phenylketonuria taking account of factors other than intelligence quotient, which is a poor discriminant in severely retarded patients. Numerical 'ability scores' were thus derived for a large group of retarded and nonretarded phenylketonurics in whom plasma and intracellular levels of phenylalanine were measured after an overnight fast. Intracellular levels were determined fluorimetrically in granulocytes isolated from venous blood.

Granulocyte levels of phenylalanine correlated significantly with ability score, being considerably higher in the more severely affected patients. No such correlation was found between ability score and plasma phenylalanine. These results suggest that the extent of brain damage in phenylketonuria is more closely related to intracellular than to plasma phenylalanine concentration, and that measurements of granulocyte phenylalanine levels, both fasting and during phenylalanine loading tests, might be helpful prognostically in the control of dietary therapy and in identifying variant forms of the disease.

REFERENCES

Aoki, K., and Siegal, F. L. (1970). Hyperphenylalaninemia: disaggregation of brain polyribosomes in young rats. *Science*, **168**, 129.

Birch, H. G., and Tizard, J. (1967). The dietary treatment of phenylketonuria. Not proven. *Developmental Medicine and Child Neurology*, **9**, 9.

Swaiman, K. F., Hosfield, W. B., and Lemieux, B. (1968). Elevated plasma phenylalanine concentration and lysine incorporation into ribosomal protein of developing brain. *Journal of Neurochemistry*, **15**, 687.

Dissociation of geographical and histiogenic development of arteries. C. L. Berry. Department of Morbid Anatomy, Guy's Hospital Medical School, London.

The geographical development of vessels, i.e. the layout of large arteries, occurs earlier than the histiogenic formulation of the specialized tissues in their walls. This dissociation permits variation in normal structural patterns and has important consequences for the cerebral circulation. Further, changes during growth may affect long-term vascular performance in physiological terms. An experimental model to examine these phenomena was described.

Environmental, clinical, and immunological study of house dust mite in childhood asthma. J. K. Sarsfield. Department of Paediatrics and Child Health, Leeds.

There is evidence that the house dust mite (*Dermatophagoides pteronyssinus*) is the commonest known offending allergen in childhood allergic asthma. Heavy infestations are found in beds and may well account for nocturnal symptoms in asthmatic children.

An environmental study was performed on a small group of children with mite-sensitive asthma. Simple measures to reduce exposure to this allergen were recommended and supervised. These were monitored by mite counts of mattress dust. The children's clinical and immunological responses to such treatment were recorded. The changes in total serum IgE and specific IgE to *D. pteronyssinus* raise doubts that the mite is the single most important allergenic component of house dust.

Near-drowning in Oxford children. E. H. Smith and D. Pickering. Department of Paediatrics, Radcliffe Infirmary, Oxford.

In the United Kingdom approximately 300 children die each year from drowning.

In a retrospective study of near-drowning in Oxford children it was found that 20 children, 16 male and 4 female, surviving fresh water immersion, have been admitted to Oxford hospitals between January 1961 and December 1972. There were 13 cases (65%) in the 0–5 year age group, 5 (25%) in the 6–10 year age group, and only 2 (10%) in the 11–16 year age group.

Artificial respiration was given to 14 children at the place of rescue. On arrival at hospital 6 children were hypothermic, 5 children had an impaired level of consciousness, and 1 child was convulsing. 3 children were cyanosed and 11 had abnormal physical signs in the chest. 1 child had a clinical cardiac irregularity with dropped beats, but in no case was a significant hypotension recorded.

Chest *x*-ray was carried out in 17 children and 9 showed a definite abnormality. Oxygen was given to 3 who were cyanosed. Antibiotics were given to 13 and steroids to 6. 3 children required intensive care, including intravenous fluids and assisted ventilation. All 20 children survived.

Prevention must be the prime concern. However, it is important that all children surviving water immersion should be admitted to hospital for observation as they are then at risk of developing secondary drowning from pulmonary oedema from fresh water or salt water inhalation. The main aim of treatment should be to provide adequate oxygenation and treat hypotension whenever necessary. The importance of continuing resuscitation until the patient is normothermic has been emphasized, even when evidence of cardiac activity is absent, as cases have been reported where this has started again as the temperature has risen.

Pulmonary capillary blood flow in preterm infants with respiratory distress. R. L'E. Orme, Elizabeth A. Featherby, H. Rigatto, and June P. Brady. Department of Paediatrics and Cardiovascular Research Institute, University of California, San Francisco, California.

Observations on lactate and pyruvate concentrations, lactate/pyruvate ratios, and acid-base variables in simultaneously sampled arterial blood and CSF after presumed acute hypoxia in infants and children. H. Simpson, A. Habel, and E. George. Royal Hospital for Sick Children, Edinburgh.