

of this study certainly favor the omission of presymptomatic irradiation and the use of intrathecal methotrexate in more current protocols. The justification for over-zealous treatments of relapsing leukemia in children needs re-evaluation in light of the long term adverse effects and the overall quality of life.

## NEUROMUSCULAR DISORDERS

### **DYNAMICS OF MUSCLE MATURATION**

A painless, non-invasive technique for measuring the effects of age on the relaxation of calf muscle in 22 healthy children is reported from the Departments of Paediatric Neurology and Physiology, Royal Hospital for Sick Children, Edinburgh. The study was undertaken as a prelude to investigations of contractile properties of muscles in children with cerebral palsy and other motor handicaps. Soleus muscle twitches were generated by a single Achilles tendon tap which caused a monosynaptic reflex muscle-twitch contraction, recorded by EMG. Half-relaxation times halved from about 90 ms at age 3 years to 40 ms at age 10. Compared to a 19-year-old healthy male, relaxation was prolonged in a 3-year-old boy. The younger the child, the slower the muscle-relaxation time. Muscle maturation rate-limits motor tasks, and modifies the effects of early brain or spinal cord damage. (Lin J-P, Brown JK, Walsh EG. Physiological maturation of muscles in childhood. Lancet June 4 1994;343:1386-89). (Respond: Dr J-P Lin, Paediatric Neurology, Great Ormond Street Hospital for Children, London, WC1N 3JH, UK).

COMMENT. Having attempted quantitative measurements of motor function and muscle tone and relaxation in children with cerebral palsy for the purpose of evaluation of muscle relaxant drugs, I am aware of the paucity of reliable measures of muscle function in children. (Millichap JG, Hadra R. Quantitative assessment of motor function in cerebral palsy, Evaluation of Zoxazolamine (Flexin), a new muscular relaxant drug. Neurology Dec 1956;6:843-852). Measurements of muscle tone by speed and height of hammer recoil were abandoned in favor of quantitative tests of muscle function involving range, rapidity, strength, and coordination of voluntary movements. The Edinburgh method of measurement for muscle relaxation should be of value in assessment of various treatments of cerebral palsy.

### **CEREBRAL PALSY AND LEUKOMALACIA IN LBW INFANTS.**

Ultrasound findings and incidence of cerebral palsy in 24 infants < 2500 g with cystic periventricular leukomalacia are reported from Nagoya City University Med School, Japan. One group (14) had symmetrical parieto-occipital cysts, and a 2nd group (10) had non-symmetrical cysts. After a mean 5 year follow-up, the incidence of CP was significantly different in the two groups; 100% in group 1 and 60% in group 2. Size and site of cysts did not predict CP. (Fujimoto S et al. Cerebral palsy of cystic periventricular leukomalacia in low-birth-weight infants. Acta Paediatr April 1994;83:397-401). (Respond: Dr S Fujimoto, Department of Pediatrics, Nagoya City University Medical School, Kawasumi, Mizuho-cho, Mizuho-ku, Nagoya 467, Japan).

COMMENT. Symmetrical parieto-occipital cysts on ultrasound are predictive of the development of cerebral palsy in low-birth-weight infants.