predominated (Millichap JG, Dodge PR. Neurology 1960; 10:1007). The authors postulated that the facial abnormalities were secondary to the neuromuscular defect. Congenital myasthenia has been described in association with arthrogryposis, the subject of the following article.

ARTHROGRYPOSIS CONGENITA AND HEPATORENAL ABNORMALITIES

Arthrogryposis multiplex congenita with renal and hepatic abnormalities, demonstrated at autopsy in a two month old child of consanguineous parents, is reported from the Pediatric Hospital, Coimbra, Portugal. Three brothers and eight first cousins had died within the first month, all with jaundice. The brothers of the proband had limb abnormalities and one had polyuria, glucosuria, and metabolic acidosis. The patient was born with flexed knees and joint limitation, cubital deviation of the hands with clenched fingers, and muscular atrophy. During the second week of life the infant became jaundiced and on day 18 she was admitted with cholestatic jaundice and hepatomegaly. Electromyography and muscle biopsy were compatible with neuropathic muscular atrophy. There was hypercalcemia with increased density of the base of the skull, renal tubular degeneration, and biliary stasis with pigmentary deposits. The family pedigree suggested an autosomal recessive inheritance. (Saraiva JM et al. Arthrogryposis multiplex congenita with renal and hepatic abnormalities in a female infant. J Pediatr Nov 1990; 117:761-763).

COMMENT. This syndrome was first described by Nezelhof C et al (J Pediatr 1979; 94:258) who reported four patients with these findings. As found in this case report, arthrogryposis is most commonly associated with neuropathic muscular atrophy. The underlying lesion may be found in the anterior horn cells of the spinal cord, the peripheral nerves, the neuromyal junction, the muscle, and sometimes in the brain.

INFECTIOUS DISEASE

NEUROLOGIC MANIFESTATIONS OF LYME DISEASE

The chronic neurologic symptoms and signs in 27 patients with previous signs of Lyme disease and current evidence of immunity to Borrelia burgdorferi are reported from the Departments of Neurology and Medicine, Tufts University School of Medicine, New England Medical Center, Boston, MA. The median age was 49 years with a range of 25-72 years. Signs and symptoms of chronic neurologic abnormalities included encephalopathy in 89% with memory loss, depression, sleep disturbance, irritability, and difficulty finding words; polyneuropathy in 70% with spinal or radicular pain, distal paresthesia, and sensory loss; leukoencephalitis in 4%; and miscellaneous symptoms including fatigue (74%), headache (48%), hearing loss (15%), fibromyalgia (15%), and tinnitus (7%). Seventeen patients (63%) had abnormalities of both the central and peripheral nervous systems, seven (26%) had encephalopathy alone, two (7%) had polyneuropathy alone, and the remaining patient