NEUROMUSCULAR DISORDERS

MANAGEMENT OF BRACHIAL PLEXUS INJURIES

The results of early neurosurgical treatment of 58 infants with various types of brachial plexus birth injury have been compared with non-surgical intervention in 91 patients followed by a multidisciplinary team at the Brachial Plexus Program, Miami Children’s Hospital, FL. In the non-surgical group, three subsets of patients’ long-term outcomes were described: Type I (n=12) patients with global palsy (C5/C6/C7) had extensive limitations with minimal functional use; type II (n=63) infants with typical Erb’s palsy (C5/C6) showed no significant limitations in hand and wrist function and mild limitations in shoulder range of motion; and type III (n=16) infants with typical Erb’s palsy at birth had a persistent deformity and functional loss at long-term follow-up. Types I and III with a poor outcome following non-surgical therapy were compared with a similar cohort of patients treated surgically between 3 and 5 months of age. In 22 C5/C6 cases available for a minimum 3-year follow-up, the results were graded as fair in 4.5%, satisfactory in 13.6%, good 26.6%, and excellent 45.4%. For 30 C5/C6/C7 cases, ratings were fair in 3.3%, satisfactory in 30%, good 56.6%, and excellent in 10%. Late nerve reconstruction between 12 and 32 months of age in more than 40 patients presenting after 1 year of age with persistent shoulder sequelae was also beneficial in selected infants. None had surgical complications. Secondary musculoskeletal procedures to maximize extremity function were necessary in 25% of children undergoing nerve reconstruction. Rehabilitation therapy, orthotic and bracing techniques, neuromuscular electrical stimulation, and botulinum toxin A are considered important ancillary modalities. (Grossman JAI, DiTaranto P, Price AE et al. Multidisciplinary management of brachial plexus birth injuries: the Miami experience. Seminars in Plastic Surgery 2004;18(4):319-326). (Reprints: Dr John Al Grossman, 8940 N Kendall Drive, Miami, FL 33176).

COMMENT. In a multidisciplinary specialized center, surgical intervention between 3 and 5 months of age can improve functional outcome in selected patients with brachial plexus birth injury.

A review of 186 patients with obstetrical brachial palsy at Children’s National Medical Center, Washington, DC, found that in 46 with typical Erb’s palsy graded as moderate in severity at <3 months, 28 (61%) had persistent functional limitations at long-term follow-up. Complete recovery was exceptional and mild sequelae were the rule. (Eng GD et al. Muscle Nerve 1996;19:884-891; Ped Neur Briefs July 1996).

PREDNISONE THERAPY FOR DUCHENNE DYSTROPHY

The effects of prednisone on muscle function and the extent of steroid-related adverse effects were studied in 17 ambulant children with Duchenne muscular dystrophy (DMD) at University Hospital, Groningen; Rehabilitation Centre, Utrecht; and Leiden University Medical Centre, the Netherlands. In a randomized, placebo-controlled, crossover trial with 6 months of treatment, the time needed to run 9 m and to climb 4 stairs was significantly lower during prednisone treatment, and the quality of life was not affected. Short-term prednisone