POSNA

The Core Curriculum

Clubfoot, other

Objectives

1. Describe the approach to treatment of the child with a clubfoot resistant to casting and/or physiotherapy
2. Describe, in general terms, operative approaches to the resistant clubfoot
3. Discuss factors related to outcome of the surgically treated clubfoot

Discussion

A variable percentage of infant clubfeet will not be corrected with cast and/or physiotherapy. These children then generally undergo some type of surgery to complete the correction. This can range from a percutaneous heelcord lengthening to a wide release of medial, posterior, and lateral structures, with or without transfer of the anterior tibial tendon. With our inability to grade the pathology of clubfoot preoperatively, it becomes very difficult to compare results of operative treatment. Different authors use different criteria for grading results. Generally, regardless of treatment, there is at least some residual loss of motion and weakness after treatment for clubfoot. The criteria used by Laaveg and Ponseti in 1980 are most often used; these include both anatomic and functional factors, it is acknowledged that the functional grade can be influenced by the patient's approach to life as much as the physical status of the foot. A final factor is the lack of reliability of the radiographic findings in patients with clubfoot.

For the last 30 years, the operative procedure most often performed in North America has been the posteromedial subtalar release. The basic procedure described by Turco has been generally employed, with some modifications of incision, and amount of subtalar release. Tibiotalar release without subtalar release has been used by a minority. Recurrence rates seem to be higher for tibiotalar release, overcorrection may be higher for subtalar release. Neither procedure employs routine transfer of the tibialis anterior, which is a primary procedure for some. Osteotomies for correction of fixed bony deformity is necessary in older children, who have had longstanding uncorrection.

Results of surgical treatment fall very close to the "85% good or excellent" category for many series. The reasons for poor results have been the subject of much analysis. There is no way we will discern technical error (scarification of cartilage, unanticipated laceration of tendon) in published series. Loren has noted that the degree of muscle histopathology was related to recurrence rate, and it seems undeniable that anatomic factors may contribute to the failure of treatment in some feet, just as anatomic factors may be responsible for the success of any one of several approaches to other clubfeet. The dissatisfaction of some pediatric orthopaedists with the

global results of operative treatment are stimulating a more critical analysis of surgical indications and results at the present time.

Clubfoot associated with entities such as arthrogryposis or congenital constricting bands are more difficult to successfully treat.

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