Neuromuscular Disease as the Cause of Late Clubfoot Relapses

Reference:

Scientific Literature Reviews

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Podiatric Relevance:
This study identifies previously undiagnosed neuromuscular disease as a potential cause of late idiopathic clubfoot relapse and highlights the need for neurological workup of patients with late recurrence of clubfoot deformity.

Methods:
Retrospective review of 209 consecutive patients with idiopathic clubfoot deformity (321 clubfeet). All patients were treated using the Ponseti Method. Number of casts, age at relapse, neurological evaluation and final treatment for relapse was evaluated.

Results:
Thirteen patients (19 feet) presented with relapse of clubfoot deformity after 6 years of age. Four of these patients (6 clubfeet) were diagnosed with neuromuscular disease representing 33% of late relapses of idiopathic clubfoot. Patients were initially treated with an average of 4 casts; two patients required Achilles tenotomy. Bracing was used for an average of 4 years. Average age of relapse was 9 years. Two patients had a family history of neuromuscular disease, while the other cases had no family history. Treatment of clubfoot recurrence included: anterior tibialis transfer (all patients), plantar fasciotomy (3 patients), peroneus longus to brevis transfer (2 patients), posterior tibialis transfer (one patient), and triple arthrodesis (one patient). Neuromuscular diseases causing late clubfoot relapse included Dejerine-Sottas disease (Hereditary Hypertrophic Polyneuritis / Charcot-Marie-Tooth Disease Type IA), multiple core disease, myasthenia gravis and myotonic dystrophy.

Conclusions:
The results of this study show that a high percentage (33%) of cases of late relapse of clubfoot deformity occur in patients with previously undiagnosed neuromuscular disease. While there is a high tendency for recurrence of clubfoot deformity up to two years of age, relapse after the age of 6 years is rare and requires thorough neuromuscular evaluation.