

Evaluation of french physiotherapy combined with casting for initial treatment of congenital idiopathic clubfoot deformity

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INTRODUCTION:

The French method, also called the functional physical therapy method, is a combination of physiotherapy and splinting. This method consists of daily manipulations of the newborn's clubfoot by a specialized physical therapist that uses muscles stimulation techniques around the foot and temporary applies foot immobilization with elastic and non elastic adhesive taping. Physiotherapy is optimized by early triceps sural lengthening. Sequences of plaster can also be used. If conservative treatment is no longer effective, surgery should be considered. The purpose of this study was to evaluate retrospectively the outcome of congenital talipes equinovarus (CTEV) treatment with French physiotherapy combined with casting using the Dimeglio Classification System (DCS).

MATERIALS AND METHODS:

This study included twenty five idiopathic clubfeet managed during a 2 years period between 2009 and 2010 in the University Hospital, Department of Physical Medicine and Rehabilitation of Douéra,

Algiers - Algeria. Nine infants with bilateral and 07 with unilateral clubfeet were assessed with DCS and treated according to the French physiotherapy method combined with casting.

The sixteen infants were less than two months of age [4 girls and 12 boys ; mean age 28 ± 20 days, range 6 - 60 days] and did not undertake prior manipulation. Only Dimeglio grade 1, II and III clubfeet were included in this study and were managed by the same physiotherapist. Statistical analysis was carried out using SPSS software, using Student's T and Khi2 test.

By the end of the study, patients were reassessed using the same classification system : The Dimeglio score varies between 0 and 20,

- Grade 1 : benign deformity, score ≤ 5 .
- Grade II : moderate deformity, score = $5 < 10$.
- Grade III : severe deformity, score = $10 < 15$.
- Grade IV : very severe deformity, score = 15 to 20.

Success of the French physiotherapy combined with casting was defined with score < 5 at the end of the study, corresponding

to grade 1.

RESULTS:

The mean follow-up time was 12.4 ± 7.53 months. We found statistically significant differences between the two DCS scores before and after physical therapy (9.16 ± 1.95 Vs 3.8 ± 1.5 ; $p < 0.0001$).

Results were considered good if the DCS < 5 . The rate of good results for grade II versus grade III was 83% Vs 25% respectively, The difference was statistically significant with $p < 0.01$.

CONCLUSION :

The French method combined with casting reduces clubfoot deformities but does not eliminate the need for minimally invasive surgical procedures. Equinus is the most difficult deformity to manage. Posterior release is sometimes necessary in a severe foot.

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