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The Ponseti method in children with clubfoot after walking age – systematic review and metanalysis of observational studies

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ABSTRACT

Introduction: The prevalence of untreated congenital clubfoot among children older than walking age is higher in developing countries due to limited resources for early care after birth. The Ponseti method represents an interventional option for older, untreated children.

Methods: A metanalysis was conducted of observational studies selected through a systematic review of articles included in electronic databases (Medline, Scopus, Embase, Lilacs, and the Cochrane Library) until June 2017. A pooling analysis of proportions with 95% confidence intervals (CIs) and a publication bias assessment were performed as routine. Estimates of success, recurrence, and complication rates were weighted and pooled using the random effects model.

Results: Twelve studies, including 654 feet diagnosed with congenital clubfoot in children older than walking age (older than 1 year old), were included for analysis. The rate of satisfactory outcomes found via a cluster metanalysis of proportions using the random effects model was 89% (95% CI=0.82-0.94, $p<0.01$) relative to the total analyzed. The recurrence rate was 18% (95% CI=0.14-0.24, $p=0.015$), and the rate of casting complications was 7% (95% CI=0.03-0.15, $p=0.19$).

Conclusion: Application of the Ponseti method in children with untreated idiopathic clubfoot older than walking age leads to satisfactory outcomes, has a low cost, and avoids surgical procedures that are likely to cause complications. The obtained results exhibited considerable heterogeneity.

Keywords: Congenital clubfoot; Foot; Congenital deformities of the foot; Review; Child.

