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Results of Ponseti Treatment in Club Foot in Older Children in India

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ABSTRACT

Although the Ponseti method has been effective in club foot patients up to 2 years old, limited information is available on the use of this method in older patients. We retrospectively reviewed the records of 36 patients (62 feet) to determine whether initial correction of the deformity (a plantigrade foot) could be achieved using the Ponseti method in untreated idiopathic clubfeet in patients presenting between the ages of 2 and 7years.
Although all patients achieved a plantigrade foot,We intend a followup study to ascertain whether the correction is maintained.

INTRODUCTION

Treatment of idiopathic club foot in older children by extensive soft tissue release is often complicated by stiffness, recurrence, and the need for additional procedures ,because of these problem many treatment centers have adopted the Ponseti method, which has achieved excellent results in both economically developed [1-20] and underdeveloped regions[21-24]. Although the majority of patients in these studies have been treated in infancy, recent studies suggest that ponseti method may be appropriate for patients of walking age [23, 24], and the upper age limit remains to be established., The goal of this retrospective case series was to determine whether the Ponseti method could achieve initial correction (a plantigrade foot) of untreated idiopathic clubfeet in patients presenting between 2 and 7 years of age.

Since July 2014, all patients with an untreated idiopathic clubfoot presenting to the Hospital between birth and 7 years of age have been treated by the Ponseti method .Of 96 consecutive patients with clubfoot treated jan 2014 through march 2015, 36 patients (62feet) met our inclusion criteria, namely of an untreated idiopathic club- foot in a child presenting between 2 to 7 years of age.. We excluded 60 patients for the following reasons: nonidiopathic clubfoot (syndromic, neuromuscular, other), or age younger than 2 year or older than 7 years.). The number of feet in each age group was: 2 to 3 years old, 21 feet; 3 to 4 years old, 15 feet; 4 to 5 years old, 10 feet; 5 to 6 years old, 10 feet,6 to 7 years old 6. Sixty percent were boys. All patients were treated on OPD basis by Ponseti method, cast changed every 7 days. for residual equinus after a plateau is reached in casting, typically a percutaneous tendo-Achilles released was performed under aseptic precaution and local anaesthesia. . Postoperatively, a long leg cast was applied and kept on for 4 weeks. Then straight CTEV shoe in day time and foot abduction orthotic [25] in night time given . We have advised splinting until 8 years of age. We recorded age , Pirani score [6, 26] (pretreatment & after casting), number of casts, surgical procedure done , complications, passive dorsiflexion after treatment and complications, (measured with the knee extended using a goniometer), and the ability to squat. The Pirani system assigns a score (0 = normal, 0.5 = moderate abnormality, 1 = severe abnormality) to each of six signs. Three of these involve the midfoot (curvature of the lateral border, position of the lateral head of the talus, severity of the medial crease) and three involve the hindfoot (rigidity of equinus, emptiness of the heel pad, and depth or severity of the posterior crease) [6, 26].

We defined a successful outcome as achieving a plantigrade foot without the need for an extensive soft tissue release. We compared pre- and post-Pirani scores ,average number of casts required, average pre-Pirani scores, average post-Pirani scores, and the average degree of dorsiflexion achieved when the final cast was removed.

RESULTS All patients had severe deformity corresponding to a Pirani score of 4–6, with mean score of 5. The deformities of the clubfoot were corrected by the casts, except equinus defor- mity. The midfoot was corrected to Pirani 0 in all feet after the casts. The correction was obtained with an average of 9 (6–12) casts, the number of casts increasing with age. In patients up to the age of 4 years, hyperabduction up to 50 degrees was achieved in the final cast. In the older children, abduction was only possible up to 30 degrees, but this did not appear to reduce the final walking ability. Equinus was treated by percutaneous tenotomy.. The equinus was corrected to neutral or above neutral in dorsiflexion. There were no major complications during cast application or during the limited surgical interventions. No extensive soft tissue releases or corrective bony procedures were required to obtain correction. All the children obtained a corrected, plantigrade, flexible, pain free-foot. They could all walk and run. A significant improvement in the cosmetic appearance was observed in all children. They could perform their normal daily .

Discussion The study shows that children with neglected clubfoot can be treated successfully with the Ponseti method and that the need for extensive radical operations can be greatly reduced., both before and after the treatment. A painless plantigrade foot was achieved in 62 feet without the need for extensive surgery The best results were achieved in the youngest group. We achieved only 30 degrees of abduction in the older group. Spiegel et al. (2009) reported the use of Ponseti treatment in untreated children between the age of 1 and 7 years. The standard treatment for neglected clubfoot has been extensive surgical intervention which is technically demanding, and has a significant rate of complications even in the best hands (Penny 2005). The Ilizarow technique has been used for neglected clubfoot. It is considered to be a salvage procedure in older children (Wal-

lander et al. 1996).and is technically demanding, time consuming, and is associated with complications. The manipulation and casting were performed every 1 weeks to allow remodeling and to hinder soft tissue edema. In our cases, the Ponseti method proved to be effective in correcting None of the feet required a medial or lateral release, or corrective bony procedure. We believe that we achieved good results because the treatment was given by a skilled person with a proper understanding of the Ponseti method .

CONCLUSIONS

This study shows that the Ponseti method can be used successfully to treat untreated clubfoot in older children than is traditionally recommended. If the treatment is done properly, it will significantly reduce the need for surgical intervention. minimizes the need for extensive corrective surgery. Further follow up study to ascertain whether the correction is maintained or not is needed.

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