



Original Article

Treatment of congenital clubfoot using Ponseti method[☆]



Alceu José Fornari Gomes Chueire*, Guaracy Carvalho Filho, Otto Yosuke Kobayashi, Leonardo Carrenho

Department of Orthopedics and Traumatology, Faculdade de Medicina de São José do Rio Preto (Famerp), São José do Rio Preto, SP, Brazil

ARTICLE INFO

Article history:

Received 30 May 2015

Accepted 18 June 2015

Available online 4 May 2016

Keywords:

Clubfoot

Lower extremity deformities

Congenital

Manipulation

Orthopedic

Treatment outcome

ABSTRACT

Objective: To quantitatively and qualitatively analyze the results from treatment of congenital clubfoot with a mean follow-up of 4.6 years.

Methods: 26 patients who underwent treatment by means of the Ponseti method were analyzed (total of 39 feet). The mean age at the start of the treatment was 5.65 months. The mean length of the follow-up subsequent to tenotomy of the Achilles tendon was 4.6 years. Patients with secondary clubfoot were excluded. Epidemiological data, radiographic measurements on the Kite angle and data from a satisfaction questionnaire and the Laaveg questionnaire were analyzed.

Results: Among the 26 patients treated, one presented recurrence of the deformity and had to return to the beginning of the treatment. The mean score from the questionnaire and physical examination was 89.76 points, and this result was considered good. 99% of the patients responded that their feet never hurt or hurt only upon great activity; 88% said that their feet did not limit their activities; and 96% said that they were very satisfied or satisfied with the results from the treatment. The mean Kite angle in anteroposterior view was 28.14° and it was 26.11° in lateral view.

Conclusion: Treatment for idiopathic congenital clubfoot by means of the Ponseti method brings better results together with less soft-tissue injury, thus confirming the effectiveness and good reproducibility of this method.

© 2015 Sociedade Brasileira de Ortopedia e Traumatologia. Published by Elsevier Editora Ltda. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

[☆] Study conducted at the Department of Orthopedy and Traumatology, Faculdade de Medicina de São José do Rio Preto (Famerp), São José do Rio Preto, SP, Brazil.

* Corresponding author.

E-mail: afchueire@gmail.com (A.J.F.G. Chueire).

<http://dx.doi.org/10.1016/j.rboe.2015.06.020>

2255-4971/© 2015 Sociedade Brasileira de Ortopedia e Traumatologia. Published by Elsevier Editora Ltda. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Tratamento do pé torto congênito pelo método de Ponseti

R E S U M O

Palavras-chave:

Pé torto
Deformidades congênicas
Das extremidades inferiores
Manipulação ortopédica
Resultado do tratamento

Objetivo: Analisar quantitativa e qualitativamente os resultados do tratamento do pé torto congênito com seguimento médio de 4,6 anos.

Métodos: Foram analisados 26 pacientes que fizeram tratamento pelo método de Ponseti, total de 39 pés. A média da idade do início do tratamento foi 5,65 meses. O tempo de seguimento após a tenotomia do tendão de Aquiles foi em média de 4,6 anos. Foram excluídos pacientes com pé torto secundário. Foram analisados dados epidemiológicos e mensurações radiográficas do ângulo de Kite e aplicados questionário de satisfação e questionário de Laaveg.

Resultados: Dos 26 pacientes tratados, um apresentou recidiva da deformidade, foi necessário retornar ao início do tratamento. A pontuação média do questionário e do exame físico foi de 89,76, resultado considerado bom; 99% dos pacientes responderam que os pés nunca doem ou doem somente aos grandes esforços; 88% responderam que o pé não limita as atividades; 96% responderam que estão muito satisfeitos ou satisfeitos com os resultados do tratamento. A média do ângulo de Kite na incidência anteroposterior foi de 28,14° e no perfil 26,11°.

Conclusão: O tratamento para pé torto congênito idiopático pelo método Ponseti é o que traz melhores resultados associado a menor lesão de partes moles, o que confirma a eficácia e a boa reprodutibilidade do método.

© 2015 Sociedade Brasileira de Ortopedia e Traumatologia. Publicado por Elsevier Editora Ltda. Este é um artigo Open Access sob uma licença CC BY-NC-ND (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Congenital clubfoot (CCF), also known as congenital talipes equinovarus, is the most common orthopedic deformity that requires intensive treatment¹ and affects approximately 1:1000 live births.²

It is a congenital dysplasia of all musculoskeletal structures (muscles, tendons, ligaments, osteoarticular and neurovascular structures) distal to the knee.¹ The foot presents equinus, cavus, varus and adducted positions, and is supinated.

CCF etiology may be associated with myelodysplasia, arthrogryposis, or multiple congenital abnormalities, but the most common presentation is the isolated deformity, which is considered to be idiopathic. Many theories have been proposed to explain the etiology of idiopathic CCF. They are related with vascular impairment, external factors (intrauterine positioning), abnormal muscle insertions, and genetic factors.³ In normal fetal development of the lower limbs, between the 6th and 8th week of intrauterine life, feet are similar to clubfeet (equinus, cavus, varus, adducted, and supinated), but by the 12th week the feet move to the normal position. This means that the condition may be due to the permanence of the foot position at the beginning of development. It is safe to state that the CCF etiology is multifactorial and modulated by changes in embryonic development.¹

CCF treatment has been a challenge to orthopedic surgeons. The first treatment reports come from the 19th century, with the use of devices for forced manipulations. In the 1980s and 1990s, soft-tissue posteromedial release surgeries were

performed. This procedures yielded poor outcomes, with stiffness, pain, and functional impairment of the foot.⁴

The Ponseti method is widespread worldwide. It consists of a series of manipulations and immobilizations, as well as Achilles tenotomy to correct CCF deformities. After tenotomy, an orthosis is used to maintain the correction obtained and prevent recurrence.^{3,5-7}

This study aimed to quantitatively and qualitatively analyze the results of treatment for CCF performed by the Pediatric Orthopedics team of our service. Data analysis refers to patients on with mean follow-up of 4.6 years. Through the data obtained, the degree of efficiency and satisfaction with the treatment in our service were assessed.

Methods

The research project was approved by the Medical Ethics Committee of the institution.

The study retrospectively evaluated 26 patients undergoing CCF treatment with the technique described by Ponseti,⁵ from August 2003 to May 2012, comprising a total of 39 feet. The mean age of treatment onset was 5.65 months (1 month to 3 years and 10 months). The mean follow-up time after Achilles tenotomy was 4.6 years (3 months to 8.58 years).

The medical records of all patients treated by the Ponseti method for idiopathic CCF were reviewed. Patients with CCF with neurological or other origin were excluded, as well as those undergoing other treatments. During the review of medical records, the following data were collected: age, date of treatment onset, laterality, presence of comorbidities,

Download English Version:

<https://daneshyari.com/en/article/2708277>

Download Persian Version:

<https://daneshyari.com/article/2708277>

[Daneshyari.com](https://daneshyari.com)