ORIGINAL ARTICLE

Early Experience with Ponseti Technique in the Management of Congenital Idiopathic Talipes Equino Varus (CTEV) in Children Less Than 1 Year of Age

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ABSTRACT

Objective: the objective of this study is to evaluate the early results of Ponseti Technique in the management of congenital idiopathic talipes equino varus.

Methods: This prospective study was carried in the Department of Orthopedics and Trauma, Khyber teaching Hospital, Peshawar from July 2013 to July 2014. Ninety (90) patients both male and female with 130 feet were included in this study. The Age was children less than 1 year of age. Severity of foot deformity was determined using Pirani Score.

Results: Mean pirani score was 5.5. Mean numbers of casts were 7.TendoAchillies tenotomy was done in 118 feet. Minimum followup was upto 10 months. Recurrence occurred in 3 patients, who were again treated with ponseti technique.

Conclusion: Ponseti Technique is the preferred treatment of choice for the management of congenital talipes equinovarus, and should be started as soon as possible after birth.

Key Words: Congenital talipes equinovarus, Ponseti Tecnique

INTRODUCTION

CTEV is a complex deformity of the foot[1]. It is one of the most common congenital deformity of the foot[2,3]. The incidence is 1-2 per 1000 live births. It occurs more commonly in males than females. It may be unilateral or bilateral[4].

The deformity has four components, forefoot varus, adduction, cavus and equinus[1,4,5]. Each of this deformity needs to be reduced[1]. The aim of the treatment is to produce a painless plantigrade foot, which should be cosmetically and functionally acceptable[1,5,6].

The initial management of CTEV should be non-operative[1,4,7]. In 1950, Ponseti devised a method of serial manipulation and casting for the management of CTEV[5]. The long-term results of patients treated with this technique are good and universally accepted[1]. The deformities corrected are in a sequence of Cavus, adduction, varus and equinus.

The Objective of this study is to evaluate the early results of CTEV treated with Ponseti method.

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METHODS

This prospective study was conducted in the department of Orthopedics and trauma, Khyber Teaching hospital from July 2013 till July 2014. Inclusion criteria were patients from either gender with age less than 1 year, having CTEV without any other congenital anomaly like DDH, Arthrogryphosis etc.

Severity of foot deformity was calculated using Pirani score, on each visit. Above knee casts were applied on weekly basis. Per cutaneous Tendo Achillies tenotomy was done in patients to correct residual equinus. Dennis- Brown splints were applied from 3 months 22-23 hours a day, and then at sleep time. Patients were followed for a minimum of 10 months.

RESULTS

Data collected was entered and analyzed using SPSS19. Mean age of the patients was 12 weeks (from bith-52 weeks). Out of 90 patients with 130 feet, 40 were bilateral and 50 were unilateral. 90% of children were full term. Males were 54(60%) and females were 36(40%). Mean Pirani score at initial presentation was 5.5(4.5-6). Mean number of casts was 7(4-9). Per cutaneous TA tenotomy was done in 118(91%) feet. After the last cast, Dennis-Brown splints were advised for 22-23 hours a day for 3 months and thereafter at

sleep times for next 2 yrs. Minimum follow-up of the patients was 10 months. Recurrence occurred in 10(11%) patients, 7 were successfully treated with ponseti casting and 3 required surgical procedures.

DISCUSSION

The goal of treatment of CTEV is to obtain a painless planti-grade foot with good mobility.[1,4,5,6] Previously various techniques including both surgical and non-surgical treatment were advocated[3], but now there is a general agreement that the initial management of CTEV should be non-operative[1,4,7]. The treatment should be started as soon as possible after birth. The ponseti technique is considered as the treatment of choice these days[1,5].

In our Study the males were affected more than females, which is shown by other studies as well[1,4]. The mean pirani score was 5.5(4.5-6), which is consistent with other studies as well[1,4,8]. The mean number of casts needed to fully correct the deformity was 7(5-9), which is almost the same as other studies[4]. In our study TA tenotomy was required in 118 feet (91% cases), tenotomy was needed in 95% of Gupta's[9] patients and 91% of Dobb's[10] Patients which are almost similar.

Maintenance of bracing protocol is perhaps the most difficult part of Ponseti casting technique[8]. Parent's education and cooperation especially that of mother is very important in maintaining proper brace protocol. In One study the parents reported that the initial two or three days were very crucial, during which the patients were very restless and tried to remove the splint[8]. We used proper Dennis-Brown splint for our patients, which were applied after the final cast. The splint maintained 70-degree abduction and 10-15 degree dorsiflexion of the foot. These were applied for 22-23 hours a day for initial 3 months and later on during sleep time for 2 years. No other special shoes were given to the walking children.

Recurrence of the deformity in our study was 11% (10 patients), all of who presented within 6 months of the last cast. They were treated again with ponseti technique. 7 patients were successfully treated with Ponseti Technique, although the number of casts needed to correct the deformity was more (mean number of casts=10) as compared to other children (mean number of casts =7). 3 patients required PMR.

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