



DOES AGE AT BEGINNING OF TREATMENT HAS EFFECT ON MANAGEMENT OF CONGENITAL TELIPUS EQUINO VARUS (STUDY OF 100 FEET)

Orthopedics

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ABSTRACT

Clubfoot is one of the most common congenital deformities. The Ponseti serial corrective cast management is an easy, effective and economical method of idiopathic club foot management. Pirani et al provide a simple scoring system based on six clinical signs of contracture. To know whether Age at beginning of treatment will predict the need of tenotomy and result of CTEV. A total number of 100 feet in 64 patients were studied prospectively in G.G.G.H. & M. P. Shah Govt. Medical College, Jamnagar during the period from July 2014 to July 2016 with only idiopathic clubfoot & treated with Ponseti technique and evaluated with help of PIRANI SCORE at each visit. Most of the patients started treatment at the age of 0-1 months and the youngest was of 1st day of age. The early the age at beginning of treatment doesn't exclude need for tenotomy. We have successful result 94.25% at early age of presentation.

KEYWORDS:

CTEV, Age at beginning of treatment, Tenotomy.

1.Introduction

Clubfoot is one of the most common congenital deformities since time immemorial. The essential documentation of clubfoot comes from ancient Egyptians paintings on the walls of their ancient tombs depict clubfoot deformity and statue of a diastrophic dwarf with clubfoot can be found in Tutankhamen collection.[1,2]

It is estimated that congenital clubfoot affecting about one infant in every 1000 births. Eighty per cent of the cases occur in developing nations. Most are untreated or poorly treated in underdeveloped nations. Neglected clubfoot leads to physical, social, psychological, and financial burdens on the patients, their families, and the society. Globally, neglected Clubfoot is the most serious cause of physical disability among congenital musculoskeletal defects.[2]

Idiopathic clubfoot is a complex deformity that is difficult to correct. The deformity has four components: Ankle Equinus, Hindfoot Varus, Midfoot Adductus and Forefoot Cavus. The Ponseti serial corrective cast management is an easy, effective and economical method of idiopathic club foot management. The deformity is corrected by weekly serial corrective cast manipulation. The aim of the treatment is to reduce or eliminate all the components of the CTEV deformity to obtain painless, plantigrade, pliable and cosmetically and functionally acceptable foot within the minimum time duration and least interruption of the socio-economical life of the parents and child. [4,11]

The initial treatment of the Clubfoot should be non-operative regardless of the severity of the deformity. Ponseti Method which involves serial corrective manipulation, a specific technique of the cast application, and a possible percutaneous Tendo-Achillis tenotomy. The method has been reported to have short-term success rate approaching 90% and long-term results have been equally impressive.[4]

Pirani et al provide a simple scoring system based on six clinical signs of contracture. Three clinical signs for Midfoot and three clinical signs for Hindfoot.

The scoring is to be done post gentle correction without undue force. Thus, each foot can receive a Midfoot score between 0-3 and a hindfoot score between 0-3 and a total score between 0-6, where 0 is no abnormality while 6 is maximum deformity.[4]

Parents whose children are starting Ponseti treatment are enquiring about the number of the casts to correct the deformity and about the requirement of the tenotomy later on during treatment as well as long term result of the treatment offered.

This study is carried out at our institute to assess to know whether

Age at beginning of treatment will predict the need of tenotomy and result of CTEV.

May we have a world free of disabilities !

2.Material and Method

A total number of 100 feet in 64 patients were studied prospectively in Guru Govind Singh Govt. Hospital, M. P. Shah Govt. Medical College, Jamnagar during the period from July 2014 to July 2016 with only idiopathic clubfoot & treated with Ponseti technique and evaluated with help of PIRANI SCORE at each visit.

• Inclusion Criteria:

- Patient with idiopathic CTEV
- Both Male and Female
- All First time detected cases

• Exclusion Criteria:

- Syndromic Patient
- Relapse and Recurrent CTEV

All the patients were treated in outpatients department as early as possible and treated by PONSETI Method and were given serial manipulative correction maintaining cast at a weekly interval. Simultaneous correction of cavus, adduction and varus achieved and equinus cannot be addressed until all other deformities were corrected and foot were able to abduct 60 to 70 degree on talus. A simple percutaneous tenotomy of the achillis was performed if residual equinus was observed i.e. after abduction of the foot and the varus deformity of the heel have been corrected. After which tenotomy and fully corrective cast was given for 3 weeks after which they were put on steenbeek's brace. This brace worn continuously for 23 hrs upto 3 months and after that patient is put on night time splint only and day time ctev shoes. After the patient started walking he was put on CTEV SHOES. Every patient was followed up every monthly till 6 months and thereafter every 3 months for an average of 2 years.

We followed the functional rating system of Dr. Ignacio Ponseti.

The relationship between age at beginning of treatment and need for tenotomy and other is investigated using the Chi-squared test with $p=0.05$ considered to be significant. Value of Chi-square test is calculated with help of MedCalc Version 9.2.0.1. (demo version).

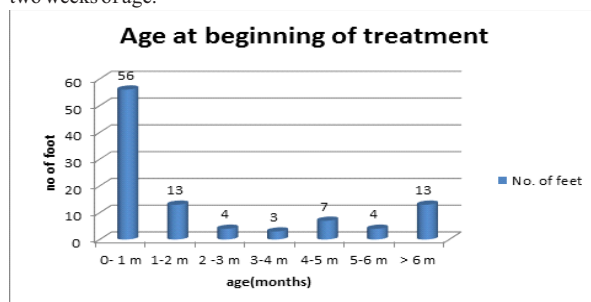
3.OBSERVATION & DISCUSSION AND ANALYSIS

A total number of 100 feet of CTEV were studied prospectively in Guru Govind Singh Govt. Hospital, M. P. Shah Govt. Medical College, Jamnagar during the period from July 2014 to July 2016 with a

minimum followup of 6 months.

[a] Age at Beginning of Treatment

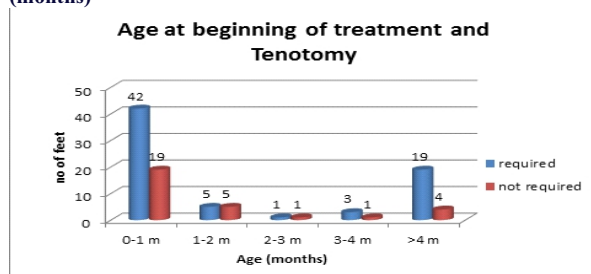
Most of the patients started treatment at the age of 0-1 months and the youngest was of 1st day of age. Among them 37% present within first two weeks of age.



(Age at beginning of treatment)

In our study, onset of the treatment ranged from 1st day of age to 12 month and more, most of the feet are of 0-1 months (56%), the average being within first two week of age. It is necessary for health care system to improve the education and knowledge among ill-literate people about CTEV.

[b] Relation of tenotomy with Age at beginning of treatment (months)



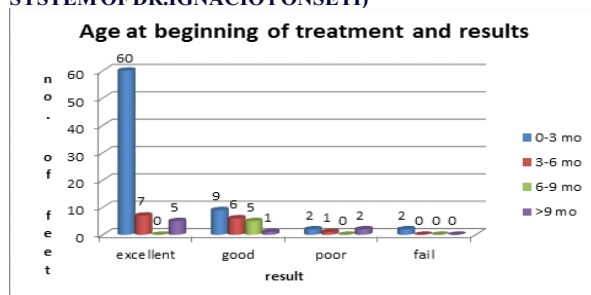
RESULT OF CHI-SQURE TEST

Chi-squared = 4.113
Degree of freedom = 04
Significance level = 0.3910

There is no significant association found between Age at beginning of treatment & Tenotomy.

It is reflected from our study that the early the age at beginning of treatment doesn't exclude the need for tenotomy it is because not the age at beginning of treatment but the soft tissue of the feet, suppleness of feet which decide tenotomy needed or not.

[c] Age at treatment and result (FUNCTIONAL RATING SYSTEM OF DR. IGNACIO PONSETI)



In our series we had successful result (excellent & good) in 93% at the end of treatment.

RESULT OF CHI-SQURE TEST

Chi-squared = 34.892
Degree of freedom = 09
Significance level = p < 0.0001

The association between Age at presentation and Result is highly

significant.

In our study we had 94.52% successful result which may be due to at early age feet is supple and soft tissue is easily stretchable than those present at late stage. Also at early age we can also correct bony malalignment easily than those who present at late stage.

4. CONCLUSION:

A lot has been said on DOES AGE AT BEGINNING OF TREATMENT HAS ANY EFFECT ON MANAGEMENT OF CONGENITAL TELIPUS EQUINO VARUS. From our study of 100 feet, our data suggest that :

- Most of the patients started treatment at the age of 0-1 months and the youngest was of 1st day of age. Among them 37% present within first two weeks of age.
- The male child frequently affected, and Male : Female is 4.33 : 1.
- The bilateral involvement of foot in our study is 56.25% (36 patients), which may be due to geographical variations.
- Most of the affected child was 1st born child (60.94%). During our study we can't find any reason why the first born child affected more.
- The early the age at beginning of treatment doesn't exclude need for tenotomy.
- The outcome of treatment can be predicted from age at beginning of treatment.
- We have successful result 94.25% at early age of presentation.
- We followed the functional rating system of Dr. Ignacio Ponseti and got 72% excellent results, 21% good results (93% successful result), 05% poor result, 02% fail result (07% unsuccessful result).

As this is a small scale study to conclude this much data properly, in future it is necessary to carry out a large, multicentric study with same vision.

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