

EVALUATION OF THE EFFECT OF LOCALLY FABRICATED FOOT ABDUCTION BRACE IN TREATMENT OF CONGENITAL TALIPES EQUINOVARUS IN EGYPT

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INTRODUCTION

- Congenital Talipes equinovarus referred to as clubfoot is a rather common congenital foot deformity in newborn.
- Finding the most effective treatment is a key to the best possible quality of life for children born with clubfoot. Uncorrected clubfoot dramatically affects the patient's life. This especially causes children to face a decreased motoric development when handicapped with a Talipes equinovarus.
- The purpose of the treatment is not only to correct the deformity but also to prevent recurrences, so post-corrective brace treatment is recommended until the age of four years.
- Both brace compliance and type of brace might influence the final outcome in the treatment of Talipes equinovarus. In this regards, locally fabricated foot abduction brace would need a fully documented evaluation of outcome.

AIM OF THE WORK

- The aim of this work was to evaluate the effect of locally fabricated foot abduction brace in Egypt in terms of maintaining a corrected Talipes equinovarus after Ponseti Technique.

PATIENTS

- A total number of 60 children participated in the clinical study. The study included Children that have been treated for congenital talipes equinovarus with the Ponseti method treatment followed by a foot abduction brace fabricated in Egypt.

METHODS

Treatment



Locally fabricated foot abduction brace fitted in seventy degree abduction

Assessment

- At the end of follow up morphological evaluation score was found significantly correlated with age, and significantly associated with neurological deficit and presence of other deformity, whereas radiological evaluation score was significantly correlated with age only. All those three parameters significantly correlated to outcome are largely documented in the literature as factors associated with poor result in the treatment of Talipes equinovarus.

RESULTS

Relation between morphology score and sex, prematurity, Tendo Achillis tenotomy, laterality, presence of other deformity and neurological deficit

Total score for morphology Mean ± SD.	Sex		U	p
	Male (n=31)	Female (n=29)		
Mean ± SD.	0.87 ± 1.96	1.0 ± 1.98	430.50	0.696
Total score for morphology Mean ± SD.	Prematurity		U	p
	No (n=47)	Yes (n=13)		
Mean ± SD.	0.77 ± 1.75	1.54 ± 2.57	264.0	0.301
Total score for morphology Mean ± SD.	Need for tendo Achilles tenotomy		U	p
	No (n=3)	Yes (n=57)		
Mean ± SD.	0.0 ± 0.0	0.98 ± 2.0	66.0	0.539
Total score for morphology Mean ± SD.	Laterality		U	p
	Unilateral (n=8)	Bilateral (n=52)		
Mean ± SD.	0.25 ± 0.71	1.04 ± 2.07	180.50	0.407
Total score for morphology Mean ± SD.	Presence of other deformity		U	p
	No (n=54)	Yes (n=6)		
Mean ± SD.	0.70 ± 1.70	3.0 ± 2.97	80.50*	0.043*
Total score for morphology Mean ± SD.	Neurological deficit		U	p
	No (n=54)	Yes (n=6)		
Mean ± SD.	0.70 ± 1.70	3.0 ± 2.97	80.50*	0.043*

Relation between radiological evaluation score and sex, prematurity, Tendo Achillis tenotomy and laterality

Radiological evaluation score Mean ± SD.	Sex		U	p
	Male (n=31)	Female (n=29)		
Mean ± SD.	0.52 ± 1.43	0.60 ± 1.72	443.0	0.877
Radiological evaluation score Mean ± SD.	Prematurity		U	p
	No (n=47)	Yes (n=13)		
Mean ± SD.	0.38 ± 1.28	1.23 ± 2.28	243.50	0.073
Radiological evaluation score Mean ± SD.	Need for tendo Achilles tenotomy		U	p
	No (n=3)	Yes (n=57)		
Mean ± SD.	0.0 ± 0.0	0.60 ± 1.60	72.0	0.677
Radiological evaluation score Mean ± SD.	Laterality		U	p
	Unilateral (n=8)	Bilateral (n=52)		
Mean ± SD.	0.0 ± 0.0	0.65 ± 1.67	172.0	0.207
Radiological evaluation score Mean ± SD.	Presence of other deformity		U	p
	No (n=54)	Yes (n=6)		
Mean ± SD.	0.41 ± 1.24	2.0 ± 3.16	123.50	0.352
Radiological evaluation score Mean ± SD.	Neurological deficit		U	p
	No (n=54)	Yes (n=6)		
Mean ± SD.	0.41 ± 1.24	2.0 ± 3.16	123.50	0.352

CONCLUSIONS

- Factors associated with Talipes equinovarus relapse are neurologic deficit, presence of other deformity and age. The locally fabricated foot abduction brace is equally effective, relatively cheap and was found to be affordable. Therefore it could be recommended in the treatment of Talipes equinovarus.



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