

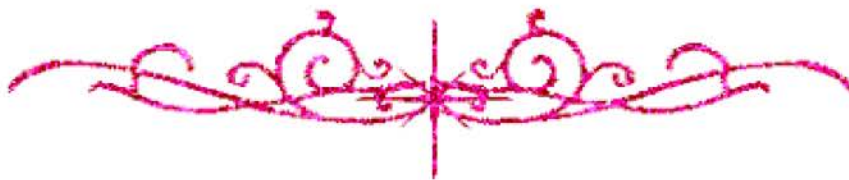
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شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم
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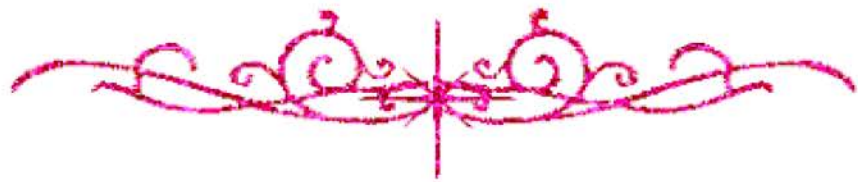
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B I E V I Y

**HAND REHABILITATION WITH TENDON TRANSFER
SURGERY AND WITH BOTULINUM TOXIN
INJECTION IN HEMIPLEGIC CHILDREN:
SIMILARITIES AND DIFFERENCES**

Thesis

**Submitted in Partial Fulfillment for the Requirements of
Doctoral Degree in Physical Therapy**

By

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Ms in Physical Therapy

**Faculty of Physical Therapy
Cairo University
2006**

يسم الله الرحمن الرحيم

[اقرأ باسم ربك الذي خلق (الأنشأ) خلقه (الأنشأ)]

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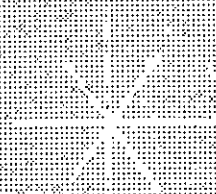
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Gehan Mosad Abd El-Maksoud

2006



Dedication

To my Family

Special Dedication

To my Mother

And

The Soul of my Father

Hand Rehabilitation with Tendon Transfer Surgery and with Botulinum Toxin Injection in Hemiplegic Children: Similarities and Differences/ Gehan Mosad Abd El-Maksoud; Supervisors: Prof. Kamal El-Sayed Shoukry, Prof. Hoda Abd El-Aziem El-Talawy, Dr. Mostafa Hassan Aboulftoh Elsherbini.- Cairo University, (Egypt): Faculty of Physical Therapy-Department of Growth and Developmental Disorders in Children and its Surgery, 2006. (196).

Doctoral Thesis

Abstract

The purpose of this study is to investigate the effect of two treatment strategies: hand rehabilitation including tendon transfer surgery and hand rehabilitation including botulinum toxin type A (BTX-A) injection in hemiplegic children. This study is also conducted to clarify the similarities and differences between two treatment strategies. Two groups of hemiplegic children -ten child in each group- participated in this study. The first group of children (group A) aged from eight to eleven years old and were treated by hand rehabilitation program included tendon transfer surgery. The second group of children (group B) aged from four to six and half years old and were treated by hand rehabilitation program including BTX-A injection. Evaluation of wrist extension, forearm supination, hand grip strength and fine motor skills were studied in two patient groups before starting the treatment after three months and after six months of treatment. The results of the present study shows a highly significant improvement in all measuring parameters for the two groups except for a highly significant reduction in hand grip strength in the first group which was noticed after three months of treatment. In addition, considerable differences between the two groups were demonstrated in relation to age, pretreatment status of children and the level of improvement at the end of a rehabilitation program. In conclusion, the results of this study confirmed that a multidisciplinary approach is essential in the management of CP children.

Key words: Rehabilitation–Tendon Transfer Surgery, Botulinum Toxin–Hemiplegia.

LIST OF ABBREVIATION

Abbreviation	Name
Ach	Acetylcholine
ADL	Activity of daily living
BTX-A	Botulinum toxin type A
CMC	Carpometacarpal
CNS	Central nervous system
CP	Cerebral palsy
DIP	Distal interphalangeal
ECRB	Extensor carpi radialis brevis
ECRL	Extensor carpi radialis longus
EMG	Electromyography
FCU	Flexor carpi ulnaris
FMQ	Fine motor quotient
GMQ	Gross motor quotient
HWB	Hand weight bearing
IPI	Interpharangeal joint
ITB	Interathecal baclofen
MCP	Meta carpophalangeal
O.T	Occupational therapy
PDMS	Peabody Developmental Motor Scale
PET	Protective extensor thrust
PIP	Proximal interphalangeal
ROM	Range of motion
SDR	Selective dorsal rhizotomy
TMQ	Total motor quotient
UMNL	Upper motor neuron lesion

List of Tables

No.		Page
Table (1)	Dose modifying conditions	63
Table (2)	Focal clinical patterns that may benefit from BTX-A treatment	66
Table (3)	Suggested pediatric Botox Dosing	84
Table (4)	Mean values of age (years) for both groups	97
Table (5)	The frequency distribution of sex and the affected side in both groups	98
Table (6)	Comparison between the mean values of wrist extension before and after three months of treatment for group A	100
Table (7)	Comparison between the mean values of wrist extension after three months and six months of treatment for group A	101
Table (8)	Comparison between the mean values of wrist extension before and after six months of treatment for group A	102
Table (9)	Comparison between the mean values of wrist extension before and after three months of treatment for group B	103
Table (10)	Comparison between the mean values of wrist extension after three months and after six months of treatment for group B	104
Table (11)	Comparison between the mean values of wrist extension before and after six months of treatment for group B	105
Table (12)	Comparison between the mean values of forearm supination before and after three months of treatment for group A	106
Table (13)	Comparison between the mean values of forearm supination after three and after six months of treatment for group A	107
Table (14)	Comparison of the mean values of forearm supination before and after six months of treatment for group A	108
Table (15)	Comparison between the mean values of forearm supination before and after three months of treatment for group B	109
Table (16)	Comparison between the mean values of forearm supination after three months and after six months of treatment for group B	110
Table (17)	Comparison between the mean values of forearm supination before and after six months of treatment for group B	111
Table (18)	Comparison between the mean values of hand grip strength (Kg) before and after three months of treatment for group A	112
Table (19)	Comparison between the mean values of hand grip strength after three months and six months of treatment for group A	113
Table (20)	Comparison between the mean values of hand grip strength before and after six months of treatment for group A	114
Table (21)	Comparison between the mean values of hand grip strength before and after three months of treatment for group B	115

Table (22)	Comparison between the mean values of hand grip strength after three months and after six months of treatment for group B	116
Table (23)	Comparison between the mean values of hand grip strength before and after six months of treatment for group B	117
Table (24)	Comparison between the mean values of fine motor quotient before and after three months of treatment for group A	118
Table (25)	Comparison between mean values of fine motor quotient after three months and after six months of treatment for group A	119
Table (26)	Comparison between the mean values of fine motor quotient before and after six of treatment for group A	120
Table (27)	Comparison between the mean values of fine motor quotient before and after three months of treatment for group B	121
Table (28)	Comparison between the values of fine motor quotient after three months and after six months of treatment for group B	122
Table (29)	Comparison between the mean values of fine motor quotient before and after six months of treatment for group B	123
Table (30)	Correlation and regression coefficient fine motor quotient and each of wrist extension, supination and hand grip, and hand grip and wrist extension in group A (surgery)	124
Table (31)	Correlation and regression coefficient of fine motor quotient and each of wrist extension, supination and hand grip; and hand grip and wrist extension in group B (Botox)	126
Table (31)	Percentage of improvement of wrist extension, forearm supination, hand grip strength and fine motor quotient through treatment period in both groups	128