

Effect of Deep Cross-friction Myotherapy on Pressure Pain Thresholds on Patients with Non-specific Low Back Pain

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PURPOSE: The intended effects of deep cross-friction myotherapy (FMT) on myofascial structures are to regenerate connective scar tissues and reduce local tenderness as a possible mechanism of pain relief. The aim of the study is to explore the effect of FMT on pressure pain thresholds (PPTs) in a group of patients with subacute non-specific low back pain (LBP), in order to verify the model of central sensitization [1, 2].

METHODS: The primary outcome measures were the PPTs of levels L1, L3, L5 of the Erector spinae and the Gluteus maximus, Gluteus medius and Tensor Fasciae Latae, measured with the aid of a Fisher algometer. The PPT of the left Triceps brachii (Triceps) is measured as a-not-to-LBP related measuring point. Fifty healthy subjects were examined with respect to similar PPTs. In this study, a 3 x weekly FMT session is employed on a group of 58 patients with LBP and re-examined at a 3-month follow-up.

RESULTS: At the 3-month follow-up examination, the original symptoms of LBP disappeared in the whole group. The mean PPT values of the Triceps showed no meaningful changes, while the PPTs at the level of the thoraco-lumbopelvic muscles reverted to the same mean values as healthy subjects (Table 1).

TABLE 1. Comparison between PPTs measurements of healthy subjects [N=50] and patients with LBP [N=58].

Healthy subjects (N = 50)		Patients with LBP (N = 58)			Same patients after 3 FMT...		...compared with healthy subjects
PPTs (Kg/cm ²)	Mn [SD]	ANOVA p	Baseline Mn [SD]	M.D.	3-month follow-up Mn [SD]	ANOVA p	Mean Difference
Triceps br.	7.5 [1.6]	0.070	6.9 [1.5]	- 0.6	7.2 [1.0]	0.28	- 0.3
Erect.sp. T6	7.6 [1.0]	0.000	6.7 [1.2]	- 0.9	7.4 [1.1]	0.39	- 0.2
T10	7.4 [1.2]	0.000	6.3 [1.3]	- 1.1	7.6 [1.0]	0.79	+ 0.2
L1	7.3 [1.3]	0.000	5.1 [1.5]	- 2.2	7.5 [0.8]	0.48	+ 0.2
L3	7.6 [1.5]	0.000	4.9 [1.4]	- 2.7	7.6 [1.2]	0.93	=
L5	9.5 [1.2]	0.000	7.3 [1.7]	- 2.3	9.7 [1.1]	0.41	- 0.2
Glut.max.	8.0 [1.4]	0.000	6.4 [1.6]	- 1.6	7.9 [1.2]	0.55	- 0.1
Glut.med.	7.4 [1.4]	0.000	6.2 [1.6]	- 1.2	7.3 [1.3]	0.60	- 0.1
TFL	7.4 [1.5]	0.001	6.4 [1.5]	- 1.0	7.1 [1.4]	0.25	- 0.3

CONCLUSIONS: The effect of deep cross-friction myotherapy in patients with subacute nonspecific LBP may be explained as local restoration of connective tissues in the thoracolumbopelvic myofascial structures and buttock musculature. More equivalent studies are nevertheless needed to confirm those conclusions.

REFERENCES

- [1] Farasyn A, Meeusen R. Effect of Roptrotherapy on Pressure Pain Thresholds in Patients with Non-specific Low Back Pain. Journal of Musculoskeletal Pain 2007; 15:41-53.
- [2] Farasyn A, Meeusen R, Nijs J. A pilot randomized placebo-controlled trial of roptro-therapy in patients with subacute low back pain. Journal of Back and Musculoskeletal Rehabilitation 2007, 14:111-17.