Low back pain and kidney mobility: local osteopathic fascial manipulation decreases pain perception and improves renal mobility

Paolo Tozzi, Bsc (Hons) Ost, DO, PT *; Davide Bongiorno, MD, DO **; Claudio Vitturini

* C.R.O.M.O.N. – Via Pasquale Fiore 18, Rome - Italy; www.scuoladiosteopatia; +39 3486981064; e-mail: pt_osteopathy@yahoo.it; .it ** A.T.S.A.I. – Bari, Naples, Milan – Italy; www.atsai.it

PURPOSE: a) To establish and calculate a Kidney Mobility Score (KMS) in asymptomatic people through real-time Ultrasound (US) Evaluation and compare it with that found in people suffering with non-specific LBP b) To assess the effect of Osteopathic Fascial Manipulation (OFM), consisting of Still Technique (ST) and Fascial Unwinding (FU), on renal mobility in people with non-specific LBP. c) To evaluate 'if' and 'to what degree' pain perception may vary in patients with LBP, after OFM is applied, over a short term duration.

METHODS: 101 asymptomatic people (F 30 ; M 71; mean age 38,9 ± 8) have been evaluated by abdominal US scan: the distance between the superior renal pole of the right kidney and the ipsilateral diaphragmatic pillar has been calculated in both maximal expiration (RdE) and maximal inspiration (RdI). The mean of the RdE-RdI ratios has provided a KMS in the cohort of asymptomatic people. The same procedure has been applied to 140 subjects (F 66; M 74; mean age 39,3 ± 8) complaining of non-specific LBP: 109 of which were randomly assigned to the Experimental group and 31 to the Control group. For both groups, a difference of RdE and RdI values was calculated (RD = RdE - RdI), before (RD-T0) and after (RD-T1) treatment was delivered, to assess the effective range of right kidney mobility. A blind assessment of each patient using US based evaluation has been carried out by a medical doctor with 15 years of experience in ecographic screening. Both groups completed a Short-Form McGill Pain Assessment Questionnaire (SF-MPQ) on the day of recruitment (SF-MPQ T0) as well as on the third day following treatment (SF-MPQ T1). An Osteopath performed an osteopathic assessment of the thoraco-lumbo-pelvic region to all the Experimental subjects, in order to locate specific areas of major myofascial tension. Each subject of the Experimental group received OFM by the same Osteopath who has previously assessed them. The manipulation was performed on the lumbar region for not more than three and half minutes. A sham treatment was applied to the Control group for the equivalent amount of time.

RESULTS: a) three different patterns of kidney mobility were found (named Type A, B, and C) in asymptomatic as well as in symptomatic subjects, although they were present in different percentages. The factorial ANOVA test has shown a significant difference (*p-Value<0.05)* between KMS values in asymptomatic subjects (1.92 mm, Std.Dev. 1.14)) comparing with that found in patients with LBP (1.52 mm, Std.Dev. 0.79). b) The ANOVA test at repeated measures has shown a significant difference (*p-Value<0.0001)* between pre- to post- RD values of the Experimental group and those found in the Control. c) A significant difference (*p-Value<0.0001)* between pre- to post- SF-MPQ results was found in the Experimental cohort compared with those obtained in the Control.

CONCLUSIONS: The traditional kidney mobility pattern needs to be revisited and incorporated into a more complex picture. People with non-specific LBP presents with a reduced range of kidney mobility compared to that found in asymptomatic subjects. Osteopathic manipulation is an effective manual approach to improve kidney mobility and to reduce pain perception over a short term duration, in people with non-specific LBP.