

TITLE: Influence of Stecco's therapy on biomechanical parameters of fascial tissues and quality of life in patients with irritable bowel syndrome

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ABSTRACT

BACKGROUND: Irritable bowel syndrome (IBS) is a burden not only for patients, but for a medical staff as well, because there are no effective methods of treatment. The biggest problem lays in the etiology of IBS, because it may be caused by many triggers, including psychological or dietary factors, disturbed mobility of internal organs and dysfunction of enteric nervous system. Since fascia is a structure that envelopes internal organs and is very innervated, it may be involved in causation of IBS. It is assumed, that improper tension of fascia may disturb internal organs mobility and disrupt stimulation of enteric nervous system.

AIM OF THE STUDY: The goal is to evaluate the influence of manual-fascial therapy (Fascial Manipulation in Internal Dysfunctions by Stecco [FMID]) on symptoms related to irritable bowel syndrome and attempt to understand how this fascial method works.

DESIGN: Randomized, double-blinded trial.

POPULATION: 30 patients in age of 18-35, divided into 3 groups. Inclusion criteria in Group 1 and Group 2 were: diagnosis of irritable bowel syndrome and prevalence of symptoms for at least 6 months. Group 3 was a reference group hence inclusion criteria were as follows: lack of digestive disorders, lack of pain in lumbopelvic complex for at least 1 year and lack of surgeries in abdominal region. Exclusion criteria were: refusal to participate in the study, comorbid digestive condition (other than IBS), severe neurological disorders, pregnancy, applying steroids, anti-inflammatory drugs or blood coagulability modifying medications, and other manual therapies in progress.

METHODS: Patients were divided into 3 groups. Patients from Group 1 (n=13) were treated with FMID. Patients from Group 2 (n=7) were treated with manual-soft tissue treatment, that targeted strictly the superficial fascia. All the treatment work was done in the area of centers of coordination and centers of fusion, emerged from interview and palpation verification. Group 3 was a reference group and received no treatment. Patients from Group 1 and 2 received 3 treatments in 7-10 days intervals and after 12 weeks there was a follow-up. Patients were also examined with MyotonPro device to evaluate reactivity of soft tissues; they were asked about the severity of pain (VAS scale), and to fill in a FDDQL questionnaire. Examination with MyotonPro device and VAS scale took place 4 times (before and after 1st treatment, after 3rd treatment and during follow-up), and FDDQL questionnaire was filled in 3 times (before 1st treatment, after 3rd treatment and during follow-up). Patients from Group 3 were only examined with MyotonPro device twice, with 2 weeks break between both examinations. Collected data was analyzed with 13 statistical tests, including post-hoc tests. The assumed statistical significance level was $p < 0.05$.

RESULTS: There was a significant reduction of pain and increase of quality of life in patients from Group 1 in the short- and long-term. In Group 2 there was only an increase of quality of life in the long-term. Therapy in both groups caused a significant change in reactivity of soft tissues, but more changes occurred in Group 1. It was also noted that different forms of IBS present different patterns of soft tissues reactivity. The biggest differences were noted between diarrhea-predominant and constipation-predominant form, and between mixed and constipation-predominant form of IBS. Different patterns of soft tissues reactivity were also noted between healthy subjects and patients with IBS. That was the case with Frequency and Stiffness parameters in LU segment, Stiffness parameter in CX segment, Decrement parameter in TA segment, and Stiffness parameter in left anterior rotational and left antero-lateral catenary (plane), Creep and Relaxation

parameters in right retro-medial catenary and Relaxation and Frequency parameters in left retro-medial catenary.

CONCLUSIONS: FMID treatment has a positive influence on pain perceptions and quality of life in patients suffering from IBS. Moreover, this treatment causes a change in reactivity of soft tissues. Examination with MyotonPro device allowed to notice that, as far as a soft tissue reactivity is concerned, there is a difference between healthy subjects and patients with IBS. The biggest differences were noted in LU segment and retro-medial catenary. What is more, the difference in the pattern of soft tissues reactivity between different forms of IBS really exist.

CLINICAL REHABILITATION IMPACT: FMID therapy may be an additional treatment for irritable bowel syndrome. As far as diagnostics are concerned, noticing a value above 1,18 of logarithmic decrement in IR LU p point may qualify patients to the group of people with constipation-predominant IBS, while values below 1,06 of logarithmic decrement in the same point may suggest, that patient has a mixed form of IBS. What is more, noticing a value above 1,15 of logarithmic decrement in Stecco's points for TA segment (arithmetic mean) may suggest, that it is a form of compensation for some digestive disorders. Finally, this study shows that diagnostics of abdominal region should not be based solely on MyotonPro device.

Key words: Fascial Manipulation in Internal Dysfunctions, fascia, irritable bowel syndrome, MyotonPro