

Treatment of chronic pelvic pain with Fascial Manipulation®

ANDREA PASINI², MARIA MARTINA SFRISO¹, CARLA STECCO¹

¹ University of Padova - Department of Molecular Medicine

² Private practice - Cesena

Abstract: Chronic pelvic pain represents one of the major challenges for healthcare providers; it is often difficult to arrive at a definitive diagnosis as well as to employ a “gold standard” treatment. In this paper, a new approach regarding to the pelvic pain has been described, basing on the concepts of anatomical continuity of the fasciae of the abdominal wall, the pelvic floor and the lumbar region. The method applied is Fascial Manipulation®, which consists in the treatment of specific points selected within the fascial continuity. To explain this hypothesis two case reports have been considered: the patients reported chronic pelvic pain, even if they also suffered for low back and inferior limbs. The understanding of the fascial continuity between the pelvis, the back and the thigh, permits the development of treatments that could be suitable for the therapy of pelvic pain and, at the same time, for back and inferior limbs pain.

Keywords: Manual therapy; Fascial manipulation; Pelvic floor; Pelvic pain; Integral theory.

INTRODUCTION

Chronic pelvic pain is defined as non-malignant pain which could persist for more than six months and it is perceived in the pelvic region¹. It represents one of the major therapeutic challenges for healthcare providers, such as general practitioners, physiotherapists and specialist physicians to whom is often difficult to arrive at a definitive diagnosis²⁻³. The pain located in the pelvis or in the lower abdomen is usually associated with a wide range of conditions involving the reproductive, gastrointestinal, genitourinary, and musculoskeletal systems⁴. Apte G *et al.*¹ define pelvic pain syndrome as recurrent or persistent pain associated with symptoms suggesting the involvement of the musculoskeletal, gynecological, urological or gastrointestinal systems in absence of inflammation or other specific pathologies.

Recently, the focus has been directed to the implication of fasciae as a possible cause of chronic pelvic pain^{5,6,7}. It was demonstrated that the deep fasciae are well innervated^{8,9,10} and are able to transmit the mechanical forces for long distances^{11,12}. A defective sliding, or a densification of the loose connective tissue between the fascial layers can change the capacity of contraction of the muscle. Many manual methods suggest how to release the fascial densification in order to restore the normal fascial sliding to support the muscle activation and movement^{13,14}.

Bernstein *et al.* affirm that the myofascial Trigger Points (TrPs) appeared to be linked to hypertonicity of pelvic muscles and to inability of patients to relax and exert adequate voluntary control¹⁵. In contrast, the physical therapy of pelvic floor usually consists in electrical stimulation and active contraction of the internal muscles¹⁶. In this way, the goal of physical therapy is only to improve hypotonicity of the pelvic floor muscles, which is directly opposed to that of the TrPs hypothesis.

The fascial continuity concept complements the “integral theory”, according which a balance of tension in the pelvic floor is the key to normal function of the pelvic organs^{17,18}. To restore balance in dysfunctional states, where there is no organic problem, it is necessary to release fascial densification or restrictions, thus recreating the perfect equilibrium of forces. Moreover, the fascial system has been shown to be involved in muscle coordination, supporting the right timing and the activation of pelvic muscles. As myofascial pain, also the treatment of the pelvic region has to focus on both the muscles and fasciae. According to the Fascial Manipulation technique, pelvic fasciae are maintained in a

precise tension through the presence of fascial connections between muscles of the abdomen, back and inferior limbs¹⁹. Their dysfunction can arise from fascial changes that could occur also in distant districts. These fascial connections have precise anatomical bases which are also described by Ramin *et al.*²⁰. There are also well defined fascial connections with different viscera. In the lesser pelvis, from anterior to posterior, the connections include the urinary bladder, the uterus (prostate in male) and the rectum. The rectovesical fascia, for example, is a membranous layer that connects the prostate, the urinary bladder and the rectum and covers the seminal vessels²¹. It has been demonstrated that fasciae support the interconnections between the viscera, providing not only a proper isolation but, at the same time, guarantee the appropriate motility of the organs. Additionally, the fascia connects various organs with the muscles of the trunk. It has the capability to transmit forces and, in particular, to regulate possible imbalances that could interfere with the normal motility and mobility of the organs. As a result, sometimes organs from different systems can reflect different dysfunctions at the same time.

The key concept of the Fascial Manipulation® method is that a correct tension of the pelvic fasciae can be obtained by also treating distant fasciae, resulting in relief of pelvic pain.

The Fascial Manipulation treatment is specific for each person, basing on the symptoms and the clinical history. Consequently, a standard description of the treatment for chronic pelvic pain is impossible, but, to explain this new theory, two examples of treatments are reported.

The first case report concerns a female patient D. G., 17 years old, affected by dysmenorrhea since the beginning of menarche (6 years before the treatment). She complained constant pelvic pain of low intensity, rated as 2 on a 0 to 10 Verbal Analogue Scale (VAS), which usually increased two days before menstruation and remained high during the first 3-4 days of the menstrual cycle (VAS 7-8/10) such that requiring the use of painkillers. The pain was always located in the lower abdomen and during the menstrual period when it reached a peak of 7-8/10 VAS spreading to the low back and to the anterior part of the thighs. Gynecological visits resulted always negative, and an endometriosis was reasonably ruled out by ultrasound and magnetic resonance investigations. It had been proposed the diagnosis of Chronic Pelvic Pain (CPP) and dysmenorrhea. D.G. had sporadic episodes of acute low-back pain (LBP). She complained of bilateral knee pain with ratings of 3/10 (VAS) while resting, escalating to 7/10 (VAS) when walking for

more than 10 minutes. The pain was localized in the anterior area of the knees and bending movements, such as climbing the stairs or squatting, resulted so dangerous to stop her dancing. MRI investigations of both the knees reported no abnormalities. Treatments included laser-therapy, and physical therapy focusing on reinforcement of the quadriceps muscles and stretching of the muscle chains of the legs showed no positive results. Her history included surgery in 2004 to remove a birthmark extending from the posterior portion of the right breast to the base of the ipsilateral ribcage. The post-surgical scar was extensive but without pain during movement.

The treatment performed followed the fundamentals of Fascial Manipulation®. The first session focused on the anterior part of the body. The first step consisted of checking all the points codified by the Fascial Manipulation® technique in the thoracic and abdominal regions including the inferior limbs. Irregularities of the fascial tissue (stiffness or roughness) were found in fascia of the internal and external oblique muscles (approximately located over the 11th and 12th ribs) on the left side, in the external oblique muscle on the right side, and in the antero-medial portion of the right thigh (continuity of the pelvic fasciae with the iliopsoas fascia). Other two densifications were found in the ankle region over the retinacula that are in continuity due to the crural fascia (Fig. 1). The treatment has been performed with back and forward deep massages to release the densifications. It started with the release of the three densifications in the abdominal region. After the complete release of these areas the patient felt a sense of lightness in the left lower abdomen, and pain while squatting was improved 50% bilaterally. To balance and complete the treatment, the session continued handling the right thigh and

the areas in the ankle. With the release of these densification the patient reported an 80% of improving in knee pain during squatting and lightness in the pelvic region on both sides. After the first month the follow up of the patient reported that the pain in the pelvic region was still absent and the pain in the knees was still 80% improved. After 3 months and one year the improvements continued to be maintained except during the menstrual periods. In facts, during the menstrual cycle the pain was of lower intensity (VAS 2/10), and did not interfere with activities of daily living (ADL's). Improvement in knee pain has been maintained and D.G. reported that she can walk, run and squat without pain.

The second case is about a 38 year old male (M.C.). He complained of pelvic pain, and referred pain to the groin for 6 years (4 years before the treatment). The pain was constant when standing or sitting, with a VAS of 5/10, which increased during the night, with VAS of 6-7/10. He also complained of urinary urgency and frequency with episodes of nocturia since six months after the appearance of the pelvic pain. Urine test, cystoscopy, ultrasound of the lesser pelvic region and other specialist examinations were all negative. M.C. had significant LBP for 4 years. He experienced acute low-back while lacing the shoes that persisted for three months. After various manual treatments, such as chiropractic and low-back massage the pain improved and he started to move more freely. Nevertheless, he still had constant pain rated 4-6/10 on the VAS, and experienced restriction in the range of motion (ROM) of his lower-back. He stated that he could not lift more than 10 kg of weight without having a new episode of acute low-back pain. He complained sense of heaviness in his legs, mostly above the ankle where it felt as if he had a lace around the

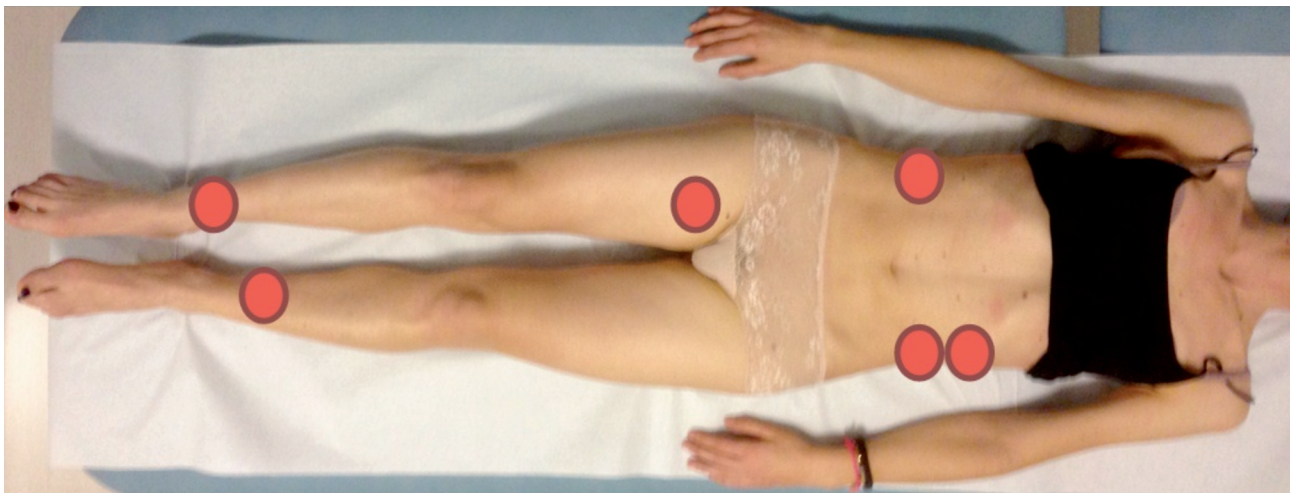


Figure 1. –Treated areas of 1st case report.

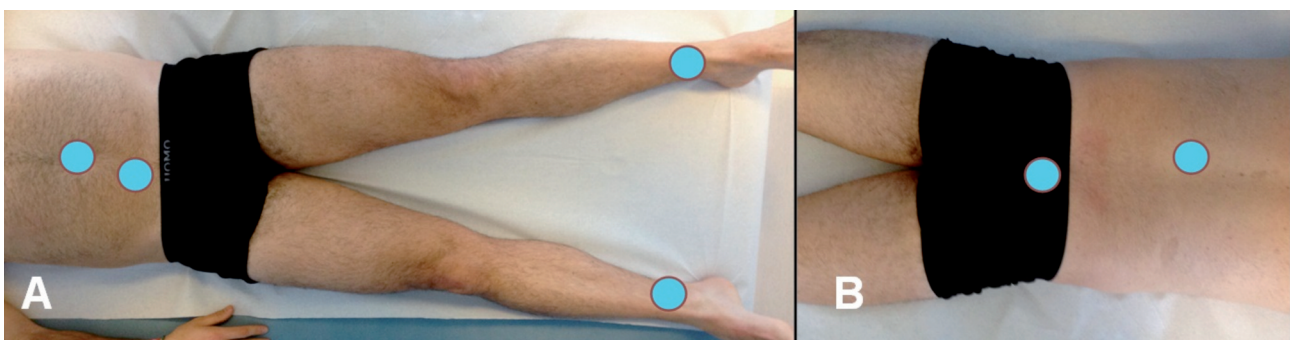


Figure 2. –Treated areas of 2nd case report. A) anteriorly, B) posteriorly.

joints. In the anamnesis he reported acute prostatitis with a bacterial infection that lasted for two months in 2009. He took antibiotics for three months.

The treatment was performed following the principals of Fascial Manipulation®. After a manual evaluation of both the anterior and posterior walls of the pelvic region and of the inferior limbs, some densifications/alterations of fascial sliding were found (Fig. 2). In this patient, the back and forward manual technique was carried out over specific areas along the linea alba, the space between the spinous processes and the paravertebral muscles, over the sacrum, and over the retinacula of the ankle, until complete release was achieved.

After the treatment, the patient reported an immediate sense of lightness in the pelvic and groin region. After one week he reported that the pelvic and groin pain and urinary urgency, and the legs were getting better. After one, three, and twelve months from the treatment, the pelvic pain and urinary dysfunction did not return, and LBP and problems in the lower limbs no longer existed.

DISCUSSION

These two examples of treatment highlight the importance of underlying fascial continuity in relation to activities and pain in patients.

In the first case, the removal of the birthmark may have created a lack of sliding of the pectoralis major fascia that is in continuity with the fascia of the oblique muscles. As a result of the connections of oblique muscles fascia with the pelvic floor muscle and the thoracolumbar fascia, external oblique fascia densification caused LBP and pelvic pain. The anatomical connection of the pelvic fasciae with the gluteus maximus and with the iliac fascia of the iliopsoas muscle at a later time caused knees pain. This case highlights the importance of treating the fasciae of the extremities in order to achieve long lasting results. The lower extremities represent one of the elements that defines the tension of the pelvic floor fasciae. Release of the only densification in the lumbar region improves the pain but an unbalanced condition remained. After the treatment of the thigh and extremities the pain continued to improve more symmetrically. Most often, pelvic pain and knee pain are considered two separate problems, and are evaluated by different specialists and treated in very different ways. However, if we consider that the deep fascia of the thigh connects the pelvic floor with the knee, we can understand how the two problems are connected. In this way a deeper analysis of the patients with pelvic pain in combination with other types of pain, surgery, or traumas, should be performed in more detail. Understanding these connections it is possible to treat more than one problem at the same time.

The second case confirms the importance of the correct tension in the inferior limbs fasciae to maintain a balance in the pelvic floor. Besides, it highlights the strong relationship between the musculoskeletal system and the internal organs of the pelvic region.

In the second case there is evidence of viscerosomatic compensation. The prolonged prostate inflammation and infection increased the stiffness of the fasciae around the organs of the lesser pelvis. Initially, following treatment for prostatitis the patient did not feel any symptoms. However, with the passing of time, tension spread to pelvic floor muscles and the groin region, due to the anatomical connections of the central tendon of the perineum with the iliac/iliopsoas fascia^{22,23}. This altered fascial tension caused urinary bladder dyssynergia²⁴ due to the lack of adaptability of the bladder wall. The fascial

continuity of the bladder fascia with the iliac fascia spreads the tension to the posterior wall causing LBP extending to fasciae of the lower limbs, causing pain and disturbances in the legs and ankles.

CONCLUSION

Understanding the continuity of fascial anatomy introduces a change of perspective, suggesting that the musculoskeletal system is often involved in cases of CPP. Consequently, when a patient complains pelvic pain, it is important to investigate if there is also low-back pain, groin pain, problems to the inferior limbs, etc. The severity and chronological sequence of various pains could be useful to identifying the primary problem and subsequent compensations. Clearly, through a global analysis and treatment of the patients problems, analyzed in accordance with the concepts of fascial continuity, will complete and durable results be achieved.

DISCLOSURE STATEMENTS

There was no conflict of interest; informed patients consent was obtained.

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Correspondence to:

Carla Stecco - via Gabelli 65 - Padova 35127 - Italy

E-mail: carla.stecco@unipd.it

Multidisciplinary Comments

To improve the integration among the three segments of the pelvic floor, some of the articles published in *Pelviperrineology* are commented on by **Urologists, Gynecologists, Proctologists/Colo Rectal Surgeons or other Specialists**, with their critical opinion and a teaching purpose. Differences, similarities and possible relationships between the data presented and what is known in the three fields of competence are stressed, or the absence of any analogy is indicated. The discussion is not a peer review, it concerns concepts, ideas, theories, not the methodology of the presentation.

The article by Andrea Pasini, Maria Martina Sfriso and Carla Stecco deals with the important, and challenging problem of Chronic Pelvic Pain (CPP). CPP is difficult to diagnose and to treat using a generalized therapeutic approach. Given these challenges the more important and valuable approach, as proposed by the Authors, aims at a comprehensive, anatomical and functional approach to the management of CPP problems. It is significant that the densification of connective tissue which is the fascia has negative impact on the functioning of the locomotory system and internal organs and interaction of these structures. In the light of the latest scientific research, the role of fascia becomes a priority for therapy of patients with CPP. It is also advisable to consider the vital role of the endocrine system, and of the thyroid gland in the etiology of fascial disorders, a point, omitted by the Authors and a possible contributing factor in the first case report, and often occurring chronic menstrual pain. In such cases, adequate levels of vitamin D3, K2 and C should not be overlooked. Scar tissue and the resulting functional restrictions are also worth mentioning, especially scars around the trunk and pelvis, as highlighted in the first case report. Inadequate physiotherapy procedures may also result in harmful distribution of fascias and increase the number of areas covered by fascia densification, as highlighted in the article. The occurrence of inflammation contributes to changes in the fascia, and needs to be kept in mind when dealing with any chronic pain conditions in the human body. Pain can be amplified by a tense psychological state, resulting in an increase in muscle tone influencing the fascial disorder. Stress, difficult life situations will affect the function of internal organs and

aggravate tense muscles, and this factor should be underlined in patients with chronic pain, and pelvic floor dysfunction.

PAWEŁ MALICKI PT

Department of Orthopaedics and Rehabilitation
Clinical Hospital Lublin, Poland

“Treatment of chronic pelvic pain utilising *Fascial Manipulation®*” certainly goes with time, firstly regarding modern holistic fascia understanding and treatment in physiotherapy, secondly offering to avoid operative treatment, and thirdly as an additional option especially in therapy-non-responding patients. However, this treatment is – as I understand it – symptomatic rather than causal, as it is based on diminishing a reflex response of the body on an irritation, which can be caused by a wide range of reasons. The CPP will return, if the reason is not found and/or eliminated. Patients can improve, but they cannot be cured, as long as the cause of the pain (such as a laxity in the uterosacral ligaments) is still present. Therefore, Fascial Manipulation would possibly not be able to replace Integral-Theory-based operative procedures. However, it may play an important role in all patients, who have had a successful therapy, as a very effective method to shorten their time of recovery. This makes it a respectable achievement, and a desirable method for all units treating pelvic floor dysfunction conditions.

DR KAY UWE SCHEFFLER

Urologist

Zu den Wiesen 05 - D-18276 Sarmstorf - Germany
kayscheffler@aol.com