

Myofascial pain syndrome as a diagnosis of chronic abdominal pain. Case report

Síndrome dolorosa miofascial como diagnóstico diferencial de dor abdominal crônica. Relato de caso

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ABSTRACT

BACKGROUND AND OBJECTIVES: Chronic abdominal pain may originate in visceral, somatic or nervous structures. Diagnosis is challenging and, in prolonged cases with atypical development, the possibility of a myofascial pain syndrome should be considered. The objective was to report a case of post-surgical chronic abdominal pain perpetuated by the presence of trigger points in the musculature of the abdominal wall.

CASE REPORT: Male patient, 15 years old, underwent appendectomy without complications. Due to the persistence of pain after surgery, gabapentin and analgesics were prescribed. After 45 days, the patient still had disabling pain, preventing him from performing usual activities. The patient underwent surgical revision, which was not conclusive, and other attempts at pain control, such as anesthetic block of the abdominal transverse plane and transdermal lidocaine, without success. He was then referred to the acupuncture clinic, presenting antalgic gait, voluntary guarding to palpation of the hypochondrium and right iliac fossa, presence of trigger points in the rectus abdominis and right quadratus lumborum muscles, with pain referred at right iliac fossa, with no signs or symptoms of neuropathic pain. The needling of trigger points, electrostimulation at the motor points of referred muscles and stretching guidance were performed. During the follow-up period, the patient presented a gradual improvement in symptoms, suspension of the drugs in use and return to activities.

CONCLUSION: Myofascial painful syndrome is one of the most common causes of pain and disability, is still underdiagnosed and should be considered among the differential diagnosis.

Keywords: Acupuncture, Chronic pain, Myofascial pain syndromes.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor abdominal crônica pode ter origem em estruturas viscerais, somáticas ou nervosas. O diagnóstico é desafiador e, em casos prolongados e com evolução atípica, deve-se considerar a síndrome dolorosa miofascial. O objetivo foi relatar um caso de dor crônica abdominal após cirurgia perpetuada pela presença de pontos-gatilho na musculatura da parede abdominal.

RELATO DO CASO: Paciente do sexo masculino, 15 anos, submetido a apendicectomia sem intercorrências. Devido à persistência da dor pós-operatória, foi prescrita gabapentina e analgésicos. Após 45 dias, continuava com dor incapacitante, impedindo-o de realizar suas atividades habituais. Foi submetido à revisão cirúrgica, não elucidativa, e outras tentativas de controle algico, como bloqueio anestésico do plano transverso abdominal e lidocaína por via transdérmica, sem sucesso. Encaminhado ao ambulatório de acupuntura, apresentando marcha antálgica, defesa voluntária à palpação de hipocôndrio e fossa ilíaca direita, presença de pontos-gatilho em músculo reto abdominal e quadrado lombar direito, com dor referida em fossa ilíaca direita, sem sinais ou sintomas de dor neuropática. Foi realizado o agulhamento dos pontos-gatilho, eletroestimulação nos pontos motores dos referidos músculos e orientação de alongamentos. Na fase de monitoramento, o paciente apresentou melhora gradual dos sintomas, suspensão dos fármacos e retorno às suas atividades.

CONCLUSÃO: A síndrome dolorosa miofascial é uma das causas mais comuns de dor e incapacidade, é pouco diagnosticada e deve ser considerada entre os diagnósticos diferenciais.

Descritores: Acupuntura, Dor crônica, Síndromes da dor miofascial.

INTRODUCTION

Chronic abdominal pain may originate in visceral, somatic, or nervous structures. Diagnosis can be challenging, specially in prolonged cases with atypical development, and the possibility of a myofascial pain syndrome (MPS) should be considered.

The objective was to report a case of post-surgical chronic abdominal pain perpetuated by the presence of trigger points (TP) in the musculature of the abdominal wall. Pain did not cease even after several treatments and was not related to any anatomical functional or laboratory alterations. Pain improved after deactivation of TP and integral patient treatment.

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CASE REPORT

Male patient, 15 years old, previously healthy, started feeling abdominal pain in the hypogastrium irradiating to the right iliac fossa (RIF) and inappetence. The pain in the RIF continued, the patient was hospitalized and underwent open appendectomy with spinal anesthesia with 16mg of hyperbaric bupivacaine, 80µg of morphine and 6µg of sufentanil. There were no perioperative anesthetic or surgical complications.

After surgery pain persisted, and the patient was prescribed 300mg of gabapentin each 8h, 30mg of codeine each 6h and 500mg of dipyron each 6h for 15 days. After 45 days of the surgery the patient reported intense pain, incapacitating him for daily activities, including attending school. He was hospitalized so that the pain could be treated and investigated. Laboratory exams did not show any abnormalities, as well as the pelvis and abdomen computed tomography, which did not report significant alterations.

The analgesic block was performed on the transverse abdominal plane, guided by ultrasound, with 10mL of 0.5% ropivacaine and 4mg of dexamethasone. The pain got worse on the day of the block, returning to the initial intensity and characteristics on the following day.

A surgery review was indicated, not having been found anatomical alterations, and the previous prescription was maintained, with the addition of transdermal lidocaine.

There was no improvement in pain even after the use of the lidocaine patch. The patient was referred to the acupuncture clinic, reaching almost three months of development, with pain by the visual analog scale (VAS) scoring 8 to 9 points, reaching 10 at the worst moments. When asked about the characteristics of the pain, he reported constant intense pain, mainly localized in the RIF scar, not reporting pain in the lower limbs or back, with no shock, tingling or burning sensation.

During the physical exam of the abdomen, the patient presented McBurney's scar with no phlogistic signs, presence of fluid-air noises, pain on palpation of the hypogastrium and bilateral iliac fossa, more intense to the right, with voluntary guarding. Palpation revealed TP in the rectus abdominis and internal oblique muscles, with referred pain at the site and in RIF, with pain on hand pressure in the region of the right quadratus lumborum and paravertebral musculature and on pinch and roll technique of the skin adjacent to the painful points. Summary neurological examination presented no alterations.

The patient reported that prolonged standing, prolonged sitting, getting up from bed or a chair and the moment after urination were worsening factors. Improvement factors were the use of codeine and the dorsal decubitus position. Pain was present when in the right lateral decubitus position, with no difference during flexion of thigh over hip. Pain was awakening the patient during the night, but he did not notice that it was worse than other times of the day. He did not return to his usual activities, including school.

Weekly sessions of acupuncture were performed for a month, as well as needling of the TP identified in the rectus abdominis and right quadratus lumborum muscles, which are prone to cause the

referred pain in the RIF, and 2Hz electrostimulation for 15 minutes of the motor points of these muscles. There was a good response with intensity of pain diminishing to 4 to 5 points by the VAS. The patient was able to return to school with a restriction for physical activities for 60 days. He didn't feel the need for anticonvulsant and opioid, so their use was suspended. Besides dry needling and electrostimulation, 10mg of cyclobenzaprine at night for 7 days was also prescribed, as well as orientation to perform specific stretches daily, as complementary therapeutic strategies.

DISCUSSION

Chronic abdominal pain may originate from visceral structures of the digestive and urogenital tract, somatic structures, mainly muscular or articular, nervous structures such as the spinal cord and the last five thoracic nerves, besides having a distant origin as in the referred pain or due to systemic injuries^{1,2}.

The location in the RIF region may represent functional or anatomical visceral disorders in the appendix, small intestine, cecum, kidney, right ureter, right uterine tube and ovary, right epididymis and disorders in musculoskeletal structures such as hernia and psoriasis, or regional neurological disorders². It can also originate from the sigmoid colon as a result of visceral pain referred from a contralateral organ, due to mesenteric stimulation³.

Sensory and neurovegetative innervation of abdominal structures occurs through the vagus nerve, sacral parasympathetic nerves, sympathetic nerves, and the myenteric nervous system⁴. Pain related to visceral affections are caused by distention or stretching of viscera, traction of the peritoneum, inflammatory or ischemic processes^{2,4}. They are usually accompanied by other symptoms, which can be systemic or not, changes in bowel habit or in the physical aspect of feces or urine, an association with nutrition, and alterations in laboratory tests and/or imaging⁴. Since the peripheral distribution of visceral sensory afferent pathways is not metameric, their location becomes imprecise^{4,5}. When there is activation of the "projection-convergence-sensitization-facilitation" neuronal mechanism in the dorsal horn of the spinal cord, it becomes more precise and is named "referred visceral pain"⁶. It's located in the dermatomes and myotomes supplied by neurons that project themselves in the same spinal segments supplied by the affected viscera⁶.

As soon as these conditions compromise the adjacent parietal peritoneum, this pain can become localized and correspond to the site of the compromised abdominal wall, and then it is named "parietal pain"⁶.

The patient presented a pain scenario that was not accompanied with neurovegetative alterations or other symptoms, with no functional alterations of organs, no anatomical and laboratory alterations assessed by physical examination, imaging, and the surgical review, ruling out the hypothesis of visceral pain diagnosis.

Pain from neuropathic origin is usually accompanied by sensations of burning, shock, stabbing, or paresthesia, with segmental localization of the involved root or roots⁷. It is also associated with hyperalgesia, hyperesthesia, hyperpathy or sensory, motor or neurovegetative alterations⁷.

The patient did not present the sensations typically associated with neuropathic pain, was not responsive to modulatory drugs

nor to sensory nerve block of the adjacent wall. Pain did not have a dermatomal distribution, and is not associated with other neurological findings such as alterations in sensitivity and motricity - which would rule out the diagnosis of neuropathic pain.

Psychological modulations also interfere with abdominal pain, and can either generate hyperalgesia or aggravate a visceral, somatic, or previous neurogenic pain⁸. The patient had an association with psychosocial factors, such as the post-operative state. This type of pain can be somatoform, learned, hysterical, or hypochondriac⁸. The learned pain is the one that persists after visceral abdominal treatment⁸. In these cases, neurovegetative alterations occur due to changes in the glandular and motor activity, resulting from altered hypothalamic-pituitary secretion, which does not correspond to the report⁸.

Finally, abdominal pain of myofascial origin is generated by the muscles of the abdominal wall, mimicking visceral disorders^{2,5,9}. Myofascial pain occurs in muscles or muscle groups, connective tissues, or fascia, and do not follow a radicular or peripheral neuropathic pattern¹⁰. More specifically, pain may occur in the RIF region caused by dorsal musculature, such as quadratus lumborum and psoas¹¹. A limitation in the range of movement is generated by the affected muscles and a muscle shortening happens during passive stretching¹⁰. Muscle tension and fatigue are also present¹⁰. Its characteristics are: heaviness, burning, throbbing or stabbing, and can be continuous or episodic¹⁰.

Clinical examination reveals a tense and palpable muscle band that contains TP^{9,10,12,13}. When stimulated by palpation or needling they generate pain that can be localized or referred to previously patterned regions^{10,12,13}. Moreover, there may be a twitch response during these stimuli^{9,12,13}.

Dynamic overloads such as trauma and muscular activity or static postural overloads may lead to the formation of TP, which are perpetuated by emotional alterations or in the execution of inappropriate movements¹³. Furthermore, TP may be active or latent, depending on the degree of symptoms, pain on palpation, and associated dysfunction¹³.

Diagnosis is based on the detailed clinical history of pain, clinical exam and additional exams that discard other causes, being dependent on professional training¹⁰. For that reason, it is not easily recognized and diagnosed, although it's one of the most common causes of pain and disability^{10,15}. When the investigation does not reveal structural or functional alterations, myofascial pain syndromes and psychological aspects of pain must be investigated¹⁴.

The study¹⁶, which included 54 patients with non-visceral abdominal pain, showed that 77% had MPS, and in 68.6% of cases pain was installed after a surgical procedure. The main muscles affected in the abdominal region are the rectus abdominis and oblique. In the abdominal region, referred pain usually occurs in the same abdominal quadrant, and occasionally in another quadrant or in the lumbar or dorsal region. Viscerosomatic reactions may be present¹⁶.

The treatment for MPS consists of inactivation of the TP, kinesiotherapy, muscle rehabilitation, postural guidance, and removal of triggering factors^{13,16}. Healthy habits, control of the psychosocial and behavioral components are recommended and must be maintained for the long term for a better response¹³.

Non-hormonal anti-inflammatory drugs, peripheral muscle relaxants, especially tizanidine, trazodone, phenothiazines, and clonazepam may be used^{18,19,20}. The local injection of tropisetron or botulinum toxin and 5% lidocaine patches have shown positive action in the treatment²⁰. Tricyclic antidepressants, gabapentin, pregabalin, and ketamine have not yet demonstrated efficacy in the treatment of MPS²⁰. Opioids are not indicated for control²⁰. The patient used codeine with pain relief, but without resolution. At the end, the patient received the muscle relaxant cyclobenzaprine for a relatively short period and had good response. Physical methods such as massage therapy, hydrotherapy, electrotherapy, cryotherapy, superficial or deep heat, cold laser therapy, stretching, needling, or TP injections decrease muscle tension and inactivate the TP^{12,13,17,18}. These methods have a slow action and are not fully resolutive in chronic cases¹⁷.

When physical methods show no improvement, TP inactivation is indicated, which can be done with dry needling, acupuncture, or local anesthetic injection^{12,17}. These methods produce mechanical disruption and stop the dysfunctional activity of the motor end plates, besides improving sleep and anxiety, as well as stimulating the pain suppressor system^{12,17}.

The good resolution of the scenario in a short time of treatment may be due to the short time of pain, no longer than three months, because the chronification of acute pain occurs due to the activation of several interconnected neuronal pathways during a long period of time²¹ of three or more months²³. The functional alterations not yet well established by the transitional characteristic are associated with a better prognosis²³, as it occurred in the present report.

CONCLUSION

The present report has demonstrated the difficulty in diagnosing MPS by untrained professionals, despite being a very frequent condition and its relatively simple treatment. The early identification can prevent pain perpetuation and improve patients' quality of life.

AUTHORS' CONTRIBUTIONS

Elisa Jaime de Menezes

Data Collection, Conceptualization, Project Management, Writing - Preparation of the original, Supervision

Eloisa Gasparini Saque

Data Collection, Conceptualization, Project Management, Writing - Preparation of the original, Writing - Revision and Editing, Supervision

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Writing - Preparation of the original, Writing - Review & Editing

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