LETTER TO THE EDITOR

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Looking at Low Back Pain from a Myofascial Perspective: Awareness and Treatment Algorithms

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SUMMARY
Myofascial trigger points are among the often overlooked causes of acute and chronic low back pain. It is crucial to evaluate patients with a myofascial perspective in addition to a good history and a detailed physical examination. Myofascial trigger points of the these muscles should be kept in mind for patients with low back pain.

KEY WORDS
Trigger points; low back pain; dry needling; myofascial pain syndrome; chiropractic.

To the Editor,
low back pain (LBP) is one of the most prevalent health issues and significantly impacts people worldwide on a personal, social, and economic level (1). Myofascial pain syndrome (MPS) is one of the most frequent and overlooked cause of musculoskeletal pain, which is a result of the myofascial trigger points (MTrPs) that are located in muscle tissue. The iliocostalis lumborum, multifidus, quadratus lumborum, gluteus medius, and gluteus minimus are essential muscles that may have MTrPs when examining patients with LBP (2) (**figure 1**). There are a growing number of articles that focus on the importance and treatment methods of the MTrPs of these muscles in LBP (3, 4). It is difficult to diagnose when the MTrPs of these muscles, which should be considered in the differential diagnosis of LBP, are not viewed from the perspective of myofascial pain syndrome. In this letter, we aimed to address the importance of MTrPs in LBP and the treatment of these MTrPs with dry needling (DN).

One of the leading causes of LBP is strain and overuse of the quadratus lumborum muscle. MTrPs of this muscle can result in pain in the lower back, pelvis, and hips and a stabbing sensation in the buttocks or pelvis. Needling is performed while the patient is in the side-lying position. The 12th costa and iliac crest should be identified. Needling is performed with a flat palpation technique. The needle should penetrate the skin from the lateral to the medial direction with a perpendicular angle towards the transverse processes. 0.30 × 60 mm needle size should be used. Due to the renal neighborhood, the application should not be performed above the level of L2 vertebrae (5).
MTrPs of the gluteus medius muscle can cause pain that radiates to the sacroiliac joint, gluteal and lumbosacral region, iliotibial band. Needling is performed while the patient is in the side-lying position with hip and knee joint slightly flexed. Flat palpation technique should be used. The needle should penetrate the skin at a perpendicular angle. 0.30 × 50-60 mm needle size should be used. Locating the trochanter major as a landmark for the needling procedure is crucial. Due to

potential anatomical variances, care ought to be taken when needling to prevent injuring the sciatic nerve (5).

MTrPs of the gluteus minimus muscle can cause reflected pain in the iliotibial and gluteal area, posterior aspect of the thigh, and sciatica-like pain in the sciatic nerve trace without causing weakness or numbness. Needling is performed as the patient is lying on their side. The patient's hip and knee joint should be positioned in slight flexion. With flat palpation technique, 0.30 × 50-60 mm needle should penetrate the skin at a perpendicular angle. Locating the trochanter major as a landmark for the needling procedure is crucial. The hip joint, a neighboring anatomical structure, should be avoided (5).

MTrPs of iliocostalis muscle can cause radiating pain in the vertebral column and posterior of the hip. Flat palpation technique is used. With the patient lying in prone position, 0.30 × 30 mm needle should penetrate the skin perpendicularly from the anterior to the posterior or slightly lateral direction. Treatment above the level of the L1 vertebra is not recommended due to the risk of pneumothorax (5).

MTrPs of the multifidus muscle can cause pain that radiates to the spinous process and adjacent areas in that segment, anterior abdomen, and posteroinferior thigh. Flat palpation technique is used. With the patient lying in prone position, 0.30 × 50 mm needle should penetrate the skin perpendicularly from the posterior to the anterior direction, approximately 5 mm lateral to the spinous processes. Treatment above the level of the L1 vertebra is not recommended due to the risk of pneumothorax (5).

To summarize, MTrPs are among the often overlooked causes of acute and chronic LBP. It is crucial to evaluate patients with a myofascial perspective in addition to a good history and a detailed physical examination. MTrPs of the these muscles should be kept in mind for patients with LBP.

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DATA AVAILABILITY

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CONTRIBUTIONS

MHT, YE: model and the computational framework design. FB: performance application. MHT, FB: writing, with input from all authors.

CONFLICT OF INTERESTS

The authors declare that they have no conflict of interests.

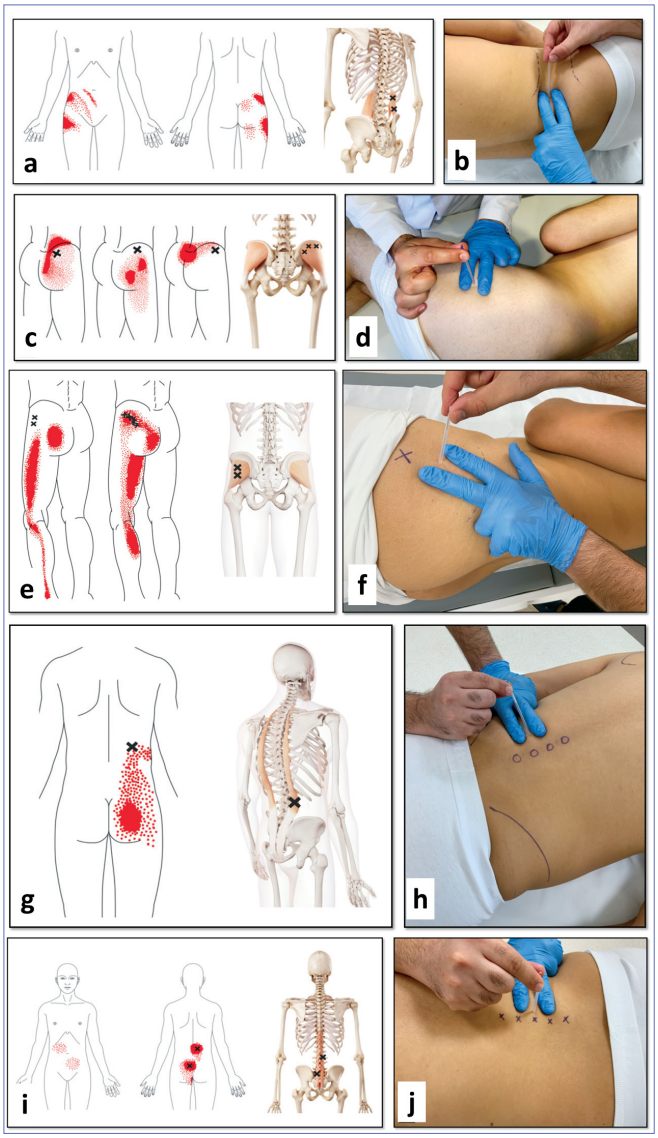

Figure 1. Pain referral patterns and dry needling procedures of quadratus lumborum, gluteus medius, gluteus minimus, iliocostalis lumborum, and multifidus muscles.

(a) trigger point locations and pain referral pattern of quadratus lumborum muscle, **(b)** application of dry needling to the quadratus lumborum muscle with flat palpation technique (lines: right - crista iliaca, left - lower border of the costae), **(c)** trigger point locations and pain referral pattern of gluteus medius muscle, **(d)** application of dry needling to the gluteus medius muscle with flat palpation technique, **(e)** trigger point locations and pain referral pattern of gluteus minimus muscle, **(f)** application of dry needling to the gluteus medius minimus with flat palpation technique (x: trochanter major), **(g)** trigger point locations and pain referral pattern of iliocostalis lumborum muscle, **(h)** application of dry needling to the iliocostalis lumborum muscle with flat palpation technique (lines: crista iliaca, dots: spinous processes), **(i)** trigger point locations and pain referral pattern of multifidus muscle, **(j)** application of dry needling to the multifidus muscle with flat palpation technique (x's: spinous processes).

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