Title
Atraumatic Back Pain Due to Quadratus Lumborum Spasm Treated by Physical Therapy with Manual Trigger Point Therapy in the Emergency Department

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Manual trigger point therapy is effective for treating myofascial pain, yet it is not frequently used in emergency department (ED) settings. A 42-year-old female presented to the ED with atraumatic back pain. Her pain was thought to be myofascial, and we obtained a physical therapy consultation. Diagnosing the patient with quadratus lumborum spasm, the physical therapist treated her in the ED using manual trigger point therapy, and completely relieved her pain without requiring any medications. Manual trigger point therapy can provide non-opioid pain relief in ED patients, and physical therapists can apply this technique effectively in the ED. [Clin Pract Cases Emerg Med. 2019;3(3):259-261.]

INTRODUCTION

Given the current epidemic of opiate use, addiction, and death from overdose in the United States,1–3 non-opioid therapies to treat pain are needed to avoid exposing patients to the risk of opioid dependence. We discuss the use of manual trigger point therapy by emergency providers and physical therapists in the emergency department (ED), as an underused non-opioid treatment for pain management in the ED.

CASE REPORT

A 42-year-old female presented to the ED with left-sided back pain upon waking up in the morning. She reported that the pain was located in the left posterior lower ribs, about the inferior portion of the left scapula. The patient denied associated fevers, trauma, or rashes. She stated that her pain was worse with movement and taking a deep breath, and when reaching her left arm across the right side of the body. She denied any associated numbness or weakness. Her past medical history was notable for hypertension, but she could not recall the name of her anti-hypertensive medication. She had no allergies and had no other significant past medical or social history, although she did smoke e-cigarettes.

On examination, her vital signs were within normal limits. There was no hypoxia, tachypnea, or tachycardia. Pertinent physical exam findings revealed that the patient was experiencing moderate distress secondary to pain. She had a normal cardiac and pulmonary auscultation, and her skin was normal. Neurologically, her strength and sensation were intact in the upper and lower extremities. On musculoskeletal examination, the provider noted pain with forced adduction of the left arm across the body, and back exam was notable for tenderness in the left paravertebral muscles of the thoracic spine. The provider initially reported concern for pulmonary embolism, which was excluded with the Pulmonary Embolism Rule-out Criteria, as well as concern for pneumothorax and occult rib injury. A chest radiograph with dedicated left-sided rib views revealed no acute abnormality.

Given that the patient’s pain appeared to be myofascial in origin, a physical therapy consultation was obtained. The physical therapist was specifically trained in myofascial
Manually and trigger point release. The patient was
diagnosed by the physical therapist with muscular spasm of
the left quadratus lumborum muscle, and was treated with
manual trigger point therapy, which completely released the
spasm in the muscle. Upon re-assessment by the emergency
physician (EP), the patient was pain free and had not required
any medication while in the ED. She was discharged with
topical diclofenac to be used in case the spasm re-occurred.

**DISCUSSION**

Manual trigger point therapy is a technique that can be used
by healthcare providers from multiple training backgrounds. It
involves assessment of a patient in pain for myofascial trigger
points, followed by the use of manual techniques to de-activate
the trigger point, which results in a decrease in, or resolution
of the patient’s pain. A myofascial trigger point is a hard,
palpable nodule in a tight band of muscle that is hyperirritable
and painful. Such trigger points often have multiple contraction
knots within the muscle, and are tender on examination. While
several therapies are available for management of myofascial
trigger points, manual therapy may be used; it involves the use
of a provider’s hands to provide treatment.

Manual therapy can be defined as application of an
accurately determined and specifically directed force to the
body to address dysfunction in joints, connective tissue, or
muscle. Techniques may include trigger point pressure release,
or trigger point compression. At our institution, physical
therapists have been trained in manual trigger point therapy
(course: Myopain Seminars, Bethesda, Maryland), and are
available to evaluate and treat ED patients with myofascial pain.
An important detail is that manual trigger point therapy involves
providing treatment with the provider’s hands alone, as opposed
to a technique such as trigger point injection or trigger point
needling, both of which involve the use of a needle.

While trigger point injections may be used by EPs, they may not be aware of the technique or know how to
perform it. Additionally, many patients express a phobia of
needles and are not willing to receive an injection; however,
they are open to other treatments, which, in the case of
severe muscle spasm, may lead to the use of oral opioids or
benzodiazepines. Manual trigger point therapy is an effective
means of treating muscle spasm without using needles or
potentially addictive medications, and therefore represents a
novel option for non-opioid ED pain management.

Manual trigger point therapy may be performed by
healthcare providers from a variety of training backgrounds,
including physical or occupational therapists as well as
physicians. As EPs are often busy with multiple critical
patients, physical therapists are an excellent option to provide
treatment with this technique in the ED. At our institution,
manual trigger point therapy has been performed by physical
therapy in the ED since March 2018. Physical therapists are
available to provide this treatment between 8 AM and 4 PM,
seven days per week. When this service is needed outside of
these hours, the EP can provide a trigger point injection (if
the patient is willing), use medication, or use a transcutaneous
electrical nerve stimulation unit to provide relief. Two osteopathic
physicians in our department provide treatment similar to manual
trigger point therapy with osteopathic manipulation. In one case,
a patient who presented to the ED in the late evening had severe
muscle spasm and pain that could not be controlled in the ED
with medication. The patient was admitted to the observation
unit for physical therapy consultation and treatment with manual
trigger point release the next morning, which provided good relief
of her pain and spasm.

An informal survey of our EPs (n = 12) revealed that
100% of them agreed the treatment was useful for treating
pain, and 100% felt that the technique was an effective
intervention to reduce the use of opioids in the ED. A similar
informal survey of the physical therapists trained in the
technique at our hospital (n = 9) revealed that 100% of them
also felt that the treatment was useful for treating pain.

To the best of our knowledge, this is the first report of
using manual trigger point therapy to treat muscle spasm by
physical therapists in the ED. While this intervention may
have been performed in this way at other institutions, we
chose to report our case as it was so successful at relieving pain without the use of medication, and may encourage further use of this technique and future research on the topic.

**CONCLUSION**

Manual trigger point therapy is an inexpensive and effective way to treat myofascial pain and can be used in the ED, particularly when it is advisable to avoid opioids or other sedating medications. If EPs are unable to perform the treatment, physical therapists can be easily trained in the technique and are effective in using it to treat pain in ED patients.

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