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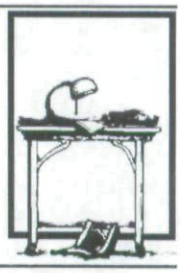
EDITORIAL



Myofascial Pain Syndrome—Trigger Points Literature Review: Comment on Dorsher Study

To the Editor:

The review by Simons and Dommerholt (1) that discussed my 2006 study (2) makes several comments that either do not accurately reflect my paper's contents or are unsupported.

The review states I "dismissed" Birch's (3) argument that most acupoints are not used specifically for pain indications. My study compares trigger points [TrPs] and acupoints in treating pain. Most acupoints' primary indications are for conditions other than pain, but Deadman et al. (4) and the Shanghai College of Traditional Medicine (5) document that all but two of 361 classical acupoints [BL-8 and ST-17] have pain indications [predominately for musculoskeletal pain near these points]. These texts document the clinical importance of seeking local tender points in the area of the patient's pain as well as tender distal acupoints on the meridians that traverse the region of pain. Birch (3) omitted these important facts when he contrasted TrPs and acupoints for pain treatment.

The review questions whether TrPs have distinct anatomic locations [as opposed to being present throughout a muscle or muscle region] and cites four studies that suggest referred pain may be characteristic of muscles rather than TrPs. The review's trapezius muscle example refutes these claims. The *Trigger Point Manual* (6) shows two distinct TrP subregions in the upper portion of the trapezius, three TrP regions in its midportion, and two TrP regions in its lower portion, each with differing referred pain patterns. The sternocleidomastoid, pectoralis major, paraspinal, and gluteus maximus muscles have multiple TrP regions with differing referred pains as well. These findings are incompatible with referred pain being characteristic of the muscle. The review postulates that referred pain, if not muscle specific, may be specific for "certain parts" of the muscle instead of its TrPs. What objective anatomic criteria could delineate these muscle subregions? The use of x's on the figures in the Trigger Point Manual provide anatomic landmarks for common muscle TrP regions. Trigger points may be present throughout muscles, but why did Kellgren, Sola, Kennard, Travell, and other researchers find such similar locations for common TrPs in the muscles (7)? As shown in Figure 1, the acupuncture meridians traversing a given muscle region accurately predict its referred pain patterns.

The review incorrectly stated my study's report of 92 percent anatomic correspondence of TrPs and acupoints is "about the same" as the

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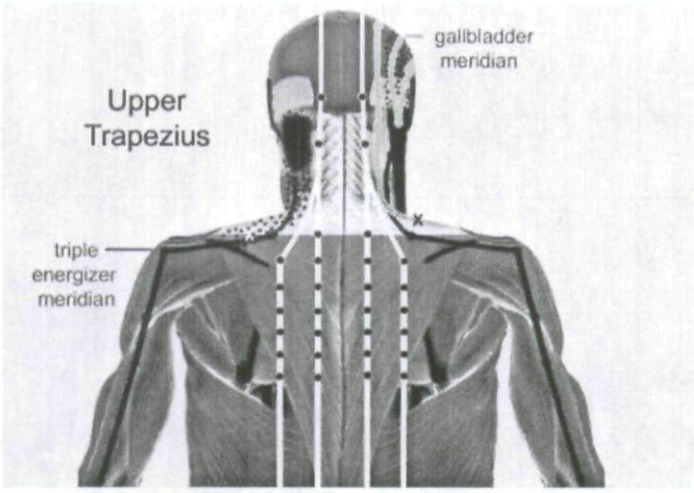
FIGURE 1. Differing myofascial referred pain patterns of the upper trapezius muscle and anatomically proximate trigger points.



71 percent correspondence found by Melzack et al. (7).

The review states that if a goal of my study is to increase utilization of acupuncture in pain management, then demonstrating its efficacy for treating pain conditions via clinical outcome studies "may be preferable." Several large, randomized, controlled studies (8, 9) and a systematic review (10) document acupuncture's efficacy in treating neck, lumbar, and osteoarthritis pains. This evidence is as strong as that for TrP therapy.

My study (2) reported seven TrPs as not being accessible to needling with traditional acupuncture techniques and, except for the medial pterygoid, not safely by TrP injections. The review claims these seven muscles are "commonly needled in clinical practice." The subscapularis and medial pterygoid TrPs technically can be needled, but it is unlikely these TrPs are "commonly" injected by most clinicians. The *Trigger Point Manual* (6) states the other four TrPs [the psoas, iliacus, and two in the obturator internus] are not accessible for routine injection therapy, so these TrPs are likely not "commonly" injected.

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REPLY TO PETER DORSHER'S LETTER TO THE EDITOR

I would like to thank the editor for giving me the opportunity to reply to Dr. Dorsher's letter to the editor in response to my review of his 2006 paper "TrPs and acupuncture points: Anatomic and clinical correlations" (1, 2). I would also like to express my gratitude to Dr. Dorsher for taking the time to not only read the review, but to reply and communicate with the editor and the readers of the *Journal of Musculoskeletal Pain*. According to Dr. Dorsher, the review included several comments that did not accurately reflect his paper, or that were unsupported. I will attempt to address Dr. Dorsher's concerns.

"The review states I 'dismissed' Birch's (3) argument that most acupoints are not used specifically for pain indications."

Birch limited his study to acupuncture points with a primary pain indication (3). Dorsher did not dismiss Birch's arguments and acknowledged that most acupuncture points do not have a primary indication for pain (1). In Dorsher's study all acupuncture points with any [regional] pain indication were included, even if pain was not the primary or secondary indication for those points.

"The review questions whether TrPs have distinct anatomic locations."

One could argue that a review of a particular scientific paper is not the best venue to express opinions about whether TrPs [TrPs] have distinct anatomical locations. When I prepared the review, I contemplated whether I should include my concerns about comparing the anatomical locations of TrPs and acupuncture points, but because part of Dorsher's study is based on the assumption that TrPs have distinct anatomical locations, I decided to include my thoughts on the subject. Dorsher consulted the *TrP Manuals* (4, 5), where 255 common TrP locations are marked in individual muscle. As the TrP *Manuals* are the most authoritative publications about TrPs, Dorsher's decision seemed to make perfect sense.

However, I am not convinced that TrPs always have distinct anatomical locations, even though many authors and researchers have made that assumption. In my clinical practice, for example, I routinely find TrPs throughout the body in locations that are not identified in the *TrP Manuals*. Likewise, I am not convinced that in this context, referred pain patterns are always specific for particular TrPs. Referred pain is not specific to any tissue. Many patients describe referred pain patterns that have not been reported before. Occasionally such new referred pain patterns are described in the literature. For example, Cummings (6) reported a referred pain pattern from a TrP in the iliopsoas muscle to the knee and Dejung et al. (7) described many referred pain patterns that are, at times, distinctly different from Travell's descriptions. Travell established the referred pain patterns by soliciting this information from the patients she treated. Dejung et al. used the same empirical approach. Most TrP referred pain patterns and TrP locations are empirically established and have not been subjected to scientific study, other than clinical practice, which according to the principles of evidence-informed practice does indeed constitute a level of evidence (8, 9).

Regarding point specificity, there are only a few studies that suggest that accurate needling of TrPs is important to achieve optimum results (10). For example, Hong indicated that with deep dry needling eliciting local twitch responses is critical, while Chen et al. (11, 12), demonstrated that accurate needling reduced the spontaneous electrical activity in rabbit trigger spots. On the other hand, proponents of superficial needling suggest that the depth of needling is less important (13–18).

Realizing that it is difficult to conduct good acupuncture outcome studies, there are several large studies that question the specificity of acupuncture points (19–21). In studies of the effect of acupuncture on migraine [N = 302], tension-type headache [N = 270], and knee osteoarthritis [N = 1,007], there were no significant differences between real acupuncture and sham acupuncture. Acupuncture and sham acupuncture, however, were superior to no treatment. Yet in another large study [N = 294] of the effects of acupuncture on knee osteoarthritis, acupuncture was significantly more effective than minimal or no acupuncture after eight weeks of treatment, however not after 52 weeks (22). Other acupuncture studies have confirmed point specificity (23). As Campbell (24) summarized in his review of these studies, many practitioners of traditional acupuncture maintain that individual acupuncture points have identifiable

indications and reproducible clinical effects, whereas according to some modern acupuncturists, the specific location for needle insertion is not as relevant. Dorsher consulted traditional acupuncture resources and consistently applied the principles of traditional acupuncture (25, 26).

Given the various research results and clinical experiences, I do believe that research is needed to establish whether TrPs indeed have distinct locations and whether individual TrPs have specific referred pain patterns. Niddam et al. (27), recently published a study using magnetic resonance imaging to determine the effect of electrotherapy on TrPs and were able to start mapping which parts of the brain were involved (27). This kind of research is still in its infancy, but may be vital in determining whether TrPs have distinct anatomical locations. There are no large clinical outcome studies that compare accurate TrP needling with local twitch responses versus superficial TrP needling, sham TrP needling, and no-treatment in a variety of diagnoses. Until such studies have been completed, I remain hesitant in drawing too many definitive conclusions about correlations between the locations of TrPs and acupuncture points.

"The review incorrectly stated my study's report of 92 percent anatomic correspondence of TrPs and acupoints is 'about the same' as the 71 percent correspondence found by Melzack et al."

In my review I mentioned that "of the 255 TrPs, only eight did not have an anatomic correspondence with AcPs [...]" (2). Upon rereading Dorsher's study, I realized that in fact I did misquote the study, which actually states that "only 21 of the 255 TrPs [eight percent] had no anatomic correspondence to acupuncture points" (1). According to Dorsher "of the 255 TrPs, 234 [92 percent] had anatomic correspondence with classical, 'miscellaneous,' or 'new' acupuncture points" (1). I did not state, however, that the "study's report of 92 percent anatomic correspondence of TrPs and acupoints is 'about the same' as the 71 percent correspondence found by Melzack et al." Instead, I attempted to paraphrase Dorsher's own statement that "... the high degree of anatomic correspondence of the TrPs with acupuncture points, most of which were classical [channel] acupuncture points, agrees with the conclusions of Melzack et al." (1), which I summarized as "his findings are pretty much in line with Melzack et al.'s conclusion that there is a 71 percent overlap between TrPs and acupoints" (2). I did not mean to suggest that Dorsher found only a 71 percent overlap.

The review states that if a goal of my study is to increase utilization of acupuncture in pain management, then demonstrating its efficacy for treating pain conditions via clinical outcome studies "may be preferable." Several large, randomized, controlled studies (8, 9) and a systematic review (10) document acupuncture's efficacy in treating neck, lumbar, and osteoarthritis pains. This evidence is as strong as that for TrP therapy.

Dorsher stated that "the scientific basis of myofascial pain should help further elucidate acupuncture's therapeutic mechanisms in treating pain" and "the strong correspondence between TrP therapy and acupuncture should facilitate the increased integration of acupuncture into contemporary clinical pain management" (1), which I, perhaps incorrectly, interpreted as an effort to justify using acupuncture in pain management (2). I did not mean to suggest that there are no randomized controlled studies that support the efficacy of acupuncture. I welcome the addition of acupuncture in pain management and routinely refer patients to acupuncturists in my own community. I recently prepared the preface of a book about TrP therapy for acupuncturists (28).

The review claims these seven muscles are "commonly needled in clinical practice."

Dorsher is correct that the subscapularis, medial pterygoid, psoas, iliacus, and obturator internus muscles are not commonly needled in clinical practice. In my own clinical practice, these muscles are routinely needled. All participants in the needling courses I teach worldwide learn how to needle these muscles safely.

My review did not express sufficiently my appreciation for the contributions Dorsher is making to the myofascial pain and acupuncture literature. While we may disagree on certain aspects of his work, there are many unanswered questions in both the acupuncture and TrP literature and clinical practice. Innovative researchers like Dorsher contribute to the scientific process and understanding. Based on personal communication with Dorsher, I know he plans to publish more aspects of his work and I am looking forward to his future contributions.

Lastly, I would like to apologize to Dr. Dorsher for misspelling his last name once in my original review (2).

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REPLY TO JAN DOMMERHOLT'S RESPONSE

Many thanks to Mr. Dommerholt for his time and expertise in reviewing my 2006 trigger-acupuncture study (1) as well as my response to his review.

Birch's (2) argument that most acupoints are not used specifically for pain indications

Birch's reanalysis (2) of Melzack et al.'s data (3), which concluded trigger points [TrPs] should not be compared to acupuncture points, has inaccuracies and conceptual flaws [the subject of an upcoming report] that invalidate his conclusions. In contrast to Birch's claims, all 50 acupoints examined by Melzack et al.'s study (3) *do* have pain indications described in acupuncture reference texts (4, 5). The main purposes of Melzack et al.'s study (3) and my 2006 extension of their work (1) was to compare the *pain* uses of acupuncture and TrPs. It is not conceptually relevant in that comparison whether or not acupuncture points have other indications. Similarly, the *Trigger Point Manual* (6, 7) describes 43 TrP regions that have somatovisceral effects separate from their clinical effects on pain conditions. Would one not treat those TrPs to alleviate the somatovisceral condition [i.e., tinnitus associated with the deep masseter TrP] even if the TrPs are primarily used for pain conditions?

Whether trigger points have distinct anatomic locations

The issue of TrP localization needs further discussion in the literature. The approximately 255 "common" TrP locations delineated in Travell and Simons' (6, 7) authoritative texts certainly are not the only TrPs present in the body's muscles, but reflect the most frequently seen and clinically important TrPs accumulated from their 50+ years of clinical experience. Analogously, the 361 classical acupuncture points [mostly described by 200 BC] are not the only acupuncture points, but are the most commonly used and clinically important points that reflect some 2,500 years of clinical experience! Myofascial pain researchers including Travell and Rinzler (8) found that certain TrPs have similar distributions among individuals, and as TrP location descriptions by different researchers since the 1930s have anatomic overlaps between each other and the *Trigger Point Manual's* common TrP location descriptions, which implies that there must be some fundamental anatomic and/or physiological reason why these researchers found similar locations for these common TrPs. That both Melzack et al.'s (3) and my 2006 study (1) also found that the common [most frequently seen/used] acupuncture points are in anatomically similar [proximate] locations to common TrPs advances that there is likely an underlying anatomic/physiological correspondence in the acupuncture and myofascial pain traditions in this regard. I have prepared a more detailed report on the similarities of these two traditions (9) in treating pain that accommodates the regional view of myofascial pain as described by Dommerholt in his review and his letter to the editor, and the two traditions' corespondences, anatomically and clinically, in treating pain and somatovisceral disorders are actually enhanced.

I have had the pleasure of being taught by Mr. Dommerholt in his clinical courses for myofascial pain and have learned [and continue to learn] from his vast knowledge base and clinical expertise. Thought separated by thousands of years, cultures, and terminology, I believe the myofascial pain and acupuncture traditions have much to teach each other that can enhance our understanding of pain physiology as well as improve our patient's outcomes. That is what we all strive for.

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