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EDITORIAL

Trigger Point Diagnosis: At Last, the First Word on Consensus

The diagnosis of myofascial pain syndrome (MPS) is made by physical examination and history; the physical examination is the palpation of muscle, and the history is that of the nature of the pain. There is as yet no laboratory test that allows a clinical diagnosis to be made. The diagnosis is currently made by identifying a myofascial trigger point (TrP) in a person whose pain is consistent with the pain of a TrP and whose pain is reproduced in part by activation of the TrP. However, even this statement is contentious because there has been no consensus on how to identify the TrP or how to diagnose MPS. Fernández-de-las-Peñas and Dommerholt in this issue [1] have provided us with such a consensus, that will be useful in guiding further studies.

Lack of agreement on the criteria for the identification of a TrP has been a stumbling block for acceptance of MPS as a valid clinical entity [2,3] ever since the syndrome was proposed and championed by Janet Travell and David Simons [4]. This problem has been addressed in part by interrater reliability studies that assessed agreement among examiners on identifying various components of the TrP or on the agreement among multiple examiners that an MPS did or did not exist. The outcome of these studies has been mixed [5]. In some studies, agreement has been excellent. In other studies, agreement has been poor. These studies, however, did not address the question of whether or not there was agreement on the criteria for the diagnosis of MPS. At present, authors of studies of myofascial trigger point pain syndromes of one sort or another usually state that the TrP(s) were identified according to the Simons and Travell criteria, usually referencing the Simons, Travell, and Simons textbook *Myofascial Pain and Dysfunction* (volume 1, second edition, 1999). In this text, Simons, Travell, and Simons propose that "the combination of spot tenderness in a palpable band and subject recognition of the pain…" is the minimum acceptable criterion for the identification of the TrP (p. 35). This recommendation is based on the specificity of the findings and the ease of eliciting this information by physical examination and history.

The assumption made in these studies is that the TrP is an essential feature of MPS, and not an epiphenomenon. As the etiology of the TrP and MPS remains hypothetical and unproven, there is no way to resolve this question. That is, there is no way to tell if there is an underlying, unifying condition responsible for both the TrP and, independently, for the MPS. The predominant theory is that muscle ischemia and hypoxia resulting from muscle overuse cause both TrPs and pain [6]. Quintner et al. [7], for example, recently proposed that the underlying issue in the muscle pain syndrome that we call myofascial pain is really a neuropathic condition, and Partenan [8] has propounded the view that there is a muscle spindle dysfunction underlying the syndrome.

To say that MPS always requires a TrP in order to make the diagnosis is a tautology in the absence of credible evidence because then no diagnosis of MPS could be made in the absence of a TrP. Moreover, such an assertion does not address the question of whether or not there is an underlying condition that causes the muscle hardness known as the taut band, its accompanying features, and the pain syndrome known as myofascial pain. Nevertheless, the assumption remains that the TrP is an integral feature of MPS and that there would be no such pain in the absence of the TrP. I have argued elsewhere that the TrP taut band is a dynamic dysfunctional element in muscle and that it exists in the inactive, nonpainful state, in a state in which it is tender when firmly palpated but does not cause spontaneous pain (a state that is termed "latent"), and in a state where it both is tender to palpation and causes spontaneous pain (a state that is termed "active"). To avoid the issue of the underlying nature of myofascial pain altogether, the authors are careful to state that the consensus agreement addresses only the TrP and not the diagnosis of myofascial pain.

The most useful objective test to identify the TrP is high-definition ultrasound (US). Vibration sonoelastography (VSE) can visualize a taut band, and even a small arteriole within the characteristic hypoechoic taut band [9]. However, ultrasound does not reflect the presence or absence of pain. US may be used to confirm that there is a taut band in a particular muscle. However, even then, the use of ultrasound cannot confirm that the taut band palpated is the taut band imaged. There remains no clinically useful objective diagnostic test for the identification of the TrP other than palpation of muscle, and that requires interpretation of physical findings and symptoms by a skilled examiner.

The authors address the problem of lack of consensus on the criteria for diagnosing a TrP by using a Delphi model of expert consensus. In this process, a panel of experts is convened to agree upon a set of criteria. The Dephi process is one in which a panel of experts can arrive at a consensus that avoids the pressures and biases that often result from face-to-face panels that

can be controlled or influenced by particular individuals. Thus, the Delphi process is anonymous, is geographically dispersed, is statistically analyzed (to avoid biases of interpretation), and involves a series of rounds or iterations of questionnaires that refine the process of consensus [10]. The authors included 60 experts from around the world. They were selected on the basis of publishing in the field, involvement in teaching, and established knowledge and familiarity with TrPs and MPS (presumably in the author's opinion), and, notably, they included persons with differing views of how to treat trigger points and myofascial pain. The latter is important as it indicates a willingness to cast a wide net in the selection of experts. Invitations were extended to 65 individuals, of whom 60 participated in the study. To be sure, there were some experts who were not included, and the participants were heavily weighted toward the United States (45%) and Switzerland (18%), but the large number who were included certainly lends authority to the consensus statement.

The first questionnaire was created by four physical therapists based on an extensive review of the literature. The items included palpatory findings and symptoms characteristic of the TrP, as well as items selected for the designation of a TrP as active or latent. Additional questions addressed the issue of whether asymptomatic individuals could have trigger points, if trigger points were confined to specific locations within particular muscles, the nature of the referred pain from trigger points, and whether specific referral patterns were expected from particular muscles. The second round refined the answers from the first round. The third round specifically addressed the nature of referred pain. The authors set a cutoff of 70% to signify agreement.

The panel agreed on two palpatory and one symptom criteria for the identification of a TrP: a taut band, a hypersensitive spot, and referred pain. The panel agreed that the first two criteria applied to both active and latent TrPs, but that the distinction between active and latent depends on the reproduction of at least a part of the patient's usual pain (active) or not (latent). The third criterion, referred pain, could be referred sensation that could include pain, but could also include other sensations, such as tingling or numbness. Two of these three criteria are considered by the authors to be sufficient for the diagnosis of a TrP. Also significant is what is not included, namely twitch responses, restricted range of motion, and the jump sign.

There remains no gold standard for the diagnosis of the TrP. However, research studies of TrP phenomena and studies of MPS should now use the criteria established by this consensus study and should specify exactly which criteria they used (taut band, hypersensitive spot, referred pain/sensation, and presence or not of reproduction of pain to distinguish active from latent TrPs). The authors are to be congratulated for this effort to bring order and uniformity to the field. Nonetheless, a cautionary note is that the criteria are arrived at by consensus and are not evidence based. The next step is to confirm that these criteria are indeed clinically valid based on the outcome of clinical studies, for example, studies of treatment of TrPs or of MPS, and can thereby be elevated to evidence-based criteria.

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