## The Predetermined Sites of Examination for Tender Points in Fibromyalgia Syndrome Are Frequently Associated With Myofascial Trigger Points

Hong-You Ge\*, Ying Wang\*, Bente Danneskiold-Samsøet, Thomas Graven-Nielsen\*, Lars Arendt-Nielsen\*

Received 2 June 2009; received in revised form 25 September 2009; accepted 2 October 2009. published online 16 November 2009.

## Abstract

The aim of this present study is to test the hypotheses that the 18 predetermined sites of examination for tender points (TP sites) in fibromyalgia syndrome (FMS) are myofascial trigger points (MTrPs), and that the induced pain from active MTrPs at TP sites may mimic fibromyalgia pain. Each TP site was evaluated with manual palpation followed by intramuscular electromyographic (EMG) registration of spontaneous electrical activity to confirm or refute the existence of an MTrP in 30 FMS patients. Overall spontaneous pain intensity and pain pattern were recorded before manual identification of MTrPs. Local and referred pain pattern from active MTrPs were drawn following manual palpation at TP sites.

## Results

Showed that most of the TP sites are MTrPs. Local and referred pain from active MTrPs reproduced partly the overall spontaneous pain pattern. The total number of active MTrPs (r = .78, P < .0001), but not latent MTrPs (r = .001, P = .99), was positively correlated with spontaneous pain intensity in FMS. The current study provides first evidence that pain from active MTrPs at TP sites mimics fibromyalgia pain. MTrPs may relate to generalized increased sensitivity in FMS due to central sensitization.

## Perspective

This article underlies the importance of active MTrPs in FMS patients. Most of the TP sites in FMS are MTrPs. Active MTrPs may serve as a peripheral generator of fibromyalgia pain and inactivation of active MTrPs may thus be an alternative for the treatment of FMS.

Key words: Fibromyalgia, intramuscular needle electromyography, manual palpation, referred pain, spontaneous electrical activity

\* Laboratory for Musculoskeletal Pain and Motor Control, Center for Sensory-Motor Interaction (SMI), Department of Health Science and Technology, Aalborg University, Aalborg, DK-9220, Denmark

<u>†</u> The Parker Institute, Frederiksberg Hospital, Frederiksberg, Denmark

BAddress reprint requests to Dr. Hong-You Ge, Center For Sensory-Motor Interaction, Department of Health Science and Technology, Aalborg University, Fredrik Bajers Vej 7 D-3, DK-9220, Aalborg, Denmark.

This research was supported by The American Fibromyalgia Syndrome Association, Inc. The Oak Foundation is acknowledged for financial support to the Parker Institute. The authors have no conflicts of interest to report.

PII: S1526-5900(09)00779-2

doi:10.1016/j.jpain.2009.10.006

© 2010 American Pain Society. Published by Elsevier Inc. All rights reserved