

Conclusion: The masseter and temporalis muscles require different pressures for distinguishing masticatory myofascial pain patients from asymptomatic individuals. Because the highest sensitivity (73%) and LR were found for the anterior temporalis, this muscle was considered to have the most suitable discriminative capacity.

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THE EFFECT OF SMALL DOSES OF BOTULINUM TOXIN ON NECK-SHOULDER MYOFASCIAL PAIN SYNDROME

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Objectives: The aim of this work was to determine the effect of small doses (5U) of botulinum toxin A (BTA) injected directly into the painful trigger points of the muscles.

Methods: 42 patients suffering from myofascial pain in the neck-shoulder region were studied. The patients received either botulinum toxin A or physiological saline injections on 3 occasions 6 weeks apart. The total dose varied from 15 to 35 U of botulinum toxin A [27±4 U (mean±SD)]. The follow-up measurements were carried out at 6 weeks after each treatment.

Results: Neck pain values decreased from 5.1±1.9 to 3.1±1.8 after saline injections and from 4.8±1.5 to 2.9±1.6 after botulinum toxin A. The pressure pain threshold values increased from 5.4±1.7 to 5.8±1.2 and from 5.3±2.0 to 5.5±1.9 after injections with saline and botulinum toxin A, respectively. No statistically significant changes in the neck pain and pressure pain threshold values occurred between the botulinum toxin A and saline groups. After the first injections, the subjective result of treatment was significantly ($P=0.005$) in favor of botulinum toxin A, and after the second injections, the subjective result was better for saline, but the difference was not statistically significant ($P=0.008$). There was no significant difference in the prevalence of side effects between saline and botulinum toxin A.

Conclusions: Our study shows that there was no difference between the effect of small doses of botulinum toxin A and those of physiological saline in the treatment of myofascial pain syndrome.

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A LONG TERM FOLLOW UP OF PAIN, DEPRESSION AND ANXIETY SYMPTOMS AMONG FIBROMYALGIA PATIENTS

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Background and Aims: The objective of the present study was to investigate the long term course of pain, depression and anxiety symptoms among fibromyalgia (FMS) patients and to investigate the possible mediating roles of age and education and on the course of pain.

Methods: A 14 year follow up of women being diagnosed with FMS was conducted. Out of the original sample included 58 patients, 30 (52%) agreed to participate in the follow up.

Self report instruments were used to examine changes in anxiety (STAI-T), depression (BDI), and pain (100 mm VAS) with General Linear Models, Repeated Measures. Multiple linear regression were used to examine possible influences of personality (MCMI-I), education and age on pain change.

Results: The experience of pain remained fairly stable (VAS-change=2.72 mm, $p>0.7$) throughout the 14-year follow-up, while depression (BDI) and anxiety (STAI-T) were significantly better ($p<0.02$; $p<0.001$, respectively). No effects of age and level of education was obtained. Follow up analyses showed that a subpopulation with significant less pain ($p<0.001$) after 14 years ($n=16$) reported both less depression ($p<0.05$) and anxiety ($p<0.001$), whereas a subpopulation with significant more pain ($p<0.001$, $n=14$) reported reduction in anxiety ($p=0.012$), but not in depression ($p=0.205$).

Conclusion: Women with FMS had stable pain measures through a 14 years follow-up study, while depression and anxiety diminished. For

a subpopulation with less pain, depression also improved, but when pain increased, depression remained unchanged.

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BOTULINUM TOXIN A FOR MYOFASCIAL TRIGGER POINT INJECTION: AN EVIDENCE-BASED SYSTEMATIC REVIEW

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Background & Aim: Myofascial pain syndrome is a regional condition of muscle pain and stiffness characterized by the presence of myofascial trigger points. Botulinum toxin A (BTA) causes muscle paralysis by blocking acetylcholine release at neuromuscular junctions. Its role in trigger point injection remains debatable. The aim of this study was to carry out a systematic review to assess the efficacy of BTA injection for myofascial pain.

Methods: Search strategy: Electronic databases such as Medline, Cochrane Library, Scopus, CINAHL were queried using key words such as "botulinum toxin", "myofascial pain", "trigger point", "chronic pain" and "musculoskeletal pain".

Selection criteria: Relevant published randomized controlled trials (RCTs) that described the use of BTA as injection therapy for myofascial pain were eligible for inclusion.

Data collection and analysis: Data extracted from qualified trials included outcome measures such as pain intensity and pain pressure threshold. Information on adverse effects was also extracted. All RCTs were ranked according to the five-item 0–16 point Oxford Pain Validity Scale (OPVS).

Results: Five RCTs met the inclusion criteria. One trial concluded that BTA was effective, and 4 concluded that it was not effective for treating myofascial pain. OPVS scores ranged from 9 to 14 with negative studies corresponding with higher validity scores.

Conclusion: The available evidence from the limited number of RCTs did not support the use of BTA injection for treatment of myofascial pain.

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PAIN REPRESENTATION IN FIBROMYALGIA PATIENTS AND HEALTHY CONTROLS USING EVENT-RELATED FMRI

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The aim of this study was to compare the cerebral activations during induced pressure pain in FMS patients and healthy controls. Pressure was applied to the right thumbnail in 11 FMS patients and 11 healthy controls. Analyses of cerebral activation showed increased activations in typical pain-related structures. The only difference in brain activity was found in Brodmann area 6 where healthy controls showed greater activity during painful stimulation than FMS patients. In accordance to previous results we found that subjective pain, representing significantly lower levels of pressure in FMS patients, resulted in comparable activation patterns across subject groups. This result supports the idea of augmented central pain processing as a possible pathogenic component in FMS.

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AUTONOMIC NERVOUS SYSTEM ACTIVATION DURING STATIC EXERCISE IN FIBROMYALGIA PATIENTS

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Background: Basal sympathetic hyperactivity with hyporeactivity has been reported in fibromyalgia (FM) patients. The aim of this study was to