

Abstract 1 – February 2016

Dahan H, Shir Y, Velly A, Allison P. Specific and number of comorbidities are associated with increased levels of temporomandibular pain intensity and duration. *J Headache Pain*. 2015;16:528.

BACKGROUND:

Temporomandibular pain disorder (TMD) is a common pain condition in the face. People with TMD report multiple pain comorbidities. The presence of fibromyalgia and migraine in people with TMD is associated with an increase in TMD pain intensity and duration. However, data on the relationship between increasing number of pain comorbidities and TMD pain are rare. The aims of this study were: firstly to evaluate the extent to which increasing number of comorbidities is associated with increasing TMD pain intensity and duration; and secondly to evaluate the extent to which the presence of specific comorbidities is associated with increasing TMD pain intensity and duration.

METHODS:

The sample included 180 people seeking TMD treatment at Boston and Montreal clinics. TMD was diagnosed using the Research Diagnostic Criteria for TMD. A Numerical Pain Rating Scale assessed TMD pain intensity and participants provided their TMD pain duration in a study questionnaire. The comorbidities of migraine, chronic fatigue syndrome, irritable bowel syndrome, interstitial cystitis and restless leg syndrome were diagnosed by 5 validated diagnostic questionnaires. The associations were analyzed by linear regression, controlling for confounders.

RESULTS:

There was a positive association between the number of comorbidities present and TMD pain intensity ($p < 0.01$) and between the number of comorbidities present and TMD pain duration ($p < 0.01$). Also, the presence of migraine was positively associated with TMD pain intensity ($p < 0.01$) and the presence of chronic fatigue syndrome was positively associated with TMD pain intensity ($p < 0.05$) and with TMD pain duration ($p < 0.01$). When TMD patients were separated into groups, these associations did not change for the myofascial pain group, whereas in the non-myofascial pain group, the relationship between number of comorbidities and TMD pain duration was the only one still present.

CONCLUSION:

This study shows that the number of comorbidities is positively associated with TMD pain duration and intensity. The presence of specific conditions, such as migraine and chronic fatigue syndrome, is associated with an increase in TMD intensity and duration.

Abstract 2 – February 2016

Hawkins JM, Schmidt JE, Hargitai IA, Johnson JF, Howard RS, Bertrand PM. Multimodal Assessment of Body Pain in Orofacial Pain Patients. *Pain Med.* 2016 Feb 10.

OBJECTIVE:

Patients with complaints of orofacial pain (OFP) often have other body pain, yet many do not report these to their providers. Uncontrolled pain at any location may impact the successful management of an OFP complaint. The objective of this study was to determine the number of pain regions throughout the body, and the underreporting of pain, in patients who presented to a tertiary military OFP clinic.

DESIGN:

A retrospective chart review was conducted on 423 consecutive new patients. Patients were given three assessment opportunities to report their pain on a whole-body pain map: 1) prior to evaluation (Pt1), 2) following an explanatory statement by their provider on the relationship between pain and prognosis (Pt2), and 3) during directed pain inquiry of specific body regions (Pro). The pain map was divided into nine anatomical regions that were assessed for the presence of pain after Pt1, Pt2, and Pro.

RESULTS:

Initially, 60.5% of patients did not report all pain locations (Pt1). Following the explanatory statement (Pt2), 30.5% still did not report all pain. Following the completion of all assessment methods, the most commonly reported number of pain regions was five (17.0%), and 91.5% of patients reported multiple pain regions.

CONCLUSIONS:

Most patients had multiple pain complaints outside the chief complaint, yet the majority did not report these until multiple forms of assessment were utilized. These data encourage the use of a pain map, a verbal pain explanation, and directed pain questioning to more accurately capture pain location and facilitate multidisciplinary care.

Abstract 3 – February 2016

Visscher CM, Lobbezoo F. TMD pain is partly heritable. A systematic review of family studies and genetic association studies. *J Oral Rehabil.* 2015 May;42(5):386-99.

The aim of this study was to describe the current knowledge on the role of heritability in TMD pain through a systematic review of the literature, including familiar aggregation studies and genetic association studies. For the systematic search of the literature, the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) guidelines were followed. In total, 21 studies were included in the review, including five familiar aggregation studies and 16 genetic association studies. From both familiar aggregation studies and genetic association studies, modest evidence for the role of heritability in TMD pain was found. The literature mainly suggests genetic contributions from candidate genes that encode proteins involved in the processing of painful stimuli from the serotonergic and catecholaminergic system. This systematic review shows that the evidence for the role of heritability in the development of TMD pain is cumulating.

Abstract 4 – February 2016

Matthys T, Ho Dang HA, Rafferty KL, Herring SW. Bone and cartilage changes in rabbit mandibular condyles after 1 injection of botulinum toxin. *Am J Orthod Dentofacial Orthop.* 2015 Dec;148(6):999-1009.

INTRODUCTION:

Temporary paralysis of the masseter muscle caused by botulinum toxin is a common treatment for temporomandibular disorders, bruxism, and muscle hypertrophy. Loss of masseter force is associated with decreased mandibular mineral density. Our objectives were (1) to establish whether bone loss at the mandibular condyle is regionally specific and (2) to ascertain whether the treatment affects the condylar cartilage.

METHODS:

Young adult female rabbits received a unilateral masseter injection of botulinum neurotoxin serotype A (BoNT/A, n = 31), saline solution (n = 19), or no injection (n = 3) and were also injected with bromodeoxyuridine (BrdU), a replication marker. The rabbits were killed at 4 or 12 weeks after treatment. The condyles were processed for paraffin histology. Cortical thickness, cartilage thickness, and trabecular bone areal density were measured, and replicating cells were counted after BrdU reaction.

RESULTS:

The BoNT/A rabbits exhibited a high frequency of defects in the condylar bone surface, occurring equally on the injected and uninjected sides. Bone loss was seen only on the side of the BoNT/A injection. Cortical as well as trabecular bone was severely affected. The midcondylar region lost the most bone. Recovery at 12 weeks was insignificant. Condylar cartilage thickness showed no treatment effect but did increase with time. The numbers of proliferating cells were similar in the treatment groups, but the BoNT/A animals showed more side asymmetry associated with the condylar defects.

CONCLUSIONS:

Bone loss may be a risk factor for the use of botulinum toxin in jaw muscles.