Autoimmunity and chair-side risk assessment of temporomandibular disorders

22 June 2019

At the 97th General Session & Exhibition of the International Association for Dental Research (IADR), held in conjunction with the 48th Annual Meeting of the American Association for Dental Research (AADR) and the 43rd Annual Meeting of the Canadian Association for Dental Research (CADR), many oral and poster presentations centered around temporomandibular disorders, or TMD. The IADR/AADR/CADR General Session & Exhibition is held at the Vancouver Convention Centre West Building in Vancouver, BC, Canada from June 19-22, 2019.

Ji-Woon Park, Seoul National University, Republic of Korea, presented a poster "Autoimmunity May Cause Inflammation and Comorbidities in Temporomandibular Disorders (TMD)." The aim of this study was to investigate the presence of autoantibodies and level of comorbidities in TMD patients and compare their levels according to pain disability groups to seek the possible role of autoimmunity in the etiopathogenesis of TMD pain.

Blood samples from TMD patients were collected. The presence of autoimmune indices and cytokines were analyzed and data were statistically compared between high and low disability groups of the Graded Chronic Pain scale. The results showed a significantly higher level of Immunoglobulin G (IgG) was found in high disability TMD patients along with other autoimmune indices.

Although TMD is associated with low-grade-inflammation, a certain group of patients with elevated IgG levels may show a longer pain duration and higher prevalence of comorbidities. These results may point towards the existence of a nonspecific autoimmune disposition in a subgroup of TMD patients. IgG may be considered as a screening test for the detection of TMD patients with high pain disability levels.

Chandler Pendleton, University of Iowa, Iowa City, USA, presented a poster on "Chair-side TMD Risk Assessment—Result from the OPPERA Dataset." Chair-side risk assessment for TMD is overwhelmingly difficult for dental professionals due to the complex multifactorial biopsychosocial contributions. Pendleton and coauthors developed a simple chair-side risk screening model based on several phenotype characteristics.

Secondary data analysis was performed using the Orofacial Pain: Prospective Evaluation and Risk Assessment (OPPERA) dataset. Three orofacial-related questions and number of comorbidities were determined to be significantly associated with the development of TMD. An increase in the number of orofacial symptoms, the number of different types of headaches in the last year and the number of comorbidities experienced led to an increased hazard of developing TMD. In addition, participants that reported grinding or clenching their teeth during most of the day or all of the time were at an increased hazard of developing TMD.

The results show that the number of both pre-clinical orofacial symptoms and comorbidities, multiple types of headaches and frequent daytime teeth grinding and/or clenching activities could be used for chair-side TMD risk assessment and risk screening tools should be further developed to facilitate dental treatment planning regards to TMD.

More information: Poster presentation #1386 "Autoimmunity May Cause Inflammation and Comorbidities in Temporomandibular Disorders" was held on Thursday, June 20, 2019 at 3:45 p.m. and the poster presentation #2060 "Chair-side TMD Risk Assessment—Result from the OPPERA

Dataset" was held on Friday, June 21, 2019 in West Exhibition Hall B of the Vancouver Convention Centre West Building, Vancouver, BC, Canada.

Provided by International & American Associations for Dental Research