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Analysis of electromyographic activity of masticatory muscles and quality of life of women with rheumatoid arthritis

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Statement of the Problem: Rheumatoid arthritis is a chronic inflammatory disorder, considered serious, that influence the quality of life. This research evaluated of the EMG activity of masseter and temporalis muscles and quality of life of the women with rheumatoid arthritis. Methodology & Theoretical Orientation: 28 women with natural dentition that were divided into two groups: RAG - rheumatoid arthritis (n=14, average age 52.28 ± 3.00 years) and CG - healthy control (n=14, average age 49.42 ± 2.45 years). RAG presented discomfort in the preauricular region and absence of popping, clicking or grinding sounds in the temporomandibular joint. The groups were matched subject to subject (age and BMI). This study was approved by the Ethics Committee in Research of the School of Dentistry of Ribeirão Preto, University of São Paulo. Assessment of muscle activity was performed by EMG recordings of the right masseter (RM), left masseter (LM), right temporal (RT) and left temporal (LT) muscles, during rest, clenching in maximum voluntary contraction, right and left laterality, protrusion, habitual chewing (peanuts and raisins) and non-habitual chewing (Parafilm M). Surface EMG was performed using Trigno™ Wireless EMG Delsys. Quality of life was assessed by SF-36 questionnaire. Findings: The EMG normalized values were by of the EMG signal of maximum dental clenching. The EMG means and subscale scores (SF-36) were tabulated and subjected to statistical analysis using independent t test (SPSS 22.0). EMG activity was significant (P<0.05) for right laterality: RM(P=0.04); protrusion: RT (P=0.00); habitual chewing with peanut: RM(P=0.00) The values of the domains (SF-36) were significant (P<0.05) for: physical functioning (P=0.00), physical role functioning(P=0.00), pain(P=0.00), general health perceptions(P=0.00), vitality(P=0.00), social role functioning (P=0.00), emotional role functioning(P=0.00), mental health(P=0.00). Conclusion & Significance: Rheumatoid arthritis in women promoted hyperactivity of mastication muscles, reduction in masticatory efficiency and negative impact on quality of life.

Biography

Prof. Dr. Rosane de Fátima Zanirato Lizarelli is Post-Doctoral Student in the Department of Morphology, Physiology and Basic Pathology, Ribeirão Preto Dental School, University of São Paulo. She is researcher of the Biophotonics Lab at Physics Institute of Sao Carlos-USP and Supervisory Board of Brazilian Association for Laser in Dentistry ABLO-USP. She has published more than 90 papers in reputed journals and has been serving as an editorial board member of reputed.

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