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Deficient cytokine control modulates temporomandibular joint pain in rheumatoid arthritis

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The aim was to investigate how endogenous cytokine control of tumor necrosis factor (TNF) influences temporomandibular joint (TMJ) pain in relation to the role of anti-citrullinated peptide antibodies (ACPA) in patients with rheumatoid arthritis (RA).

Twenty-six consecutive patients with TMJ RA were included. TMJ pain intensity at rest, on maximum mouth opening, chewing and palpation were assessed. Mandibular movement capacity and degree of anterior open bite, i.e. a clinical sign of structural destruction of TMJ tissues, were also assessed. The systemic inflammatory activity was assessed by DAS28. TMJ synovial fluid and blood samples were obtained and analyzed for TNF, its soluble receptor TNFsRII and ACPA. Ratios between the TMJ synovial fluid concentrations were used in the statistical analysis. The study was approved by the local ethical committee.

Results: High TNF concentration in relation to TNFsRII concentration in TMJ synovial fluid was associated with TMJ pain on posterior palpation on maximum mouth opening. ACPA correlated significantly to the TNF concentration but not to the TNFsRII concentration, indicating that increased inflammatory activity is mainly due to an insufficient increase in anti-inflammatory mediators.

This study indicates that TMJ pain on palpation in RA is related to a deficiency in local cytokine control that contributes to increased inflammatory activity, including lowered mechanical pain thresholds over the TMJ.

Biography

Neveen Ahmed has completed hes PhD at the age of 38 years from Karolinska Institutet, Stockholm, Sweden and postdoctoral studies from Queen Marry University, London, UK. She is Consultant Pediatric Dentista at Jeddah Dental Speciality Center. She has published 3 papers in reputed journals.

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