



# Periodontal infection as a trigger factor for rheumatoid arthritis

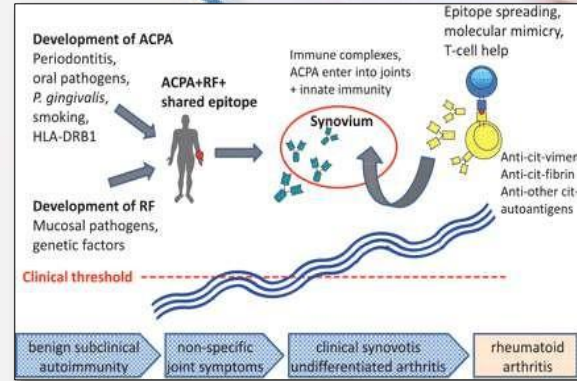
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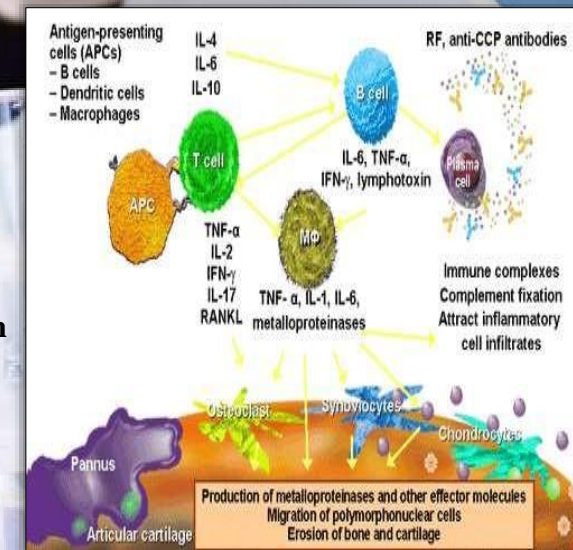


**Background:** The association between periodontal disease and rheumatoid arthritis is the subject of research of many scientific studies. Although the two diseases have different etiologies, it is considered that there is a connection and similarities between many pathophysiological mechanisms which mediate their initiation and maintenance. Even though pathological processes in rheumatoid arthritis and periodontal disease occur in different, distant anatomical parts, in both is observed destruction of bone and the surrounding supportive soft tissues.



**Aim:** to point out potential mechanisms by which periodontal disease may contribute to initiation and progression of rheumatoid arthritis, and to clarify current attitudes and possibility for existence of a causal relationship between these two common diseases in the human population.

**Results.** Oral pathogen linked to periodontal disease might trigger production of autoantigens that cause and sustain inflammatory immune responses in the joints and adjacent tissues in rheumatoid arthritis. Recent scientific studies indicate the important role of Porphyromonas gingivalis, PPAD enzymes, process of protein citrullination, production of ACPA antibodies, as important factors in the immune response, which will unlock the mechanism of initiation and progression of RA.



**Methods:** research was done exploring specialized databases PubMed, MEDLINE, EBSCO, Science Direct, Scopus for the period 2013-2023, by use of MeSH terms: rheumatoid arthritis; periodontal disease ACPA - anticitrullinated protein antibodies; RF- rheumatoid factor; PAD- peptidyl arginine deiminase

**Conclusions:** In particular, the process of citrullination, a post-translational protein modification, has been highlighted as a process common to both diseases. To what extent periodontal disease can trigger the mechanism of commencement of RA remains an open question, to which future longitudinal clinical trials need to give an answer.