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# Antibodies against citrullinated proteins in relation to periodontitis with or without rheumatoid arthritis: a cross-sectional study

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Background: Previous studies have reported conflicting findings between serum anti-citrullinated protein antibodies (ACPA) levels in rheumatoid arthritis (RA) participants with and without periodontitis (Pd). This study aimed to analyse possible correlations between serum ACPA levels and clinical parameters in Pd and RA participants. Methods: Full mouth periodontal examination (probing pocket depth, clinical attachment levels, gingival bleeding index, visual plaque index) was conducted and serum samples obtained from participants comprising RA, Pd, both RA and Pd (RAPd) and healthy individuals (HC). Erythrocyte sedimentation rates (ESR) and periodontal inflamed surface area (PISA) were obtained. Serum samples were analysed for ACPA quantification using enzyme-linked immunosorbent assay (ELISA). Results: Median levels (IU/mL) of ACPA (interquartile range, IQR) in RAPd, RA, Pd and HC groups were 8.58(274.51), 102.02(252.89), 78.48(132.6) and 51.67(91.31) respectively. ACPA levels were significantly higher in RAPd and RA as compared to HC group ( $p < 0.05$ ). However, ACPA levels of any of the groups were not correlated with any clinical periodontal and RA parameters within the respective groups. Conclusions: At individual level, the amount of serum ACPA seem to have an increasing trend with the diseased condition in the order of RAPd > RA > Pd > HC. However, lack of any significant correlation between the serum ACPA levels with the clinical Pd and RA parameters warrants further studies to investigate the causal link between RA and Pd for such a trend. Further studies involving more inflammatory biomarkers might be useful to establish the causal link between Pd in the development and progression of RA or vice versa. © 2021, The Author(s).

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Anti-citrullinated protein antibodies (ACPA); Citrullination; Periodontitis; Rheumatoid arthritis

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
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