

Expression of Toll-like receptors 2 and 4 and its association with matrix metalloproteinases in symptomatic and asymptomatic apical periodontitis

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To determine Toll-like receptors (TLR)2 and TLR4 expression levels and associate them with matrix metalloproteinases (MMPs) in asymptomatic apical periodontitis (AAP), symptomatic apical periodontitis (SAP), and healthy controls. Apical tissue/lesion samples were obtained from chronic AAP (n = 35) and SAP (n = 29), and healthy periodontal ligament (HPL, n = 10) with indication of tooth extraction, respectively. mRNA expression levels of TLR2, TLR4, MMP-1, MMP-2, MMP-8, and MMP-13 were determined by real-time reverse-transcription polymerase chain reaction. The data were analyzed with Kruskal-Wallis and Dunn's post hoc test ($p < 0.05$). The correlation coefficient was obtained using the Spearman correlation ($p < 0.05$). TLR2, MMP-1, MMP-2, and MMP-13 mRNA levels were the highest in SAP followed by AAP and controls ($p < 0.05$). TLR4 and MMP-8 were over expressed in AAP and SAP compared to HPL ($p < 0.05$). TLR2 positively correlate