Ekspresi protein p53 pada kultur sel fibroblas gingiva yang dipajan lipoposakarida bakteri gram-negatif

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Abstrak

Bacterial lipopolysaccharide (LPS) is impacted in the etiology of inflammatory periodontal disease. Aside from immunopathologic reactions which may be involved in the pathogenesis of the disease, the possibility exist that direct cytotoxic effect on cultured human gingival fibroblasts may be equally destructive. The expression of P53 protein can be one of markers to examine the state of impaired DNA. The purpose of this study was to investigate the effect of LPS toward expression of P53 protein on cultured human gingival fibroblasts. Cultured human gingival fibroblasts were exposed to LPS in concentrations of 50 and 200 ug/ml and untreated medium for a period of 24 and 48 hours. Cells were harvested and prepared for immunohistochemical evaluation. After exposure for 24 and 48 hours, the fraction of P53-positive cells was 81.7% in case of 50 ug/ml LPS, and 88.8% in case of 200 ug/ml LPS. After exposure for 48 hours, the fraction of P53-positive cells was 32.2% in case of 50 ug/ml LPS, and 21.1% in case of 200 ug/ml LPS. None of untreated group showed p53-positive cells. Up-regulation of p53 protein during the initial logarithmic phase of growth may be a consequence of on-going DNA damage.