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Effect of propolis on anti-inflammation in human dental pulp cells exposed to LPS

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Propolis has been widely used as a traditional medicine for broad purposes including infection and inflammation control and recently used as an alternative pulp treatment material. The purpose of this study was to investigate the effects of propolis on anti-inflammation in human dental pulp cells (HDPCs) treated with lipopolysaccharide (LPS). HDPCs were isolated from extracted teeth for orthodontic purposes. Cell viability was measured using a MTT assay. Gene expression of inflammatory cytokines and adhesion molecules on the HDPCs cultured with or without LPS and propolis were evaluated by reverse transcription polymerase chain reaction and Western blot analysis. Treatment with propolis significantly attenuated the LPS-stimulated expression of interleukin(IL)-1 β and IL-8 in HDPCs. In addition, propolis inhibited the up-regulation of vascular cell adhesion molecule-1 (VCAM-1) and the production of intracellular adhesion molecule-1 (ICAM-1) in HDPCs exposed to LPS. These findings suggest that propolis has effects associated with inhibition of inflammation in HDPCs exposed to LPS.

Biography

Seon Mi Kim graduated in 1992, has completed Master's degree in 1995, and has completed her PhD in 1998 from the Dental School in Chonnam National University, South Korea. She has published large number of papers in Peer-Reviewed journals, and she is actively involved in Clinical Pediatric Dentistry.

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