

EFFECTS OF *PORPHYROMONAS GINGIVALIS* TREATED WITH VARIOUS CIGARETTE CONSTITUENTS ON HUMAN UMBILICAL VEIN ENDOTHELIAL CELLS

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Tobacco use affects the cardiovascular system and increases the rate of cardiovascular disease among smokers. However, the effects of tobacco on the endothelial cells that line blood vessels are not yet fully understood. Thus, the objective of this study was to examine some of the effects that a periodontal pathogen such as *Porphyromonas gingivalis* (*P. gingivalis*) treated with cigarette smoke condensate (CSC), nicotine, and dissolvable tobacco strips (DST) have on human umbilical vein endothelial cells (HUVECs). *P. gingivalis* was grown in an anaerobic environment at 37°C with and without CSC, DST, and nicotine. The cells and supernatants were harvested 96 hours later. A Bradford protein assay was conducted to determine the protein amounts of the cells and in the supernatant. The HUVEC will be cultured in Endothelial Basal Medium-2 and plated in 6 well plates and exposed to the *P. gingivalis* cells and supernatants and after 72 hours, lactate dehydrogenase (LDH) assays will be used to cytotoxicity. Non-toxic amounts of the cells and supernatants will then be used to treat HUVEC cells for 72 hours before the media is collected and analyzed for cytokine/growth factor expression by protein arrays. It is believed that the treated bacteria will increase the levels of the pro-inflammatory cytokines and growth factors expressed by the HUVECs, which could play roles in vascular diseases. The protein assays showed that only the protein amount in the supernatant from the CSC treated bacteria was decreased.

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