Nicotine Kill Time of Streptococcus Mutans

Ana Cavazos, Richard L. Gregory
Department of Oral Biology and Pathology and Laboratory Medicine, IU School of Dentistry

Cigarettes have thousands of components aside from tobacco and nicotine that are harmful to the smoker's body. Smoking is considered a significant risk factor for cardiovascular disease (CVD) and periodontal disease. Yet smoking also plays a significant role in the buildup of plaque in the mouths of smokers. This is in part due to the formation of biofilm by *Streptococcus mutans*. *S. mutans* is an oral bacterium found in most humans that is considered to be the causative agent for dental caries. Particularly, *S. mutans* UA159 was used in this experiment. Biofilm formation regarding *S. mutans* and nicotine concentrations has previously been studied. It was found that at high concentrations of nicotine, biofilm formation of *S. mutans* decreased significantly. One of the aims of this study is to determine the time required to kill *S. mutans*.

Mentor: Richard Gregory, Department of Oral Biology and Pathology; IU School of Dentistry; IUPUI, Indianapolis, IN