

Impact of Tobacco on Proinflammatory IL1 α Protein Expression in Smokers and Chewing Tobacco Users: A Novel Approach towards Protein-Ligand Incorporated Docking Analysis

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ABSTRACT Smoking and chewing tobacco cause acute and chronic inflammation in host cells. This inflammation is linked to the pro-inflammatory signal of interleukin 1 alpha (IL1 α) protein. A total of 350 individuals including smokers chewing tobacco users and healthy controls were taken to investigate the genotypic association of IL1 α -889C/T polymorphism. The major tobacco components were also screened for docking analysis between them and the subsequent IL1 α protein. All statistical analysis were done by using SPSS v16.0. Docking analysis manifests patchdock analysis followed by ligplot analysis. The outcomes of the study revealed the significant association of IL1 α -889C/T gene promoter polymorphism with both smokers and chewing tobacco users. In silico study analyze the detrimental tobacco components in respect of their docked profile which are responsible for elevated proinflammatory response in host cells. This study concludes the bad effect of tobacco in tobacco users at its genotypic level and as well as its molecular level.