Kynurenic acid in human saliva – does it influence oral microflora?

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Abstract:
Kynurenic acid (KYNA) is an endogenous antagonist of α7 nicotinic receptors and all ionotropic glutamate receptors. Its neuroprotective activity has been suggested. In this study, the presence of KYNA in human saliva and its potential bactericidal role was investigated. KYNA was found in all samples of human saliva with mean concentration of 3.4 nM. The concentration of KYNA in saliva obtained from patients with odontogenic abscesses was 3.5 times higher than in healthy subjects. We have shown that the human gingival fibroblasts produce KYNA and an inflammatory stimulant, lipopolysaccharide, enhanced its synthesis in vitro. The bactericidal effect of KYNA was also presented. We hypothesize that KYNA may contribute to the control of oral microflora.

Key words: kynurenic acid, saliva, human, fibroblast, bacteria