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Poster Presentation

Nigella Sativa Attenuates Neuro-Inflammation by Alleviating Periodontitis

Mohammad Mirzaei*, Hojjat Shadman Zahroodi

Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

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Abstract

Neuro-inflammation is a reaction to brain injury involving the activation of glial cells and release of inflammatory mediators, such as cytokines and chemokines which has a key role in neuro-degenerative diseases. Periodontitis is a microbiome-related dental inflammation caused by gram- negative bacteria that leads to connective tissue destruction and loss of teeth. Previous studies demonstrated that periodontitis can cause neuro-inflammation by inducing systemic inflammation due to secretion of pro-inflammatory mediators and glial cells' activation. Thus, treating periodontitis can prevent or delay neuro-inflammation. Herbal medicines are alternative targets for future periodontitis drugs, due to their less adverse side effects and more efficacy in comparison to allopathic, synthetic drugs. Nigella Sativa (Black Seeds) is a traditionally used herbal medicine, cultivated in South Europe and Middle Eastern Mediterranean region. The seeds of N. Sativa and its active constituent, Thymoquinone, are proved to have anticancer, antidiabetic, antimicrobial and antioxidant traits. N. Sativa is also claimed to have anti-inflammatory effect, by inhibiting of some inflammatory cytokines. Furthermore, it has showed no remarkable toxicity or adverse side effects in previous studies. Neuro-inflammation can be prevented by treating systemic inflammations such as periodontitis. Suitable administration of herbal medicines in combination with chemotherapeutic drugs may lead to effective treatment of inflammations and preventing drug resistance. Nigella Sativa is one of these herbs that can be used in oral health products, chewing gums and drinking water. In this case, mental health and a high quality of life is guaranteed.

Keywords: Neuro-Inflammation, Periodontitis, Nigella Sativa, Oral Health

****Corresponding Author:*** Mohammad Mirzaei
Email: *MirzaeiM952@mums.ac.ir*

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