

Effect of *Nigella sativa* on the integrity of parotid salivary gland of albino rats and its activity for insulin and glucagon

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Abstract

This study investigated the effect of *Nigella Sativa* (*N.sativa*) on the histological features of parotid salivary glands of aging albino rats and its role on the activity of the glands for secretion of insulin- and glucagonlike peptides. Forty five male albino rats aged ten months were kept on the laboratory diet over a period of two months. Then, they were divided into three equal groups; young control (sacrificed at the end of the two months), old control (sacrificed three months later) and the experimental group (supplemented with *N. sativa* in a daily dose of 300mg/200gm body weight over a period of three months and then sacrificed). The parotid glands were then dissected out and subjected to histological and immunohistochemical investigations. The results showed only minimal amount of fibrosis and inflammatory cell infiltration in the *N. sativa* supplemented group. There were no distinctive changes in the architecture of the glands compared to that of young control. They did not show the prominent extensive features of aging manifested in the old aged control group. Moreover, the *N. sativa* supplemented group showed obvious increase in immunohistochemical reactivities for insulin and glucagon in the glandular tissue when compared to the rats of old control. Finally it could be concluded that *N.sativa* has got a cytoprotective effect against the degenerative changes of age and a beneficial role on the integrity of parotid salivary glands of aged rat. Also, *N. sativa* has been shown to increase the activity of parenchymal cells of rat parotid gland for insulin and glucagon that was markedly diminished with advance of age

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