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Forthcoming Article

Asthma-alleviating Potential of 6-Gingerol: Effect on cytokines, related mRNA and c-Myc, NFAT1 expressions in Ovalbumin sensitised Asthma in Rats

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ABSTRACT

In this study, we aimed at assessing the therapeutical potential of 6-gingerol against ovalbumin sensitised asthma in rats. The rats were treated intraperitoneally with 6-gingerol (75 mg/kg body weight) for 30 days and theophylline (200 mg/kg body weight) treated group taken as control. Changes in the levels of T cell linked cytokines (IL-4, IL-5, IL-13 and IFN- γ), total IgE, gene expressions of bitter taste-sensing type 2-receptor 10 (T2R10), Inositol 1, 4, 5-triphosphate receptor 1 (IP3R1), Orai1 and protein expressions of nuclear factor of activated T cells 1 (NFAT1), c-Myc and histopathological changes were observed in rats. 6-Gingerol exerts its beneficial impacts like theophylline in lessening IL-4, IL-5 and IL-13, IgE and increasing the level of IFN- γ . Significant down-regulation of T2R10 gene expression and up-regulation of IP3R1 and Orai1 gene expression were observed in experimental rats and these alterations were normalized after treatment with 6-gingerol or theophylline. The histopathological study revealed that the accumulation of glycoprotein and thickness of alveolar epithelium in asthmatic rats, and the supplementation with 6-gingerol or theophylline in asthmatic rats restored these changes towards normal. In conclusion, the results suggested that 6-gingerol has a protective effect on lungs in ovalbumin-sensitised asthma in rats.

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