

عنوان مقاله:

Chinese green tea consumption reduces oxidative stress, inflammation and tissues damage in smoke exposed rats

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خلاصه مقاله:

Objective(s): One cause of cigarette smoking is oxidative stress that may alter the cellular antioxidant defense system, induce apoptosis in lung tissue, inflammation and damage in liver, lung, and kidney. It has been shown that Chinese green tea (CGT) (Lung Chen Tea) has higher antioxidant property than black tea. In this paper, we will explore the preventive effect of CGT on cigarette smoke-induced oxidative damage, apoptosis and tissues inflammation in albino rat model. **Materials and Methods:** Albino rats were randomly divided into four groups, i.e. sham air (SA), cigarette smoke (CS), CGT ۲% plus SA or plus CS. The exposure to smoking was carried out as a single daily dose (۱ cigarette/rat) for a period of ۹۰ days using an electronically controlled smoking machine. Sham control albino rats were exposed to air instead of cigarette smoke. Tissues were collected ۲۴ hr after last CS exposure for histology and all enzyme assays. Apoptosis was evidenced by the fragmentation of DNA using TUNEL assay. **Results:** Long-term administration of cigarette smoke altered the cellular antioxidant defense system, induced apoptosis in lung tissue, inflammation and damage in liver, lung, and kidney. All these pathophysiological and biochemical events were significantly improved when the cigarette smoke-exposed albino rats were given CGT infusion as a drink instead of water. **Conclusion:** Exposure of albino rat model to cigarette smoke caused oxidative stress, altered the cellular antioxidant defense system, induced apoptosis in lung tissue, inflammation and tissues damage, which could be prevented by supplementation of CGT.

کلمات کلیدی:

Antioxidant Enzymes, Apoptosis, Chinese green tea (CGT) (Lung Chen), Cigarette smoke, Oxidative stress
Inflammation

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