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## Comparative Study of the Antioxidative Activity of Sesame Lignans and Conjugated Linolenic Acid Against Nicotine Toxicity

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Tobacco is a greater cause of death and disability than any other single disease. India is the 3rd largest tobacco producing country after USA and China. Use of different forms of tobacco is increasing day by day. Nicotine, the acute acting pharmacological agents of tobacco, plays the major role for drug of addiction. Elucidation of the complex effect of nicotine has worldwide implications. Nutritional status alters the actions, potencies and detoxification of toxicants. Any strategy through natural diet that prevents or slows the progression and severity of nicotine toxicity has a significant health impact. Nicotine induces oxidative stress. In search for natural antioxidants, present study was undertaken to evaluate the antioxidant efficacy of sesame lignans and conjugated linolenic acid, in nicotine treated rats. Experiments were conducted on male albino rats (120 – 130 g body weight) by injecting nicotine tartrate (3.5 mg/kg body wt. /day for 15 days) subcutaneously and thereby supplementing sesame lignans (0.2 g/100 g diet) and conjugated linolenic acid (0.2 g/100 g diet) orally to them simultaneously. Results showed that serum and liver lipid profile, activities of antioxidant enzymes, lipid peroxidation altered significantly due to oxidative stress generated by nicotine. Supplementation of sesame lignans and conjugated linolenic acid attenuates all the altered parameters by their antioxidant property. Results also showed that antioxidant activity of conjugated linolenic acid was more prominent than that of sesame lignans.