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## TITLE

### Nicotine Toxicity and Protective Effect of Conjugated Linolenic Acid in Rats

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I ncreasing use of tobacco products is a worldwide health problem. India is the 3<sup>rd</sup> largest tobacco producing country after USA and China. Nicotine is the major component of tobacco that causes oxidative damage in the tissues leading to several diseases. Any strategy through natural diet that prevents or slows the progression and severity of nicotine toxicity has a significant health impact. Seed fats of cucurbitaceae family, obtained from common vegetables like karela, usually consumed by people of all over India and Asia, contain substantial amount of conjugated linolenic acid (CLnA). In search for natural antioxidants, present study was undertaken to evaluate the antioxidant efficacy of CLnA against nicotine induced toxicity in heart, kidney and testis in rats. Nicotine tartrate (3.5 mg/kg body wt. /day) was injected subcutaneously on male albino rats (120 – 130 g body weight) and conjugated linolenic acid (0.5% and 1.0%) containing oil extracted from karela seed was supplemented orally to them for 15 days. Results revealed that plasma marker enzymes, tissue lipid peroxidation, level of antioxidant enzymes and non-enzymatic antioxidant GSH altered significantly due to oxidative stress generated by nicotine. Supplementation of conjugated linolenic acid in nicotine treated rats restored all altered parameters almost to their corresponding normal levels. So the nicotine-induced oxidative damages on the tissues can be effectively ameliorated by conjugated linolenic acid supplemented diet which seems to be more significant at lower dose and decreased with the increase of CLnA level in the diet.

#### Biography

Dr. (Mrs.) Krishna Chattopadhyay has completed her PhD from Department of Physiology, University of Calcutta, Kolkata, India. She has done postdoctoral studies in the Department of Chemical Technology, University of Calcutta. At present she is working as a Women Scientist in the DST (Government of India) project in the same department. She has published 7 papers in reputed National and International Journals and presents scientific papers in many International Conferences. For the last 15 years her field of interest is nicotine toxicity and search of natural antioxidants.