

*Original article*

## Beneficial Effects of Green Tea Extract in Gentamicin-Induced Acute Renal Failure in Rats

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### SUMMARY

The aim of this study was to investigate whether green tea extract has beneficial effect on gentamicin-induced acute renal failure. The investigation was conducted on thirty-two Wistar rats divided into four groups of 8 animals each. Control (C) group received normal saline. GT group received green tea extract orally, 300mg/kg. GM group received gentamicin intraperitoneally, 100mg/kg and GT+GM group received both gentamicin and green tea extract.

Histological sections of kidney in GM group revealed necrosis of proximal tubules, vacuolization of cytoplasm and massive mononuclear inflammatory infiltrates in interstitium. Coadministration of green tea with gentamicin had renoprotective effect and showed only mild infiltrations, normal glomeruli and alleviated tubular degeneration. Analysis of biochemical parameters showed significantly higher urea and creatinine serum concentrations in GM group in comparison with C group and GT+GM group ( $p<0.001$ ). Plasma lipid peroxidation biomarker MDA was significantly higher in GM group than those in C group ( $p<0.001$ ), whereas the values for GT+GM group were significantly lower than MDA recorded for GM group ( $p<0.001$ ).

Beneficial effects of green tea on gentamicin-induced nephrotoxicity is explained through decrease of oxidative stress and lipid peroxidation. Our results indicate that green tea administration has nephroprotective effect on oxidative stress and acute renal failure caused by gentamicin.

**Key words:** gentamicin, green tea, extract, rats

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