Black tea extract ameliorates indomethacin induced changes in testicular histopathology of albino rats

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**Abstract:**

**Context:** Reactive oxygen species and lipid peroxidation play a role in the pathogenesis induced by the non-steroidal antiinflammatory drug indomethacin. **Aims:**This study was aimed to assess the simultaneous effect of black tea extract (BTE) on indomethacin induced alteration in testicular pathology. **Materials and Methods:** Adult rats were divided into four groups (n = 6/group); Group I (control); Group II (indomethacin, 5 mg/kg b.wt.; i.p.); Group III (BTE, 2.5 g tea leaf/dL of water, i.e., 2.5% of aqueous BTE, orally) and Group IV (indomethacin + BTE). Serum vitamin E, sperm count, motility, and histopathology of testes were evaluated. **Statistical Analysis:**Statistical comparisons were performed using the one-way ANOVA, followed by post-hoc t-test. **Results:**Indomethacin induced rats showed a significant decrease in testicular weight, sperm count, sperm motility, and serum vitamin E concentrations. Histopathology of the testes revealed tortuous seminiferous tubules, loss of spermatogenesis process, marked decrease in the number of interstitial cells of Leydig and been replaced by many foci of congestion, edema, necrosis, and interstitial fibrosis. Rats simultaneously treated with BTE and indomethacin showed improvement of testicular weight, sperm count, sperm motility, and serum vitamin E concentrations when compared to indomethacin alone treated rats. Similarly, histopathology of rats treated simultaneously with indomethacin and BTE showed near normal testicular architecture when compared to indomethacin alone treated rats.**Conclusion:**The result suggests that BTEs might have potential beneficial effect to combat against indomethacin induced testicular damage in rats.

**Key words:** Black tea extract, indomethacin, testicular damage, vitamin E