

ABSTRACT

THE EFFECT OF BLACK SEED (*Nigella sativa*) OIL TO GENTAMICIN-INDUCED TUBULAR CELL NECROSIS OF MICE (*Mus musculus*) KIDNEY

Background: Gentamicin is an antibiotic beneficial to cure systemic infection, but the side effect of gentamicin, which is nephrotoxicity limits its usage. Black seed is a herb which has many benefits to our body, one of them is antioxidant effect.

Objective: The objective of this study was to determine the effect of various doses of black seed oil to gentamicin-induced tubular cell necrosis of mice kidney. **Method:** This study used 28 mice which were divided to 1 control group and 4 treatment group. The control group was given oral NaCl 0,9 % 0,5 ml/day. All treatment group was given intramuscular injection of 4 mg/20gBW/day gentamicin. The 2nd, 3rd and 4th treatment group was given black seed oil with the doses 0,042 ml/20gBW, 0,056 ml/20gBW and 0,07 ml/20gBW respectively. The treatment was given for 6 days. The kidney was examined histologically with Haematoxyli & Eosin staining for the percentage of necrotic tubular cells in each microscopic field. **Results:** The result showed that there were no significant differences in the percentage of necrotic kidney tubular cells between all groups in this study. The possible causes for this result were the treatment with gentamicin was not long enough; the kidneys were able to regenerate itself, because the mice kidneys were not taken immediately to be processed into histological preparation; the doses of gentamicin and black seed oil were not adjusted to the weight of every sample mice, so gentamicin and black seed oil were not adequate to affect the kidney. **Conclusion:** In this study, black seed oil did not protect the mice kidney from gentamicin-induced tubular cell necrosis.

Keyword: *Gentamicin, Black seed oil, mice, kidney histopathology.*