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## Urology journal

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## Ethanolic extract of nigella sativa L seeds on ethylene glycol-induced kidney calculi in rats.

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## Abstract

**INTRODUCTION:** The aim of this study was to investigate the effects of the ethanolic extract of *Nigella sativa* L (NS) seeds on kidney calculi in rats. **MATERIALS AND METHODS:** Thirty-two Wistar rats were randomly divided into 4 groups: group A received tap drinking water for 30 days (intact control). Groups B, C, and D received 1% ethylene glycol for induction of calcium oxalate calculus formation. As the preventive, and treatment subjects, rats in groups C and D received ethanolic extract of NS, 250 mg/kg, in drinking water since day 0 and day 14, respectively. Urine was collected on days 0, 7, 14, and 30 of the study period. After 30 days, the kidneys were removed and prepared for histologic evaluation of calcium oxalate deposits. Urine calcium oxalate concentrations were determined by atomic absorption. **RESULTS:** The number of CaOx deposits was significantly greater in group B ( $P = .001$ ). Calcium oxalate concentrations in the urine on days 14 and 30 increased significantly in group B and were higher than those in group C ( $P = .006$  and  $P = .002$ , respectively). Urine oxalate concentration in group D decreased on day 30 and was lower than that in group B ( $P = .04$ ). **CONCLUSION:** Treatment of rats with ethanolic extract of NS reduced the number of calcium oxalate deposits in a group of rats that received ethanolic extract of NS. The NS could also lower the urine concentration of calcium oxalate. We suggest further studies on the therapeutic and preventive effects of the NS on kidney calculus formation in human.

## Reaxys Database Information

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## Indexed Keywords

EMTREE drug terms: alcohol; ethylene glycol; plant extract

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MeSH: Animals; Ethanol; Ethylene Glycol; Kidney Calculi; Male; *Nigella sativa*; Phytotherapy; Plant Extracts; Rats; Rats, Wistar; Seeds

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