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Response of Dietary Supplementation of Black Seed (*Nigella sativa*) Oil on Hematological Parameters, Serum Biochemistry and Reproductive Hormones in Male Rabbits

ZAIMA UMAR¹, ANAS SARWAR QURESHI¹, MUHAMMAD USMAN¹, TALHA UMAR¹, HUABIN ZHU²,
SAQIB UMER²

¹University of Agriculture, Dept. of Anatomy, Pakistan

²Chinese Academy of Agriculture Sciences (CAAS), Institute of Animal Sciences (IAS), China

Abstract

To elucidate the therapeutic effects of Black seed (*Nigella sativa*) oil on hematological parameters and male gonadotrophins, this study was undertaken on 20 male rabbits of 8–9 months of age. These experimental rabbits were divided into two groups (n=10); one was control and the other was treated with black seed oil. Black seed oil was administered orally @ 5 ml/kg b. wt/day for 60 days to the treated group in addition to their normal diet. The animals were euthanized under gaseous anesthesia at the end of the trial. Before slaughtering, the blood was collected from jugular vein into vacutainers for hematological and serological examinations. Serum was separated from blood by centrifugation for serum biochemistry analysis. One-way analysis of variance (ANOVA) was used to compare parameter means. Statistical picture revealed that erythrocyte count and its indices along with leukocytic cells count were significantly ($p < 0.05$) increased with the black seed oil treatment. Serological analysis depicted significant ($p < 0.05$) upsurge in the plasma total proteins, albumin and globulin while the total lipids, triglycerides and cholesterol followed otherwise trend with treatment. However, black seed oil treatment showed non-significant ($p > 0.05$) effect on serum glutamate pyruvate transaminase and glutamate oxaloacetate transaminase. Significant ($p < 0.05$) elevation in the hormones levels (FSH, LH and testosterone) was also seen in treated group. Keeping in view these findings, we may conclude that black seed (*Nigella sativa*) oil is beneficial and may be recommended in patients with poor blood profile and male infertility problems in humans as well as in animals.

Keywords: Black seed oil, blood analysis, *Nigella sativa*, rabbits, serum biochemistry