Abstract:

Impairment of retinoic acid results in different malformations during embryonic development. Nigella sativa is used in public medicine for treatment of a wide range of diseases. The present study aimed to evaluate the in vivo antioxidant effect of N. sativa L. seed extracts during development of the chick embryo. The embryos were treated with citral to inhibit endogenous retinoic or treated with a combination of citral and N. sativa extract. ROS (The reactive oxygen species), was measured as indicator for oxidative stress. ROS significantly increase in the embryo after treatment with citral. Treatment with N. sativa extract only exerted antineoplastic properties through elevating the ROS to significantly higher levels compared to control. Co-treatment with citral and N. sativa partly mitigated the oxidative stress levels by reducing the ROS levels compared to citral alone. The partial mitigation of N. sativa is suggested to be due to its antineoplastic properties, the high levels of ROS produced by citral above its antioxidative capacity, mode of extraction or the low concentration used in the experiment. Also, N. sativa is not recommended as a food supplement for infants and newborns.

Keywords:

ROS, oxidative stress, citral, Nigella sativa, chick embryo.

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