

**Study of toxic effect of (AZO Dye Tartrazine) on
The adrenal gland and cardiovascular system and antioxidant
protective effect of rosemary on albino rats.**

Thesis

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By

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Summary & conclusion

Food additives are substances added to food to preserve flavor or enhance taste, appearance, or other sensory qualities. Some additives have been used for centuries as part of an effort to preserve food, for example vinegar (pickling), salt (salting), smoke (smoking), sugar (crystallization).

In addition, cardiac toxicity may occur with many toxins like tartrazine which can produce many ECG changes like bradycardia and mechanism of tartrazine induced bradycardia might be through stimulation of muscarinic receptors.

Antioxidant properties of Rosemary are attributed to its richness in isoprenoid quinones, which act as chain terminators of free radicals, and as chelators of reactive oxygen species (ROS). In addition, the phenolic compounds existing in the commercial extracts of Rosemary act as primary antioxidants when reacting with the lipid and hydroxyl radicals to turn them into stable products.

This work was conducted to evaluate toxic effects of food additive

(Azo Dye Tartrazine) and anti-oxidant protective effect of rosmariny on the adrenal gland and cardiovascular system by using 80 albino rats for 30days food supplies. Rats were separated randomly into four groups (20 rats each) as follows:

Group (1), control group (Rats were fed normal food and drank distilled water).

Group (2), tartarizine treated group (tartarizine was given to the rats orally 300 mg/kg/day)

Group (3), rosemary group (rats were administered antioxidant rosemary orally 100 mg/kg/day).

Group (4), Rats received [tartrazine (300 mg/kg/day) + rosemary (100 mg/kg/day)].

The results showed that, tartrazine produse significant increase in the body weight when compared to control group, but as a result of administration of rosemary with tartrazine there was significant decrease in the body weight when compared with tartrazine group.

Tartrazine caused significant increase in cortisol ,aldosteron,cTn &LDH levels , in comparison with the control group,but Administration of rosemary produced significant decrease in these hormonal levels.

As regard the cross-sectional area of cardiomyocytes and adrenal gland, Tartrazine group produced significant increase of Hydrophobic degeneration and venous congestion . by comparing with control group, administration of Rosemary with tartrazine, revealed significant decrease as compared with tartrazine group.

Conclusion

Tartrazine has hazardous effects on the heart and adrenal glands. Rosemary by its antioxidant activity can protect tartrazine dye's toxicity and it should be provided to humans in case of need to protect them against tartrazine dye's hazardous effects.