Cumin Oil Effect On Nandrolone Decanoate Induced Toxicity In Male Albino Rats

Protocol of Thesis submitted for Partial Fulfillment of M.Sc. Degree in Forensic Medicine and Clinical Toxicology

Presented by

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M.B.B.Ch

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Summary

Nandrolone decanoate is considered to have strong anabolic effects but weak androgenic effects. The compound is famous not only among adults, but also among adolescents because of its selective pharmacological effects.

Cardiotoxicity: cytokine response, increased lipid profile levels encouragement of atherogenesis. Hypertension, fatty degeneration .

Hepatotoxicity: the most common adverse effects of nandrolone misuse is hepatotoxicity. Reactive oxygen species. showed elevated liver necrosis markers.

Cumin is one of the most famous spices used worldwide, used as anti-inflammatory, immune modulator, antioxidant.

The sample consisted of 90 adult male albino rats. The rats were randomly divided into six groups each group contains 15 rats as group: **GI:** Control group, **GII:** Cumin group , rats were given cumin oil in a dose of 250mg/kg daily by oral gavage , **GIII:** ND low dose group , Rats of this group were given nandrolone at a dose of 10 mg/kg I.M. once weekly for I.M., **GIV**: ND high dose ,rats were given once weekly I.M. 20 mg/kg for 4 weeks, **GV:** ND Low dose with cumin group, cumin oil was given in a dose 250 mg/kg by oral gavage daily for 4 weeks and nandrolone decanoate in a dose 10 mg/kg I.M. once weekly

for 4 weeks **G VI:** ND High dose with cumin treated group, rats were given cumin oil in a dose of 250 mg/kg by oral gavage for 4 weeks , also were given nandrolone decanoate I.M. once weekly for 4 weeks.

Nandrolone caused significant elevation in cardiac enzymes (Troponin I, CK-Total, CK-MB) and decrease in HDL when compared to control group. adding cumin to nandrolone caused significant decrease when compared to nandrolone alone. The least levels were in control and cumin groups.

This study researched the hepatic histopathological changes where the nandrolone high dose group had the largest changes: Central vein congestion, macro-steatosis, micro-steatosis, portal tract fibrosis, inflammatory cells, necrotic hepatocytes, pyknosis, also presents with less severity in ND low dose group. While the cumin and control groups had normal histology.

This study researched the histopathological changes of heart among different groups where the highest was in nandrolone high dose: Congested vessels, mild to moderate fatty degeneration, adding cumin alleviated the necrosis Normal histological structure in cumin and control groups