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**Physiological and biochemical changes after
injection of anabolic steroid Boldenone in mature
male rabbits and their residues in meat**

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SUMMARY

Boldenone (BOL) is anabolic steroid could be extensively applied as a growth promoter on meat production farm and illegally used for fitness in human athletes.

The experiment:

This study was conducted on thirty male rabbits at age of two-three months their weights ranges from (1500-2000) These animals were clinically healthy, kept under hygienic conditions, the animals were accommodated to the laboratory conditions for one week before beginning of the experiments.

Rabbits were divided into the following groups:

Control group: Ten male rabbits injected only with olive oil intramuscular, two weeks interval for succession weeks. Collecting sample after 9weeks and 12 weeks from beginning of the experiment of periods.

G1: Ten male rabbits injected with 5 mg/Kg B.wt, IM, 2W interval for 8 succession weeks. After 9weeks from the beginning of the experiment 5 animal were dissected and the other 5 rabbits were dissected after 12 weeks of experiment ;

G2: Ten male rabbits treated with BOL by dose of 10mg / Kg B.wt IM, 2W interval for 8 succession weeks. After 9 weeks from the beginning of the experiment 5 animals were dissected and the other 5 rabbits were dissected after 12 weeks of experiment.

The animals were weighted individually at the beginning of the experiment to obtain the average initial body weight and then body weight was recorded weekly for calculation the average body weight development in each group.

Two blood samples were collected from each rabbit (ear vein) at 9 and 12 weeks. Each samples were divided into two allocate the first one, collected in vacutainer tubes with EDTA as anticoagulant for hematological examination, where the other sample, was collected in centrifuge tubes without anticoagulant and the serum was separated for serum biochemical analysis.

The hematological studies for evaluate erythrocytic count, hemoglobin concentration, packed cell volume RBCs indices, total leukocytic count and differential leukocytic.

Prepared serum samples were analyzed for measuring of testosterone and estimation of liver functions AST, ALT, alkaline phosphatase, serum total protein, serum total albumin and kidney functions Serum Creatinine and urea levels moreover lipid profile including (TC), (TAG) and (HDL) were determined.

Histopathological examination for liver, testes and prostate and hormonal residue in muscles were detected.

The results which obtained from this study were:

- 1- The body weight showed significant increase started from the 6th weeks after the start of the experiment till the end of the experimental periods at 12th weeks in BOL treated groups.

- 2- At 9 W total erythrocytic count and the hemoglobin concentration, hematocrit and total leukocytic count, mean corpuscular volume and mean corpuscular hemoglobin were significantly increased in G1 and G2. While rational count of leukocyte don't show significant variation except lymphocyte in BOL treated groups. At 12W erythrogram and leukogram don't show significant changes when compared with control group.
- 3- After 9 W and 12 W the results showed significant increases in the activities of ALT, AST, ALP in treated groups. In the contrary testosterone level were significantly decreased in the treated groups than control one more over the higher doses of BOL in G2 showed significant decrease when compared with G1.
- 4- Significant increases in the values of cholesterol, HDL, LDH, TG, urea and creatinine were observed in treated groups. The highest level was recorded in 12W.
- 5- The histopathological Microscopic examination of liver revealed hydropic degeneration in hepatocytes after 9 W, normal hepatocytes with few MNCs infiltration in portal area after 12 W
- 6- Microscopic examination of testis of BOL treated groups revealed congested blood vessels, marked interstitial edema and vacuolated spermatocytes after 9 W, while congested blood vessels, mild interstitial edema and regenerated tubules after 12W.
- 7- Microscopic examination of prostate of G1 and G2 showed few leukocytic cells infiltration was observed in interstitial tissue in

after 9W congested blood vessel and edema in interstitial tissue were seen in after 12W.

8- The results showed that BOL residue could be detected in treated groups at 9 W and was significantly increased in G2 than G1. While after 12 W of experiment BOL could not be detected in meat of treated groups.