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List of abbreviations

17 α-MT	17 alpha - methyl testosterone
ADP	Adenosine Diphosphate
ATP	Adenosine Triphosphate
CHE	Cholesterol Esterase
CHO	Cholesterol Oxidase
FFA	Free Fatty Acids
GPO	Glycerol 3- Phosphate Oxidase
HDL-C	High Density Lipoprotein- cholesterol
LDL-C	Low Density Lipoprotein- cholesterol
LPL	Lipoprotein Lipase
MT	Methyl testosterone
MDHT	Methyl dihydrotestosterone
NSB	Non specific bound
POD	Peroxidase
VLDL-C	Very Low Density Lipoprotein - cholesterol

SUMMARY

The present study was undertaken to investigate the effect of feeding formulated diet supplemented with wet tissues obtained from Nile tilapia fish (*Oreochromis niloticus*) previously monosexed using 17 α -methyl testosterone on some biochemical and histopathological parameters in normal albino rats.

For this purpose a total number of ninety apparently healthy rats (males and females) were divided into three groups 30 rats each (15 males and 15 females).The first group received balanced formulated diet supplemented with wet tissues obtained from common Nile tilapia and considered as control group. The second group received diet supplemented with wet tissues obtained from monosexed Nile tilapia belonging to EL Hamol farm, Kafr El Sheikh governorate (the fish in this farm kept on diet supplemented with 17 α -methyl testosterone at a dose of 60 mg/kg food for 28 days of fry old).The third group received diet supplemented with wet tissues obtained from monosexed Nile tilapia belonging to EL Esmailia farm, El Esmailia governorate (the fish in this farm kept on diet supplemented with 17 α -methyl testosterone at a dose of 70-100 mg /1-1.5 kg food in the first three days of fry old).

Blood samples were collected 3 times from the rats of all groups at 20th, 40th and 60th days after starting of the

experiment and tissue samples from testis and ovaries were prepared for biochemical and histopathological analysis.

The obtained results were statistically analyzed and represented in (26) tables and (14) figures.

The obtained results were summarized as follows:

A- Biochemical parameters:

1- Serum testosterone levels:

There was a very highly significant increase in the mean values of serum testosterone ($p \geq 0.001$) between experimental groups compared to control group throughout the experimental period.

2- Serum estradiol levels:

There was a very highly significant increase in the mean values of serum estradiol ($p \geq 0.001$) between experimental groups compared to control group throughout the experimental period.

3- Serum total cholesterol levels:

There was non significant difference in the mean values of serum total cholesterol between treatment and between treatment & sex and there was a highly significant increase ($p \geq 0.001$) between sex & time ,between treatment & time and between treatment & sex & time.

4- Serum triacylglycerol levels:

There was a very highly significant increase in the mean values of serum triacylglycerol ($p \geq 0.001$) between experimental

groups compared to control group throughout the experimental period.

5- Serum HDL-cholesterol levels:

There was a very highly significant increase in the mean values of serum HDL-cholesterol ($p \geq 0.001$) between experimental groups compared to control group throughout the experimental period.

6- Serum LDL-cholesterol levels:

There was a significant increase in the mean values of serum LDL-cholesterol between experimental groups compared to control group throughout the experimental period.

7- Serum FFA levels:

There was least significant increase ($p \geq 0.05$) between treatment & sex and there was a very highly significant increase in the mean values of serum FFA ($p \geq 0.001$) between experimental groups compared to control group throughout the experimental period.

8- Serum lipoprotein lipase activity:

There was a very highly significant increase in the mean values of serum lipoprotein lipase activity ($p \geq 0.001$) between experimental groups compared to control group throughout the experimental period.

B- Effect on body weights of rats:

There was significant increase in the mean values of body weights of rats in experimental groups compared to control group throughout the experimental period.

C- Residues of 17 α -MT:

Nile tilapia fishes before enter in formulation of diet for rats were analyzed for residues of 17 α -MT in fish muscle after extraction. The results revealed that, there were significant differences between concentrations of Hormone in group B and group C compared to control group.

D- Histopathological parameters:

- 1- The histopathological examination of testis showed congestion of blood vessels in interstitial tissues accompanied with edema in group B but in group C, testis showing absence of mature sperms in the lumen of some seminiferous tubules .
- 2- The histopathological examination of ovaries showed atrophy and presence of only primary follicles with vacuolation of its lining in group B but in group C, ovaries showing reduction in numbers of oocytes and follicles in the cortex.

Conclusion:

It could be concluded that, feeding diet containing 17 α -methyl testosterone hormone disturb levels of serum testosterone, serum estradiol, lipid profiles and histological pattern of testes and ovaries in albino rats. Thus significant biochemical and histopathological changes relating to levels of testosterone and fat components induced by 17 α -methyl testosterone may be more hazardous and may reduce fecundity of the body as lipids play an important role in reproduction as an energy source and a precursor of steroids and also disturb hormone balance of the body.