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Supplementary File

EFFECTS OF *A. MELLIFICA* EXTRACT ON THE HEMATOLOGICAL, BIOCHEMICAL, URINE AND HISTO-PATHOLOGICAL PARAMETERS OF WHITE ALBINO RABBITS

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Table 1: Shows the effect on Complete Blood Count of Rabbits with and without *A. mellifica* extract.

Blood parameter	Control female	Test female (AMF)	Control male	Test male (AMM)	Reference range
Haemoglobin	12.15±0.0836	10.416±0.0658	10.05±0.0836	11.75±0.0836	10.75±0.689
RBC (Erythrocyte Count)	5.895±0.00836	5.425±0.00836	5.485±0.00836	6.0±0.01308	3.916±0.277
Hematrocrit (HCT/PVC)	42.835±0.0739	36.25±0.0836	34.2±0.0632	40.85±0.0836	38.67±1.932
MCV	72.416±0.0658	67.13±0.1254	62.5±0.836	68.05±0.0836	89±3.183
MCH	20.835±0.0739	19.31±0.0658	18.15±0.0836	19.35±0.0836	30.167±1.180
MCHC	28.783±0.0658	28.85±0.0836	29.05±0.0836	28.35±0.0836	32.5±0.836
Total Leucocyte Count (WBC)	6.05±0.0836	10.835±0.0739	5.5±0.0632	7.25±0.0836	11±1.673
Platelet Count	353.5±0.836	323.167±0.658	140.5±0.836	471.5±0.836	275±41.83

AMF = Female rabbits treated with drug; AMM = Male rabbit treated with drug

Table 2: Shows the effect on Kidney Function Parameters of Rabbits with and without A. mellificaextract.

Biochemical parameters	Control C (female)	Test animal (AMF)	Control C (male)	Test animal (AMM)	Reference range
Urea	72.5±0.83	40.5±0.83	23.5±0.83	30.5±0.83	29.167±6.39
Creatinine	0.85±0.008	0.718±0.01	0.85±0.0083	0.925±0.008	0.8167±0.127
Calcium (serum)	14.59±0.063	14.765±0.0083	14.17±0.0083	14.45±0.014	10.03±0.318
Phosphorus	3.825±0.068	3.695±0.139	6.195±0.0083	4.275±0.008	3.53±0.318
Uric acid	0.0175±0.004	0.045±0.0083	0.165±0.0083	0.045±0.0083	3.916±0.639
Total proteins	8±0.02	7.53±0.0096	7.495±0.0083	7.32±0.01	7.467±0.347
Albumin	5.83±0.013	4.86±0.013	4.305±0.0083	5.035±0.0083	4.5±0.28
Globulin	2.153±0.0096	2.671±0.01	3.185±0.0083	2.28±0.012	2.35±0.146
A/G ratio	2.715±0.0083	1.82±0.009	1.35±0.016	2.205±0.012	0.75±0.052

AMF = Female rabbit treated with drug; AMM = Male rabbit treated with drug

Table 3: Shows the effect on Cardiac Enzymes Parameters of Rabbits with and without A. *mellifica* extract.

Biochemical parameters	Control C (female)	Test animal (AMF)	Control C (male)	Test animal (AMM)	Reference range
LDH	163.5±0.836	312.5±0.83	270.5±0.83	205.5±0.83	331.67±40.34
CPK	729.5±0.83	842.16±1.036	421.5±0.83	1758.83±1.036	90.33±25.03
CK-MB	852.5±0.83	888.67±0.96	194.5±0.83	851.16±1.036	16.67±2.46

AMF = Female rabbit treated with drug; AMM = Male rabbit treated with drug

Table 4: Shows the effect on Lipid Profile Parameters of Rabbits with and without *A. mellifica extract*.

Biochemical parameters	Control C (female)	Test animal (AMF)	Control C (male)	Test animal (AMM)	Reference range
Cholesterol	30.5±0.83	161.16±1.036	58.5±0.83	40.5±1.009	109.16±22.24
Triglycerides	0.5±0.83	45.5±0.83	131.5±0.83	287.16±1.18	111.67±13.68
HDL	12.5±0.83	32.33±0.96	6.5±0.83	5.5±0.83	19.67±3.18
LDL	16.5±0.83	123.5±0.83	38.5±0.83	3±0.63	103.33±15.14
VLDL	7.5±0.83	9.42±1.034	26.5±0.83	57.83±1.11	30±5.83

AMF = Female rabbit treated with drug; AMM = Male rabbit treated with drug

Table 5: Shows the effect on Liver Enzymes Parameters of Rabbits with and without *A. mellifica extract.*

Biochemical parameters	Control C (female)	Test animal (AMF)	Control C (male)	Test animal (AMM)	Reference range
SGOT	26.5±0.83	51.67±1.154	42.5±0.83	38.83±1.036	21.83±3.11
Total Bilirubin	0.275±0.0083	0.245±0.0083	0.265±0.0083	0.255±0.00836	1.75±0.083
Direct Bilirubin	0.021±0.005	0.065±0.0083	0.041±0.0065	0.12±0.017	0.029±0.0008
SGPT	41.5±0.83	110.67±0.96	68.5±0.83	28.33±1.15	27.5±4.18
Alkaline Phosphatase	37.5±0.83	101.83±1.036	228.5±0.83	88.5±0.836	91.67±17.30
Gamma GT	6.5±0.83	9.5±0.836	9.5±0.83	12.5±0.836	29.16±6.39

AMF = Female rabbit treated with drug; AMM = Male rabbit treated with drug

Table 6: Shows the effect on Urine Parameters of Rabbits with and without *A. mellifica* extract.

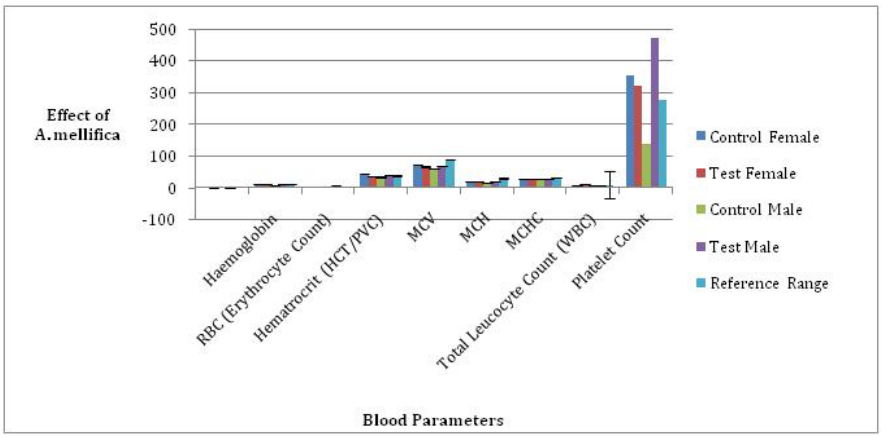
Urine parameters	Control animal C (female)	Test animal (AMF)	Control animal C (Male)	Test animal (AMM)	Reference range
Urine Physical					
Volume	30.08±0.11	20.5±0.836	25.01±0.136	14.5±0.836	179.17±61.81
Colour	Yellow	Yellow	Yellow	Yellow	Pale yellow-red brown
Appearance	Turbid	Turbid	Turbid	Turbid	Clear
Sp. Gravity	1.0045±0.00037	1.0046±0.00046	1.0045±0.00037	1.0046±0.00046	1.019±0.007
pH	9±0.063	9±0.063	9±0.063	9.05±0.083	8.53±0.195
Urine Chemical					
Protein	Nil	Nil	+1 (30 mg/dL)	Nil	Negative
Glucose	Nil	Nil	Nil	Nil	Negative
Ketone Bodies	Negative	Negative	Negative	Negative	Negative
Urobilinogen	Normal	Normal	Normal	Normal	Negative -weak positive
Blood	Negative	Negative	Negative	Negative	Negative
Bilirubin	Nil	Nil	Nil	Nil	Negative
Urine Microscopy					
RBC	Nil/ HPF	Nil/ HPF	Nil/ HPF	Nil/ HPF	Nil/ HPF
WBC	Nil/ HPF	Nil/ HPF	Nil/ HPF	Nil/ HPF	Nil/ HPF
Epithelial Cell	Nil/ HPF	Nil/ HPF	Nil/ HPF	Nil/ HPF	Nil/ HPF

AMF = Female rabbits treated with drug; AMM = Male rabbits treated with drug

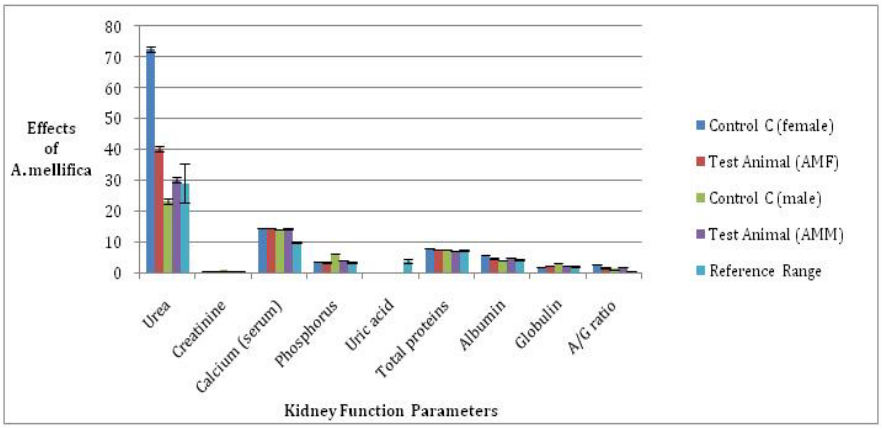
Table 7: Shows the effects on histological specimens of male rabbits with and without *A. mellifica* extract.

Specimen	Control male (C - male)	Test male AMM
Heart	No significant pathology is seen.	Old healed myocardial infarction in the wall of left ventricle and interventricular septum.
Stomach	No significant pathology is seen.	No significant Pathology is seen.
Liver	Mild portal inflammation and periportal fibrosis.	Mild portal inflammation and periportal fibrosis with foci of lobulitis.
Kidney	Chronic nonspecific pyelonephritis.	Chronic nonspecific pyelonephritis.

AMM = male rabbits treated with *A. mellifica*

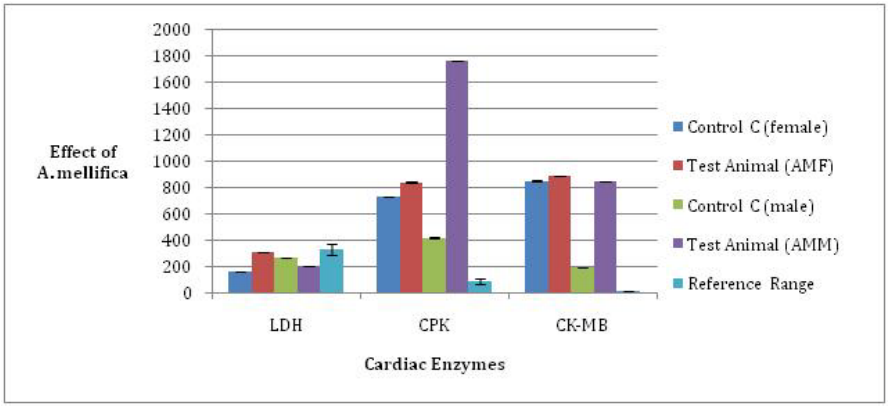


Graph 1: Shows the effect of *A. mellifica* extract on the blood parameters of rabbit in comparison with the control.



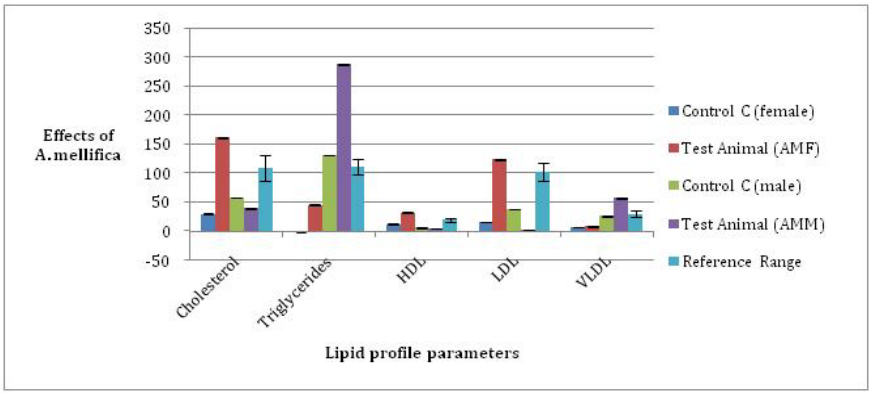
Graph 2: Shows the effect of *A. mellifica* extract on the kidney function parameters of rabbit in comparison with the control.

AMF = Female rabbits treated with *A. mellifica* extract; AMM =Male rabbits treated with *A. mellifica* extract



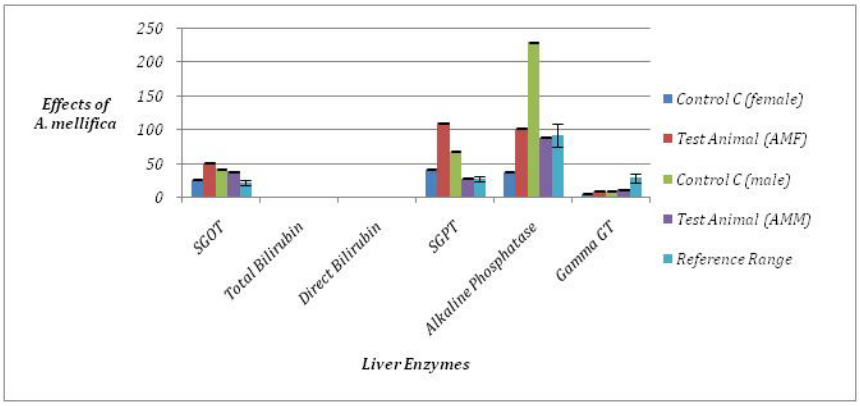
Graph 3: Shows the effect of *A. mellifica* extract on the cardiac enzymes of rabbit in comparison with the control.

AMF = Female rabbits treated with *Amellifica* extract; AMM =Male rabbits treated with *A. mellifica* extract



Graph 4: Shows the effect of *A. mellifica* extract on the lipid profile parameters of rabbit in comparison with the control.

AMF = Female rabbits treated with *A. mellifica* extract; AMM =Male rabbits treated with *A. mellifica* extract



Graph 5: Shows the effect of *A. mellifica* extract on the liver enzymes of rabbit in comparison with the control.

AMF = Female rabbits treated with *A. mellifica* extract; AMM =Male rabbits treated with *A. mellifica* extract

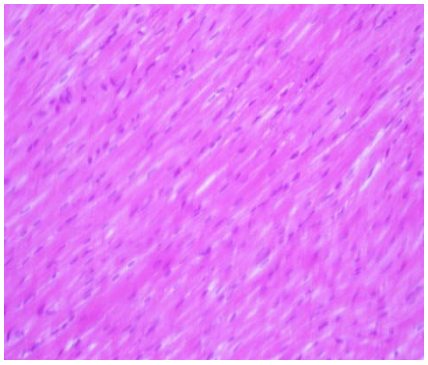


Fig 1: Microscopic Examination of Heart (Control Group)

Sections show wall of heart composed predominantly of thick myocardium consists of bundles of cardiac muscle fibers separated by fibrous band, forming syncytium. Nuclei of myocytes are centrally located. Endocardium is lined by single layer of mesothelial cells resting on a basement membrane. No significant pathology is seen in any of the sections examined.

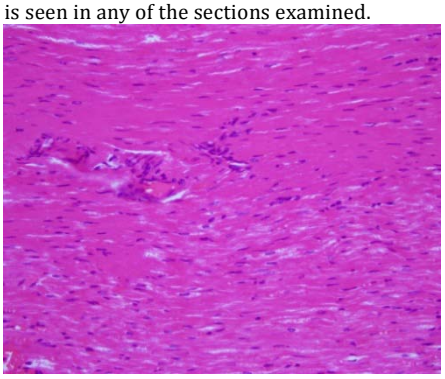


Fig 2: Microscopic Examination of Heart: (Test Group AMM)

Sections show wall of heart composed predominantly of thick myocardium consists of bundles of cardiac muscle fibers separated by fibrous band, forming syncytium. Areas of old myocardial infarction are seen in the wall of left ventricle and interventricular septum. Endocardium is lined by single layer of mesothelial cells resting on a basement membrane.

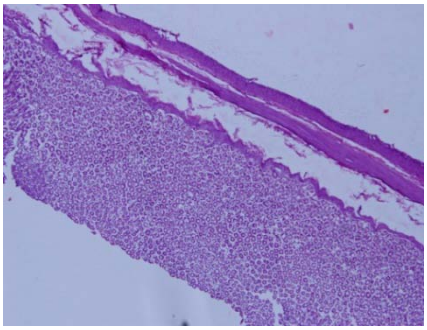


Fig 3: Microscopic Examination of Stomach (Control Group)

Sections show wall of gastric mucosa with intact architecture. The gastric mucosa is thrown into gastric pits and folds revealing well organized glandular structures. Underlying submucosa is scanty and in unremarkable. Well organized muscular layer is seen beneath, lined externally by serosa. No significant pathology is seen in any of the sections examined.

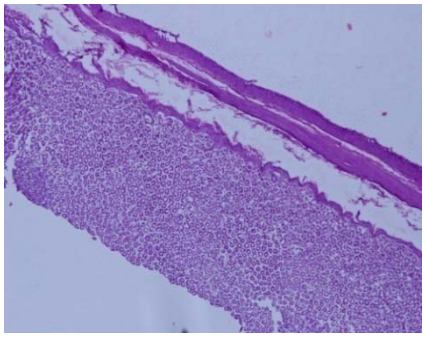


Fig 4: Microscopic Examination of Stomach (Test Group AMM)

Sections show wall of gastric mucosa with intact architecture. The gastric mucosa is thrown into gastric pits and folds revealing well organized glandular structures. Underlying submucosa is scanty and in unremarkable. Well organized muscular layer is seen beneath, lined externally by serosa. No significant pathology is seen in any of the sections examined.

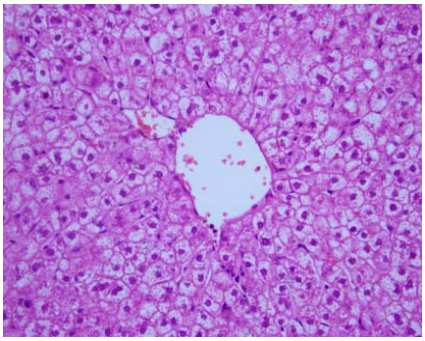


Fig 5: Microscopic Examination of Liver (Control Group)

Sections show liver tissue with overall preserved lobular architecture. Portal tracts aremildly dilated with lymphocytic infiltrate and minimal fibrosis. Centrilobularhepatocytic degeneration also noted. No siderosis. No cholestasis. No evidence of granuloma or malignancy is seen.

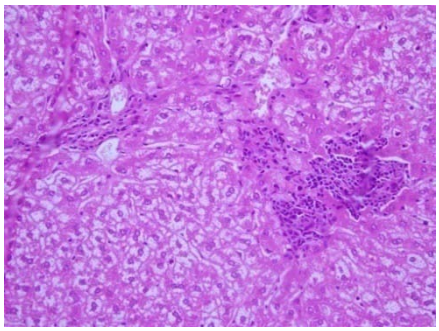


Fig 6: Microscopic Examination of Liver (Test Group AMM)

Sections show liver tissue with overall preserved lobular architecture. Portal tracts are mildly expanded with lymphocytic infiltrate and minimal fibrosis.

Foci of lobular inflammation are seen. No siderosis. No cholestasis. No evidence of granuloma or malignancy is seen.

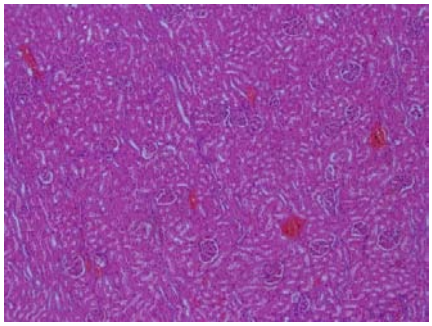


Fig 7: Microscopic Examination of Kidney (Control Group)

Sections show renal tissue composed of cortex and medulla. Glomeruli are within normal limits. Tubule-interstitial compartment shows focal lymphocytic infiltrate.

Vascular structures are distributed evenly. No evidence of granuloma or malignancy is seen in any of the sections examined.

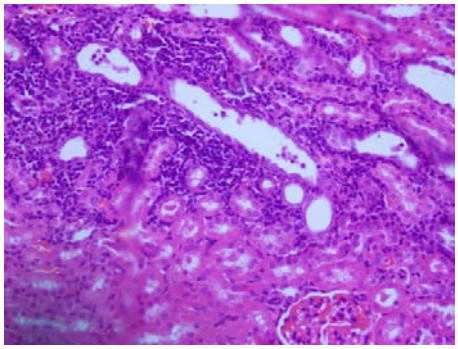


Fig 8: Microscopic Examination of Kidney (Test Group AMM)

Sections show renal tissue composed of cortex and medulla. Glomeruli are within normal limits. Lymphocytic inflammatory infiltrate is seen in the tubulointerstitial compartment. Vascular structures are distributed evenly. No evidence of granuloma or malignancy is seen in any of the sections examined.