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### **Abstract**

This study was conducted to give an overview on the effect of some medicinal plants as *Arctium lappa* and *Curcuma longa* as hepatoprotective agents in experimentally intoxicated rats using  $\text{CCl}_4$  as toxic model substance throughout the assessment of different hematological, biochemical and immunological parameters as well as histopathological alterations at different intervals. The study revealed non significant changes in erythrogram examination in all experimental groups compared to control negative allover the experimental period. On the contrary, marked elevation of TLC was observed at the fourth week in rats administrated A.I, C.I. individually or in combination. Serum biochemical analysis revealed drastic elevation in the activities of serum transaminases and ALP in control positive group. Also, BUN, creatinine, calcium and phosphorus showed significant elevation in  $\text{CCl}_4$  intoxicated group compared to control negative. Meantime, serum total protein, lipid profile and serum glucose level showed significant decrease in  $\text{CCl}_4$  intoxicated rats along the experimental period. Dietary *Arctium lappa* and *Curcuma longa* administration to  $\text{CCl}_4$  intoxicated rats<sup>1</sup> revealed significant improvement and relieved the toxic effect encountered by  $\text{CCl}_4$  compared to

control negative group allover the experimental period. Evaluation of cell mediated immune response revealed significant improvement in phagocytic activity in group administrated A.I. and C.I. compared to control negative group. In summary, it could be clear that combination of plants, *Arctium lappa* and *Curcuma longa* treated groups respectively possess considerable improvement in liver and kidney architecture and effectively inhibit the liver injury induced by CCl<sub>4</sub> and enhance immune response and may be developed into clinical application.

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### Abbreviation list

A/G	Albumin: Globulin ratio
ALP	Alkaline phosphatase
ALT	Alanine aminotransferase
AST	Aspartate aminotransferase
A.I	<i>Arctium lappa</i>
BUN	Blood urea nitrogen
C.I	<i>Curcuma longa</i>
CCl <sub>4</sub>	Carbon tetrachloride
EDTA	Sodium salt of ethylene diamine tetra acetate
fl	femtoliter
Hb	Hemoglobin
hr	hour
I/P	intra peritoneal
IU	international unit
LSD	Least significant difference
MCH	Mean corpuscular hemoglobin
MCH	Mean corpuscular hemoglobin concentration
MCV	Mean corpuscular volume
NS	Non Significant
PCV	packed cell volume
Pg	picogram
RBCs	Red blood cells
SD	Standard Deviation
TLC	Total leukocytic count
WBCs	White blood cells