

**STUDY THE EFFECT OF PHYTOESTEROL OF  
Ceratoina siliqua FRUIT AND INSULIN ON  
HEMATOLOGICAL AND BIOCHEMICAL  
PARAMETERS IN DIABETIC PREGNANT  
FEMALE RABBITS INDUCED BY ALLOXAN**

**ABSTRACT**

The our current study was conducted in Collage of Veterinary Medicine\ University of Basrah, to evaluate the effect of phytoesterol extract of Ceratonia siliqua fruit and Insulin on haematological and biochemical parameters changes by using pregnant diabetic female rabbits induced by alloxan. The study done was applied on (32) adult female rabbits, their weight ranged between (1500-2000g) and aged between 7-7.5M. The female mated with healthy male before 1st week of it treated. The pregnant diabetic female rabbits divided randomly into three groups, each group consist of eight rabbits as the following: Group1:-Healthy female rabbits at 1st week of pregnant (Negative controls) administrated normal saline (0.9% of NaCl)(3ml)for 21days. Group 2:- Female rabbits at 1st week of pregnant given alloxan 150mg\kg B.W. I.P for three days (Positive control) and remain for 21 days. Group 3:- Female rabbits at 1st week of pregnant initially given alloxan150mg\kg B.W. I.P. for three days, then treated with Insulin for 21 days. Group 4:- Female rabbits at 1st week of pregnant initially given

alloxan 150mg/kg I.P. for three days, then treated with phytoesterol of Ceratonia siliqua fruit 1ml/kg B.W. orally administration for 21 days. At the end of treatment period blood samples(10 ml) collected from animals heart and blood sample divided into two parts, first part (2ml) put in tube contain EDTA for measured hematological parameters and second part (8ml) put in plane tubes then centrifuge for obtained on serum for measurement biochemical parameters. Results showed that phytoesterol of Ceratonia siliqua fruit and insulin caused significant reduction ( $P \leq 0.05$ ) in glucose concentration in serum of diabetic female rabbits compared with (+ve control). It also, showed significant increase ( $P \leq 0.05$ ) in Red Blood Cell (RBC), Hemoglobin (Hb) and Mean Corpuscle hemoglobin concentration(MCHC) in rabbit drenched phytoesterol extract of Ceratonia siliqua fruit and Insulin. The results of MCV revealed significant decrease ( $P \leq 0.05$ ) in diabetic female rabbits induced by alloxan (+ve) control compared with (-ve) control and another treated groups while the results showed non-significant ( $P \leq 0.05$ ) in MCV of diabetic female rabbits drenched phytoesterol extract of Ceratonia siliqua fruit compared with (-ve) control but the results showed a significant increase ( $P \leq 0.05$ ) in MCV of diabetic female rabbits drenched phytoesterol of Ceratonia siliqua fruit compared with insulin group. It showed non-significant changes in White Blood Cell (WBC) of female rabbits drenched phytoesterol of Ceratonia siliqua fruit compared with (-ve

control). The study revealed significant decrease ( $P \leq 0.05$ ) in total cholesterol, triglyceride, Low Density Lipoprotein(LDL) and very Low Density Lipoprotein(VLDL) of diabetic female rabbits drenched phytoesterol extract of *Ceratonia siliqua* and insulin group compared with positive control group while it showed significant increase ( $P \leq 0.05$ ) in High Density Lipoprotein (HDL) in rabbits treated with phytoesterol of *Ceratonia siliqua* and insulin group compared with (+ve control). It is concluded that good anti-diabetic activity, hypoglycemia effect, amelioration of heamatological parameters and improve dyslipidemia corroborating the folk use of phytoesterol extract of *Ceratonia siliqua* fruit preparations, and contributing for its pharmacological validation