

**Background and purpose of study:** Paracetamol when used in very high dose, can cause heavy damage in liver in man and animals. Nigella sativa has been reported to have antioxidant and hepatoprotective properties. In this study, the effective oral administration of the crude oil of Nigella sativa 0.3 ml, has been investigated in mice following intra peritoneal of low toxic dose of paracetamol (300 mg/kg B. W.) and measured of selective parameters indicative of liver function (serum GOT, GPT and total protein).

**Material and Method:** 20 adult male albino mice Balb/ C they were randomly divided into 4 groups. The first group injected intra peritoneal with low toxic dose of paracetamol 300mg/ kg body weight then administration orally with 0.3 ml of normal saline (0.9 %w/v). The second group was the control injection intra peritoneal with 0.3 ml of normal saline then administration orally with 0.3 ml of normal saline (0.9 %w/v). Third group administration orally with 0.3 ml of crude oil of Nigella sativa then injected intra peritoneal with 0.3 ml of normal saline (0.9 %w/v). Fourth group injected intra peritoneal with low toxic dose of paracetamol 300mg/ kg body weight then administration orally with 0.3 ml of 0.3 ml of crude oil of Nigella sativa.

After 24 hr all animals were sacrificed after weighing then take the blood samples by heart puncture for biochemical test and liver were removed out for weighing. **Results and statistical analysis:** Showed a significant increase ( $p < 0.05$ ) in the level of serum enzymes in the first group (p) GOT ( $110.1 \pm 0.61$  \* I U/L) and GPT ( $80.2 \pm 26.3$  \* IU/L) and also the fourth group (P&N) GOT ( $101.60 \pm 4.34$  \* I U/L) and GPT ( $72.8 \pm 23.88$  \* IU/L) and significant increase in total protein ( $7.322 \pm 2.89$  \* gm/dl) in third group (N) and fourth group (P&N) ( $7.334 \pm 0.77$  \* gm/dl) at  $p < 0.05$  as compared with control. Also there is a significant decrease ( $p > 0.01$ ) in body weight ( $28.15 \pm 7.084$  \*\*) and liver weight ( $1.7837 \pm 0.99$  \*) at ( $p > 0.05$ ).