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Protective effects of hydroalcoholic extract of *Coronilla securidaca* L. seeds on serum levels of plasma blood parameters, antioxidant status and liver tissue changes in tamsulosin treated rats

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The seeds of Goat pea or Hatchet vetch [*Coronilla securidaca* L. syn. *Securigera securidaca* (L.) Degen & Dörfl.] are rich in phenolic compounds and have many biological activities. Here, we tried to evaluate the protective effects of hydroalcoholic extract of *C. securidaca* seeds (HECS) on serum levels of blood plasma parameters, antioxidant status and liver tissue changes in tamsulosin (TAM) treated rats. Rats were divided in 9 groups of 8 each including control, sham, TAM0.4, HECS200, HECS400, HECS800, TAM0.4 + HECS200, TAM0.4 + HECS400 and TAM0.4 + HECS800. HECS and TAM were administered orally for 28 days. At the end of the study, to investigate the changes in blood plasma parameters and antioxidant status, serum levels of glucose, alanine transaminase (ALT), aspartate transaminase (AST), alkaline phosphatase (ALP), albumin (Alb), total protein (TP), total bilirubin (TB), catalase (CAT), glutathione peroxidase (GPX) and superoxide dismutase (SOD) were measured. TAM0.4 administration significantly increased serum levels of glucose, ALT, AST, ALP and TB (P <0.05), in contrast, it significantly decreased serum levels of Alb, TP, CAT, GPX and SOD (P <0.05). TAM0.4 + HECS800administration decreased serum levels of glucose, ALT, ASP, ALP and TB (P <0.05), in contrast, it increased serum levels of Alb, TP, CAT, GPX and SOD (P <0.05). Liver tissue degradation and necrosis were observed in TAM0.4 but a relative improvement of liver tissue and mild necrosis was observed in TAM0.4 + HECS800. HECS administration at a dose of 800 mg/kg, can create protective effects on liver tissue by improving biochemical parameters, antioxidant status and prevent liver tissue destruction in TAM treated rats.

Keywords: Alpha blockers, Antioxidants, Goat pea, Hatchet vetch, Hepatic transaminases, Liver, Tamsulosin