

Kaur I, Bansal N. Effect of angiotensin receptor blocker (candesartan) on chronic fatigue syndrome in mice. *Bull. Pharm. Res.* 2016;6(3):93-104.

Abstract: The present study was aimed to explore the role of AT₁ receptor blocker (candesartan) in the management of chronic fatigue syndrome. Swiss albino mice (either sex; 6-8 weeks and 20-30 g) were used in this study. Chronic fatigue was induced in mice by two different methods: (i) exposing the mice to forced swimming daily for 10 min for 21 days; (ii) administration of single dose of LPS (1 mg/kg; *i.p.*) to mice followed by forced swimming daily for 10 min for 21 successive days. Candesartan was administered daily in 2 doses (1 and 2 mg/kg; *i.p.*) to mice for 21 successive days. Behavioural assessment such as immobility time, elevated plus maze (for memory), elevated zero maze (for anxiety), open field (for ambulation) and tail-immersion test (for stress induced hyperalgesia) were used to evaluate the induction of fatigue. After behavioural evaluation, blood glucose, blood cortisol, brain TBARS and GSH levels were also estimated. Administration of candesartan significantly ($p < 0.05$) reduced the immobility time of mice as compared to control group. Further, administration of candesartan significantly ($p < 0.05$) prevented memory impairment, exerted anxiolytic activity and reduced hyper sensitivity to pain of mice. Candesartan treated mice showed significant ($p < 0.05$) reduction in blood cortisol levels as compared to FS control group however, enhanced the cortisol levels compared to LPS control group. Candesartan treated mice showed a significant ($p < 0.05$) increase in GSH and decrease in brain TBARS. Thus, candesartan may prove to be a useful remedy for the management of chronic fatigue syndrome.

Key words: Angiotensin-receptor blocker, Candesartan, Chronic fatigue syndrome.

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