

NEPHROPROTECTIVE ACTIVITY OF LIV 52 ON WARM ISCHEMIA/REPERFUSION- INDUCED OXIDATIVE RENAL INJURY IN RATS

K. Somasekhar Reddy*, K. Vijaya Nirmala, N.Vidya Sagar, T. Chandana Reddy and P. Vasudha Rani

Raghavendra Institute of Pharmaceutical Education and Research, ANANTAPUR-515721

Ischemia reperfusion injury which is commonly seen in field of renal surgery or transplantation is a major cause of renal failure. Previous studies showed that antioxidant treatment attenuated renal ischemia reperfusion injury. The objective of study was to examine the role of liv-52 in modulating reactive oxygen species induced inflammation and apoptosis after renal ischemia reperfusion injury. Rats were subjected to right nephrectomy, 30 days later on the 31st day rats were underwent 45 min of renal ischemia and 24 h reperfusion with or without treatment with Liv-52. Liv-52 improved renal dysfunction and reduced inflammation and apoptosis after ischemia reperfusion injury.

INTRODUCTION

Post operative acute renal failure in consequence of Ischemia and reperfusion (I/R) injury can occur after kidney transplantation (Bouchir-Hayes *et al.*, 1991) ischemic cell injury in the kidney occurs during cardiovascular surgery, renal transplantation as well as the early allograft rejection subsequent to renal transplantation (Manuela, 2003). Excessive reactive oxygen species (ROS) generation occurs in Ischemia/reperfusion is proved in many biochemical and immuno histochemical studies and renal cell necrosis (Chatterjee *et al.*, 2000; Prabal and Chatterjee, 2007). The protection provided by these free radical scavengers against ROS produced during injury further supports the hypothesis ROS are involved in the cellular pathogenesis or I/R injury.

Thus, research efforts designed to prevent or ameliorate tissue injury have centered on inhibiting free radical generation during Ischemia reperfusion injury. Liv-52 which is rich in phenolic compounds and in particular polyphenols. It is reported to possess hepato-protective activity (Vidya Shankar, 2001). So far, there are no findings to prove that treatment with Liv-52 could improve the survival rate after renal warm I/R injury. In this study, we examined whether treatment with Liv-52 improve the survival rate in a renal warm ischemia reperfusion injury using a rat model.

MATERIAL AND METHODS

Male wistar rats with body weight between 230 and 260 g were housed in an air-

* Corresponding Author