Abstract

Cisplatin (CP) is a potent anticancer drug. However, it has side effects on kidney such as nephrotoxicity. Abnormal production of reactive oxygen species (ROS) has been accused in the etiology of CP-induced nephrotoxicity. Several ROS scavengers have been reported to prevent nephrotoxicity after CP administration. In this study, we used prostaglandin E1 (PGE1) analogues misoprostol (MP) to reduce this damage. MP has gained considerable interest as a ROS scavenger. Rats were received a single injection of CP (5 mg/kg, i.p.) with or without MP pretreatment (200 mcg/kg, orally). The renal tissue morphology was investigated by light microscopy. Trunk blood was also obtained to determine lipid peroxidation product malondialdehyde (MDA) and activity of antioxidant enzymes such as superoxide dismutase (SOD), catalase (CAT). CP administration increased MDA production and decreased SOD and CAT levels in the kidney tissue when compared to the control group. Morphological damage in CP administrated rats was also severe in the kidney tissue. MP treatment after CP application protected the renal tissues from CP’s side effect. These findings indicate that MP has beneficial effects on CP induced nephrotoxicity in rats.