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ARTICLE

Antioxidant Potential of the Methanol Extract of *Parquetina nigrescens* Mediates Protection Against Intestinal Ischemia-Reperfusion Injury in Rats

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ABSTRACT. *Parquetina nigrescens* is a medicinal herb with recognized antioxidant properties and potential to alleviate conditions associated with oxidative stress, including gastric ulcers. We investigated the protective potential of methanol extract of *Parquetina nigrescens* (MEPN) against ischemia-reperfusion injury in the intestine of rats. Thirty (30) male Wistar albino rats were randomly assigned into five groups with Group I made up of control rats and Group II consisting of rats experimentally subjected to ischemia and reperfusion (IR) by clamping of the superior mesenteric artery (SMA) for 30 minutes and 45 minutes, respectively. Groups III and IV rats also had IR, but were initially pre-treated with MEPN at 500 mg/kg and 1000 mg/kg respectively, for seven days. Rats in Group V were also pre-treated with Vitamin C, for seven days, before induction of IR. The results showed marked reduction in intestinal epithelial lesions in groups treated with MEPN, compared to the IR group which had severe villi erosion, inflammatory cell infiltration and hemorrhages. There were significant increases in Malondialdehyde (MDA) and significant reductions in reduced glutathione (GSH) and Glutathione S-transferase (GST) activity with IR injury, while pre-treatment with either MEPN or Vitamin C prevented these effects. Increases in Glutathione peroxidase (GPX), Catalase (CAT) and Superoxide dismutase (SOD) with IR provided evidence for adaptive responses to oxidative injury during IR and preservation of enzyme activity by MEPN and Vitamin C. Taken together, *Parquetina nigrescens* provided considerable alleviation of intestinal injury produced by IR, at values much as effective as that offered by Vitamin C.

KEYWORDS. antioxidant, intestine, Ischemia-reperfusion injury, *Parquetina nigrescens*, Vitamin C

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