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Original Article

Prevention of Fe^{2+} induced lipid peroxidation by aqueous extract of garcina kola leaf in some rat tissues

O.I. Oloyede[1*], O. Durojaiye[1], O.B. Adewale[2]

[1]Biochemistry Department, Ekiti- State University, Ado-Ekiti, Nigeria

[2]Biochemistry Department, Afe Babalola University, Ado-Ekiti, Nigeria

Abstract

Cell injury in aerobic organism subjected to oxidative stress has been caused by lipid peroxidation. The ability of aqueous extract of Garcina kola leaf (3.3-33.3µg/ml) to prevent 60µM Fe^{2+} induced lipid peroxidation in rat liver and brain were assessed respectively using TBARS (Thiobarbituric acid reactive species. Fe^{2+}- chelating ability of the extract was also determined. The result of the study revealed that incubating the liver and brain in the presence of iron exhibited high percentage inhibition against thiobarbituric acid reactive species (TBARS) induced by iron (ii) sulphate (60µM) with IC_{50} value of 72.58±29.16µg/ml and 89.36µg/ml respectively, while the extract shows strong iron chelating ability of 79.93% at concentration (2.3µg/ml) with an EC value of 62.0µg/ml. The inhibitory effect of aqueous extract of Garcinia kola shown in TBARS and Iron chelation assays were concentration dependent. The results however suggest that Garcinia kola is beneficial in the treatment of various cellular damages due to its ability to reduce lipid peroxidation.

Keywords: Lipid peroxidation Garcina kola Thiobarbituric acid reactive species.

[*]**Corresponding Author: Dr. O.I. Oloyede,** Biochemistry Department, Ekiti- State University, Ado-Ekiti, Nigeria, E-mail- pjmoloyede@yahoo.com