PHYTOPREVENTIVE ANTIHYPERLIPIDEMIC ACTIVITY OF CURCUMA ZEDOARIA

A.R. Srividya1*, S.P. Dhanabal2, Ajit Kumar Yadav3, M.N. Sathish Kumar 4 and V.J. Vishnuvarthan1

1Department of Pharmaceutical Biotechnology, JSS College of Pharmacy, Ooty-643 001, Tamil Nadu, India
2Department of Phytopharmacy and Phytomedicine, JSS College of Pharmacy, Ooty-643 001, Tamil Nadu, India
3Department of Pharmaceutical Biotechnology, Invertis Institute of Pharmacy, Invertis University, Bareilly-243 123, Uttar Pradesh, India
4Department of Pharmacology, JSS College of Pharmacy, Ooty-643 001, Tamil Nadu, India

*E-mail: pharmarsrividya@yahoo.com, ajit.y@invertis.org
Tel.: +91-9484175648, +91-423-2443393

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Curcuma zedoaria belongs to the family Zingiberaceae. Hydroethanolic extract of Curcuma zedoaria rhizome showed only the presence of alkaloids. Total phenol content was found to be 34.45±1.9 expressed as mg/g equivalent of gallic acid. Total flavonol content was found to be 45.56±2.38 mg/g equivalent of quercetin. In vitro antioxidant activity IC50 value for hydroethanolic extract was found to be 930±16.35 for DPPH method, >1000 µg/ml for Nitric oxide method. Concentration required for reducing power was found to be 2.525±0.023 µg/ml. total antioxidant capacity was found to be 230.2±1.32 which was expressed as mM equivalent of Ascorbic acid. The extract was found to be effective in reducing TC levels after 12 days of pre-treatment with extract at a dose of 200 and 400 mg/kg b/w reduced by 17.1% and 19.65%. No significant changes were seen on LDL, VLDL and HDL cholesterol levels.

Key words: Curcuma zedoaria, Antihyperlipidemic, Antioxidant, Zingiberaceae, Lipid profile.

INTRODUCTION

Natural products are associated with a wide range of bioactivities and have played a vital role in treatment of diseases (Dahiya and Gautam, 2011; Jain et al 2011; Zahid Hosen et al 2011). Curcuma zedoaria is a perennial herb which is cultivated throughout India and traditionally, used as carminative, stomachic, gastrointestinal stimulant, diuretic, expectorant, demulcent, rubefacient as well as used in flatulence (Riaz et al 2011; Kim et al 2000). Zedoary's effect on digestive system is similar to ginger but milder. The Ayurvedic pharmacopoeia indicated use of rhizome in goiter. These rhizomes found to contain a number of terpenoids, including curcumene, curcumeneone, curdione, curcumenol, curzerenone epoxide, a volatile oil (1.0-1.5%) resembling ginger oil and starch (50%). Traditionally, this rhizome is used for the treatment of goiter and as antitumor, anti allergic and antimicrobial (Figure 1). In present work, antihyperlipidemic activity of the herb Curcuma zedoaria is reported.

Fig. 1. Curcuma zedoaria rhizome