RESEARCH PAPER

Asian Journal of Bio Science (April, 2010) Vol. 5 Issue 1 : 6-9

Studies on antioxidant and anthelmintic activity of *Gnidia glauca* (Fresen) Gilg.

H.R. NETHRAVATHI[1], **T.R. PRASHITH KEKUDA**[2], K.S. VINAYAKA[3], N.B. THIPPESWAMY[1], S.J. SUDHARSHAN[2] AND S.V. PRAVEEN KUMAR[4]

[1]Department of Studies and Research in Microbiology, P.G. Institute of Studies and Research in Microbiology, Kuvempu University, Jnanasahyadri, SHANKARAGHATTA (KARNATAKA) INDIA

[2]Department of Microbiology, S.R.N.M.N. College of Applied Sciences, NES Campus, SHIVAMOGGA (KARNATAKA) INDIA

[3] Department of Studies and Research in Applied Botany, Kuvempu University, Jnanasahyadri, SHANKARAGHATTA (KARNATAKA) INDIA

[4]Department of Studies and Research in Microbiology, Kuvempu University, Shivagangothri, Tholahunase, DAVANGERE (KARNATAKA) INDIA

(Accepted : November, 2009)

The present study was carried to evaluate antioxidant and anthelmintic activity of methanol, chloroform, ethyl acetate, acetone and petroleum ether extracts of *Gnidia glauca* (Fresen) Gilg. The preliminary phytochemical tests showed the presence of tannins, terpenoids, steroids, saponins and flavonoids. A dose dependent antioxidant activity was observed in case of extracts. Methanol extract was found to possess greater radical scavenging potential than other extracts. All extracts were found to cause paralysis and death of worms but not to the extent of standard drug. Among extracts tested, the acetone extract took less time to cause paralysis and death of the worms when compared to other extracts. The antioxidant and anthelmintic activity of the solvent extracts could be mainly due to the presence of various phytoconstituents. Further studies are to be conducted to isolate active constituents and to find out the in vivo efficacy of the plant extracts tested.

Key words : *Gnidia glauca* (Fresen) Glig., Antioxidant activity, DPPH assay, Anthelmintic activity, Pheretima pasthuma

INTRODUCTION

In developing countries like India where poverty and malnutrition is rampant, knowledge of plant derived metabolites could reduce the cost of health care. India has a rich history of using various herbs and herbal components for treating various diseases (Ali *et al.,* 2008). Infectious diseases caused by bacteria, fungi, viruses, and parasites remain a major threat to public health, despite tremendous progress in human medicine. Their impact is particularly great in developing countries because of the relative unavailability of medicines and the emergence of widespread drug resistance (Okeke *et al.*, 2005). Helminthes are recognized as a major problem to livestock production throughout the tropics. Parasitic helminthes affect human being and animals by causing considerable hardship and stunted growth. Most diseases caused by helminthes are of a chronic and debilitating in nature (Dewanjee *et al.*, 2007). The origin of many effective drugs is found in the traditional medicine practices and in view of this several workers have undertaken studies pertaining to testing of folklore medicinal plants for their proclaimed anthelmintic activity (Temjenmongla and Yadav, 2005). Free radicals contribute to more than one hundred disorders in humans including atherosclerosis, arthritis, ischemia and reperfusion injury of many tissues, central nervous system injury, gastritis, cancer and AIDS (Kumpulainen and Salonen, 1999; Cook and Samman, 1996). The synthetic antioxidants like BHA, BHT, gallic acid esters etc., have been suspected to cause or prompt negative health effects. Strong restrictions have been placed on their application (Barlow, 1990; Branen, 1975). In recent years much attention has been devoted to natural antioxidant and their association with health benefits (Ali *et al.*, 2008). *Gnidia glauca* (Fresen) Gilg belongs to the family Thymeliaceae and locally known as Mukkadakana gida. It is a large shrub, leaves alternate, linear oblong, head inflorescence flower and fruit in January and February. Fruit is indehiscent. It is traditionally used as pesticide in the paddy fields to control insects and to treat skin diseases (Gowda, 2004). The present study was conducted to evaluate antioxidant and anthelmintic potential of methanol, chloroform, ethyl acetate, acetone