Abstract

The fruits of the *Piper cubeba* plant were chosen and studied for antioxidant, hepatoprotective and antidiabetic activity.

The antioxidant potential of the ethanol extract was examined using a 1, 1-diphenyl-2-picrylhydrazyl (DPPH) free radical scavenging activity, reducing power, hydroxyl radical scavenging activity, nitric oxide radical scavenging activity and hydrogen peroxide radical scavenging activity. The extract had significant dose-dependent antioxidant activity in all in vitro experiments.

Hepatoprotective activity of the extract was evaluated in rat models of carbon tetrachloride (CCl₄) induced liver damage and ethanol induced liver damage. CCl₄ and ethanol significantly altered serum marker enzymes and total protein.

The ethanol extract of *Piper cubeba* attenuated CCl₄ and ethanol induced serum marker enzymes and total protein.

The ethanolic extract of *Piper cubeba* exhibited significant hepatoprotective activity in dose dependent manner (250 mg/kg & 500 mg/kg) in carbon tetrachloride (CCl₄) and ethanol induced liver damage in rats.

Histology of liver sections of the animals treated with the extracts showed the presence of normal hepatic cords, absence of necrosis and fatty infiltration which further evidence the hepatoprotective activity.

Antidiabetic activity of the extract was evaluated in alloxan induced diabetic rats.

In alloxan hydrate induced diabetic rats; the degree of protection was determined by measuring blood glucose, total cholesterol, HDL Cholesterol and triglycerides levels on 14th and 21st day. The ethanolic extract of *Piper cubeba* significantly attenuated Alloxan hydrate induced blood glucose, total cholesterol, HDL Cholesterol and triglycerides levels in rats.

The ethanolic extract of *Piper cubeba* exhibited significant antidiabetic activity in dose dependent manner (250 mg/kg & 500 mg/kg) in alloxan hydrate induced diabetics in rats.