ATTITUDE

Keep your face to the sunshine and you cannot see the shadows.

Abstract
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The initial studies carried out by macroscopical and microscopical examination of the bark revealed authenticity of the preparation as the root obtained from *Oroxylum indicum*. Preliminary phytochemical screening revealed the presence of phytocostituents like flavonoids, alkaloids and tannins and antraquinone in the root bark of *Oroxylum indicum*. The preliminary screening using TLC technique reflected the presence of four phytococonstituents such as baicalein, chrysin, biochanin-A and ellagic acid in both petroleum ether and hydrolysed n-butanol fractions.

The fingerprinting chemoprofile of the *Oroxylum indicum* using RP-HPLC method suggested the presence of baicalein, chrysin, biochanin-A, and ellagic acid. Further, the n-butanol fraction of the drug was found to be rich in baicalein as compared to other flavonoids and phenolics.

Alcohol extract (300 mg/kg) and its different extract viz. petroleum ether, chloroform, ethyl acetate, and n-butanol (100 and 300 mg/kg b.w.; p.o.) showed significant reduction in gastric ulceration against ethanol-induced gastric mucosal damage. Out of all these fractions, the petroleum ether (96%) and n-butanol (99%) fractions showed maximum inhibition of gastric lesions. Further, n-butanol and petroleum ether fractions showed
adhesion and in-vivo carbon clearance assay. The mechanism of immunomodulatory activity of this plant can be attributed to enhancement of specific immune responses that is humoral and cell mediated immunity as well as antioxidant potential. Further, this could be associated with the presence of baicalein, a major flavonoid in $n$-butanol fraction of this plant.

Anti-inflammatory activity of the different extracts (300 mg/kg, b.w.; p.o.) of *Oroxylum indicum* was checked against both acute and chronic inflammatory models. The anti-inflammatory activity of $n$-butanol fraction is attributed to inhibition of inflammatory mediators and prostaglandin. Further, the antinociceptive effect of the drug was performed in the tail flick test and writhing test by using $n$-butanol fraction (100 mg/kg, b.w.; p.o.) of *Oroxylum indicum*. The mechanism of antinociceptive effect is attributed to the peripherally acting components like opioid substances.

The hepatoprotective activity of drug was further supported by prolongation of the sleeping time on pentobarbitone-induced sleeping time model in the presence of petroleum ether and $n$-butanol fractions.

In addition to above, petroleum ether and $n$-butanol fractions of this plant also showed diuretic activity that was comparable with hydrocholorthiazide.
Hence, it can be concluded from our study that, out of all the extracts tested, \textit{n}-butanol extract of root bark of \textit{Oroxylum indicum} showed significant anti-ulcer, hepatoprotective, immunomodulatory, anti-inflammatory, antinociceptive, sedative, and diuretic activities. Thus, the overall mechanism of action of these activities might be attributed to the antioxidant defense mechanisms. Besides, drug also showed involvement of central mechanism, gastric cytoprotection and immunostimulant activity.