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A Phytopharmacological overview on *Tecomella undulata* G. Don

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ABSTRACT

Tecomella undulata G. Don. is a popular medicinal plant has long been used in ayurvedic system of medicine. The plant has been found to exhibit diverse pharmacological activities. The present paper gives an account of updated information on its photochemical and pharmacological properties. The review of literature reveals that wide range of phytochemical constituents have been isolated from plant and it possesses important pharmacological activities like antibacterial, anticancer and its utility in treatment of certain ailments like syphilis, swelling, leucorrhoea and leucoderma, enlargement of spleen have also been reported. The reports are encouraging hence the herb must be extensively used for its therapeutic benefits. Also the study based on clinical trials should be carried out to support the usage of drug traditionally for treatment of various ailments.

Keywords: *Tecomella undulata*, Pharmacological activities, Phyto constituents.

INTRODUCTION

Tecomella undulata (Family-Bignoniaceae) is commonly known as rugtrora (Hindi), rohira (Punjabi), lohira (Sindi), rakhtroda (Marathi), and rohita (Sanskrit) in different languages and regions of India (Kritikar KR *et al* , 1993). It is widely distributed in Punjab, Rajasthan, Gujarat, Sind and Waziristan regions (Kritikar KR *et al* 1993 , Nadkarni, 2000). It is a shrub or small tree with drooping branches and stellalety grey- tomentose innovations, otherwise glabrous. The leaves are simple 5-12.5 cm in length and 1-3.2cm in width, narrowly oblong, obtuse, and entire with undulate margins. Flowers are inodorous in corymbose few flowered racemes, terminating short lateral branches, pedicles are 6-13 mm long, Calyx 9.5 -11 mm long, campanulate. Lobes are 3mm long, broadly ovate, obtuse, mucronate. Corolla is 3.8-6.3 cm long, orange yellow, campanulate, veined. Lobes are 5 subequal rounded. Stamens are exserted and filaments are glabrous. Stigma are 2 lamellate, lobes are spathulate-oblong, rounded. Capsules are 20 by 1 cm slightly curved, linear-oblong, acute, smooth. Valves are thin. Seeds are 2.5 by 1 cm. Wing are very narrow round the apex of seed, absent at its base. The drug has been extensively used in ayurvedic system of medicine for treatment of leucorrhoea and leucoderma, enlargement of spleen also used for treatment of urinary discharge due to kapha and pitta. In Bolan it has been extensively employed in the treatment of liver diseases. The bark has been used in treatment of syphilis, painful swellings and cancer traditionally. Also antibacterial activity has been reported in stem extract as well (Kritikar KR *et al* 1993 , Nadkarni 2000, Anonyms 1962). The plant has been extensively screened for wide range of pharmacological activities. Khatri *et al* (2009) demonstrates the hepatoprotective activity of stem bark of Tecomella undulata against thioacetamide-induced hepatotoxicity. Ahmad *et al* (1994) evaluated the methanolic extract of plant for its anti inflammatory and analgesic potential by using rat paw edema and tail immersion

method respectively. The extract showed significant analgesic potential with comparison to standard asprin. Azam *et al* (2000) reported the presence of flavones in Tecomella undulate leaf. Verma *et al* (1986) isolated an iridoid glucoside undulatin assigned as 4'- O-P-coumaroyl-7, 8-dihydro-8-dehydroxymethylbartsioside structurally by chemical and spectroscopic analysis[7]. Joshi *et al* (1974-75) demonstrated the presence of quinonoid in heartwood and an iridoid glucoside, 6-O-veratryl catalposide from the plant. Singh *et al* (1972) screened the plant for the presence of lapachol[9]. Gujral *et al* (1979) reported the presence of a new chromone glucoside in Tecomella undulate. Pandey *et al* (1970) evaluated the plant bark for the presence of ester glucoside.

CONCLUSION

The literature survey revealed that *Tecomella undulata* is a source of pharmacologically and medicinally important chemicals such as quinonoid and iridoid glucoside like 6-O-veratryl catalposide and undulatin, lapachol and other useful constituents. Clinical trials must be conducted to support its therapeutic use. It is also important to recognize that its extract may be effective not only in the isolation but may have modulating effect when used in combination with other drug.

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