



A brief review on medicinal value of *Curcuma caecia*

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Abstract

In ancient time, plants have been a tremendous source of medicine. Since very long time *Curcuma caecia* is reported to be used in traditional medicine system for the treatment of leucoderma, asthma, tumours, piles, bronchitis etc. The paste is applied on bruises, contusions and rheumatic pains. Different parts of the plants are used for treatment but the rhizomes are often used, for the treatment of pneumonia, cough, and cold in children, and for fever and asthma in adults. *Curcuma caecia* has scientifically studied for various therapeutical activities like antioxidant, antibacterial, antipyretic, larvicidal, insecticidal, antimicrobial, wound healing and anti-hyperglycemic. The present review is an effort to give a detailed survey of the literature on its, phytochemistry, traditional uses and therapeutical studies.

Key-Words: *Curcuma caecia*, Phytochemistry, Traditional uses, Therapeutics

Introduction

The genus *Curcuma*, a member of the Zingiberaceae family, comprises of 80 species, some of which have been used in traditional systems of medicine (Ayurveda, Siddha, Unani) for a long time. Among them the most studied is *Curcuma longa* which is known to possess tremendous therapeutic potency¹. But the lesser known species *Curcuma Caecia* commonly known as Kali Haldii, native to North East Herb with bluish – black rhizome². The leaf has a deep violet patch which runs throughout the lamina (fig:1). Rhizome is aromatic, carminative and stimulant and a paste made from the rhizome is used to cure dysentery and as poultice in rheumatic pain, sprains and bruises³. There has been great extent of work was conducted, especially in India, on the chemical constituents of *Curcuma Caecia* and reported that the oils of the plant possess antibacterial and antifungal properties⁴. When rhizomes are cooked with mustard oil or sesame oil and the prepared paste is applied externally on rheumatism and painful part of the body⁵. During the ethno botanical survey by Central Botanical Laboratory, Howrah (W. B.) The plant is often used for the treatment of joint diseases (rheumatism, arthritis, gout and lumbago) by the tribal and non-tribal people in Mayurbhanj district of Odisha, India.

Traditional uses

The rhizome and leaves of kali haldi is used in different parts of world. It is used as a tonic for the brain and the heart.

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Rhizomes are often used for treatment of leucoderma, piles, bronchitis, asthma, Tumors, tuberculous glands of the neck, enlargement of the spleen, epileptic. Seizures, inflammations, and allergic eruptions.

In North-East and Central India *Curcuma caecia* Roxb dried rhizome and leaves are used for treatment of Piles, leprosy, asthma, cancer, wounds, fever, impotency, fertility, tooth ache, vomiting, allergies⁶. In Anurachal Pradesh the paste of fresh rhizome is applied during snake and scorpion bite⁷. In Assam fresh rhizome juice mixed with mustard oil and is given to cattles in dysentery⁸. In Asian Rhizome of *Curcuma caecia* used for wound, pox & tumour⁹. Powdered tuber is orally administered with water in stomachache and bloating¹⁰.

Phytochemical constituents

Curcuma caecia has medicinal value due the presence of natural constituents. The majority of their activity is due to bioactive compound viz alkaloids, steroids, phenolics, and tannins. Preliminary phytochemical studied in of *n*-hexane, petroleum ether (60:80), benzene, chloroform, ethyl acetate, methanol, and water extract of rhizome *curcuma caecia* and showed the presence of these major constituent¹¹.

Antioxidant activity

The antioxidant activity of methanolic extract of rhizomes of *Curcuma caecia* has been reported and the antioxidant activity was measured by using DPPH free radical scavenging these effect is due to the presence of phenolics constituent¹². Both the enzymatic and crude extracts of the rhizome and leave of, *Curcuma caecia* plants have been analyzed for antioxidant activity in

terms of DPPH radical scavenging activity, hydroxyl radical-scavenging activity and reported that the non-enzymatic extracts prove to be a better scavenger of free radical in comparison to enzymatic extracts in *Curcuma* species¹³.

Antimicrobial activity

Recently¹⁴ have reported the isolated oil from the rhizome of *Curcuma caecia* possessed high antioxidant activity, antibacterial activity and also inhibit g +ve (*S. aureus* and *B. subtilis*) and g-ve (*E. coli*) bacteria. Essential oils comprising of mixtures of monoterpenes, sesquiterpenes, and various aliphatic hydrocarbons are potential sources of antimicrobial compounds¹⁵. Ethanolic extract of *Curcuma caecia* (EECC) showed a significant antibacterial activity against *Staphylococcus aureus*. The antibacterial properties have also showed the presence of phenolic compound¹⁶.

Anti Inflammatory activity

Proteins isolated from aqueous soxhlet extraction of rhizome *Curcuma caecia* showed significant antioxidant activity which was found to be heat stable. And also showed high anti-inflammatory activity at a dose level of 100mg/kg when tested on the carrageenan rat paw model system¹⁷.

Antiemetic activity

The ethanol extract of *Curcuma caecia* rhizome showed significant antiemetic activity on chick emetic model and compared with domperidone¹⁸.

Depressant and hypnotic activity

Curcuma caecia has potential therapeutic value for the management of depressive disorders. The methanol extract of *Curcuma caecia* (MECC) rhizome was evaluated for CNS depressant activities and reported that the flavonoids, saponin and tannic acid are involve for the protecting brain function from CNS disturbance antidepressant¹⁹. The analgesic activity of *Curcuma caecia* extract (MECC) was evaluated by both acetic acid induced writhing method and tail flick method in mice to assess peripheral (non-narcotic) and central (narcotic) type of activities and revealed remarkable analgesic, locomotor depressant, anticonvulsant and hypnotic activity²⁰.

Anti-ulcerogenic activity

The anti-ulcer activity of the ethanolic extract of the rhizome of *Curcuma caecia* was experimented on four groups of albino rats and revealed that there is significant reduction of ulcer index, gastric acid volume, pepsin, free and total acidity along with increased production of gastric mucus²¹.

Conclusion

This study demonstrated that herbal product can be effective as modern medicine and also thought out to

be safe in comparison to the synthetic product. recent research are being mainly conducted on different parts of plant for their phytochemical and pharmacological studies. This review supports the possible of *Curcuma caecia* as a medicinal plant. More research can be done to explore new compound of *Curcuma caecia* for development of new drug further analysis of *Curcuma caecia* can be done by different advanced and validated methods such as HPLC, FTIR, NMR & UV spectrophotometric study.

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Fig. 1: *Curcuma caesia*: Different Parts