

TINOSPORA CORDIFOLIA- HERBAL MEDICINE FOR URTICARIA: A REVIEW

Jincy N. P.^{1*} and Arunkumar K. V.²

¹Department of Pharmaceutics, Rajiv Gandhi Institute of Pharmacy, Trikaripur, Kasaragod, Kerala, 671310.

²Kerala University of Health Sciences, Thrissur.

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*Corresponding Author

Jincy N. P.

Department of
Pharmaceutics, Rajiv
Gandhi Institute of
Pharmacy, Trikaripur,
Kasaragod Kerala, 671310.

ABSTRACT

Herbal drugs are widely used to cure variety of diseases due to its increased efficiency and lesser side effects. Urticaria refers to a Wheal-and-Flare response occurring by the application of chemicals to intact skin. They include not only wheal-and-flare but also a transient erythema and may lead to eczema. Conventional treatment of urticaria include treatment using antihistamine therapy. Various herbal medicines are also used for the treatment of urticaria. *Tinospora cordifolia* is one of the promising herbal medicine for treatment of urticaria due to presence of various constituents like alkaloids, terpenoids, steroids etc. *Tinospora cordifolia* have rich source of chemical substance with potential therapeutic and pharmacological

activity.

KEYWORD: Urticaria, *Tinospora cordifolia*, Wheal-and-flare.

INTRODUCTION

Herbal formulation are medicinal preparation of one or more herbs present in specified quantities to give the benefits meant for cosmetics, diagnose and to mitigate diseases of human beings or animals. *Tinospora cordifolia* is commonly used medicinal plant for curing ailments ranging from common cold, skin diseases to major disorders like jaundice, hypertension, rheumatism etc.^[1] Urticaria refers to a Wheal-and-Flare response occurring on the application of chemical to intact skin.^[2] *T. cordifolia* stem on mast cell mediated allergic reaction. *T. cordifolia* decreased intracellular calcium levels of activated mast cells beneficial

in treatment of acute and chronic allergic disorder.^[3] The aim of this review is to provide information on significant *Tinospora cordifolia* in treatment of urticaria.

Tinospora cordifolia

Tinospora cordifolia (Willd.) Miers is one of the important dioecious plants. It belongs to family Menispermaceae.^[4,5] Almost all parts of the plant are documented to be useful in ethnobotanical surveys. Widely used for anti-inflammatory, immuno-modulatory, anti-pyretic, anti-allergic, anti-oxidant, and various other medicinal properties.^[6,7]

Macroscopic characters^[8]

Stem: Morphology of stems showed grayish green with smooth surfaces and swelling at nodes, older ones show a light brown surface marked with warty protuberances due to circular lenticles. Dried stem is cylindrical, slender, 6-12cm diameter with rough surface due to longitudinal fissures of cracks along the rows of lenticels. Outer bark is thin and papery brown to grayish in colour. Lenticels are circular and prominent. Transversely cut smoothened surface shows a wheel like structure, a characteristic feature of family Menispermaceae.

Leaves: Leaves are simple, alternate and exstipulate. The leaf blade is broadly ovate to roundish, cordate, 5 to 12 cm in diameter with smooth surfaces. Lower surface is slightly pale coloured, the upper surface is glaucous. The tip is acute or sharply acuminate and the base has a broad sinus. The leaves when seen in bulk look intensely green but over mature leaves are yellowish green to yellow colour. The leaves are bitter and have an indistinct odour.

Aerial roots: The young aerial roots are long filiform, thread like, squairsh, which arise from the mature branches or cut bits of stems grow downward and by continuously lengthening sometimes reach the ground. The mature aerial root are fleshy which is very similar in structure with young aerial stem except for the presence of nodal swellings. The dried aerial roots are 3-6cm in diameter, surface light grey-brown or creamy white in colour, fracture short, odourless and taste bitter.

Taxonomical classification^[9]

Kingdom: Plantae

Division: Magnoliophyta

Class: Magnoliopsida

Order: Ranunculales

Family: Menispermaceae

Genus: *Tinospora*

Species: *T. cordifolia*

Vernacular names^[10]

Sanskrit: Chakralashanika

Punjabi: Gilo

Kannada: Amrita Balli

Gujarati: Galo

Hindi: Guduchi

English: Heartleaf moonseed

Tamil: Giloya

Telugu: Tippaatigo

Malayalam: Chittamrutu

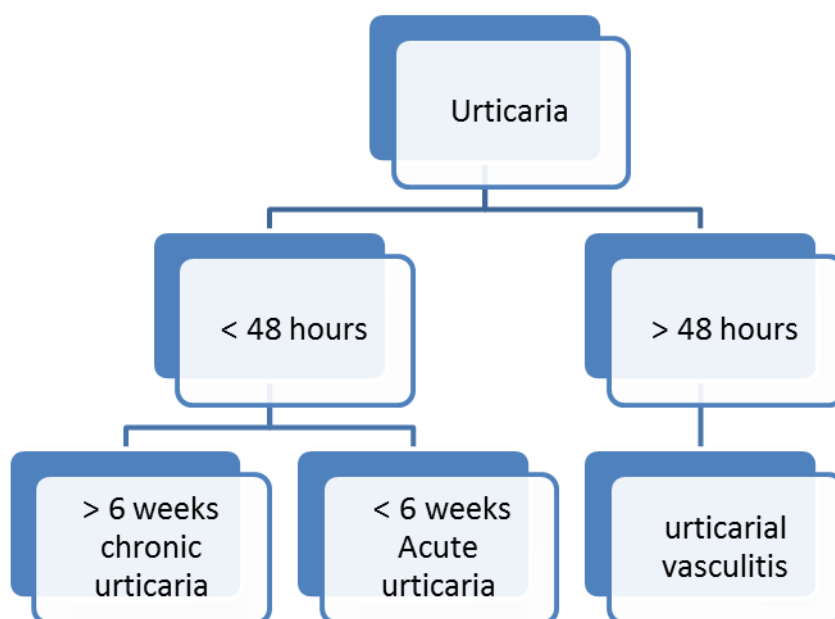


Urticaria

Urticaria is a cutaneous syndrome characterized by dermal edema (Wheal) and erythema (flare) that blanches with pressure. The lesions typically last less than 24 hours and are usually pruritic. Histamine released from mast cells is the major effector in pathogenesis.^[11]



Types of urticarial^[12,13]



Pathophysiology of urticarial^[14]

Urticaria results from the release of histamine, bradykinin, kallikrein, and other vasoactive substance from the mast cell and basophils in the superficial dermis, resulting in intradermal edema caused by capillary and venous vasodilation and occasionally caused by leukocyte infiltration.

The process may be immune mediated or nonimmune mediated.

Immune-mediated mast cell activation

Includes

- Type I hypersensitivity reactions, in which allergen-bound IgE antibodies bind with high-affinity cell surface receptors on mast cells and basophils.

- Autoimmune disorders, in which antibodies to an antigen IgE receptors and cause mast cell degranulation.
- Autoimmune disorders, in which antibodies to an IgE receptor functionally cross-link IgE receptors and cause mast cell degranulation.

Nonimmune-mediated mast cell activation

Includes

- Direct nonallergic activation of mast cells by certain drugs
- Drug-induced cyclooxygenase inhibition that activates mast cells by poorly understood mechanisms.
- Activation by physical or emotional stimuli; mechanism is poorly understood by possibly involves the release of neuropeptides that interact with mast cells.

Significant of *tinospora cordifolia* in treatment of urticaria

Conventional formulation which are used for the treatment of urticaria can cause severe side effects. Herbal remedies have being used from ancient time for the treatment of urticaria.

A variety of constituents have been isolated from different parts of *T. cordifolia*. They belongs to different classes such as alkaloids, diterpenoid lactones, steroids, glycosides, phenolics, aliphatic compounds and polysaccharides.^[15] The presence of terpenoids present in the stem results for the treatment of skin diseases.^[16] *T. cordifolia* for its potential in preventing and treating diseases have significant role in the treatment of urticaria.

CONCLUSION

Tinospora cordifolia (willd.) Miers (Menispermaceae) plant widely distributed throughout india. The plant have various pharmacological activity, aqueous extract of *T. cordifolia* stem are useful in mast cell mediated allergic reactions. *T. cordifolia* decrease intracellular calcium levels of activated mast cells. This shows that *T. cordifolia* beneficial in the treatment of acute and chronic allergic disorders. Various constituents present in plant play significant role in the treatment of urticaria.

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