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Akarkara as a crucial herb for medicine

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Abstract :

Reputable Unani scholars have described the pharmacological properties of Aqarqarha as abortifacient, anti-inflammatory, sialagogue, tonic, gastrostis, inflammation, lethargy, stimulant, rubefacient, cordial, antidepressant, immune-stimulating, memory-enhancing, antioxidant, and interacting with hormones in ancient literature.The wild species Anacyclus pyrethrum, or A. pyrethrum, is a member of the Asteraceae family and is utilized in traditional medicine.It is a little, hard, fusiform root that is around the size of a little finger. At the top, it occasionally has leaf remnants, and it is covered in few or no hair-like rootlets. The exterior of the root is brownish, and it has deep longitudinal fissures.Ayurvedic medicine uses A. pyrethrum as an immunomodulator and adaptogen. The herb is used as an aphrodisiac, antidiabetic, antioxidant, and to treat heart conditions, asthma, throat issues, carminative, stomach issues, arthritis, sciatica, diuretic, and tooth worm infestation, muscle relaxant, aphrodisiacs, hiccoughs, epilepsy, headaches, pains, brain tonic, anti-rheumatism, anticonvulsant, and other human-related illnesses. This review aims to illustrate the evolution of medicine from galenic to genomic, emphasizing the significance and promise of ayurveda.

Key Words:

Pharmacological actions, Anacyclus pyrethrum, UnaniSystem,HerbalDrugs,Tooth Remedies.

Introduction:

The World Health Organization (WHO) recognized the use of therapeutic plants for improving public health in underdeveloped countries. The roots and leaves of Anacyclus pyrethrum DC play a significant part in Eastern herbal therapy

and the old Ayurvedic and Unani systems of holistic health. According to traditional medical systems, Anacyclus pyrethrum roots in particular offer beneficial therapeutic properties (Kishor and Lalitha, 2012).

Ancient Indian literature, such as the CharakSamhita, refers to Akarkara as "vajikaranrasayana."Pellitorine, often referred to as pyrethrine, is an alkylamide that is a white, crystalline acidamide that is one of the components of the numerous phytochemicals that have been identified from the roots of A. pyrethrum.Native to Arabic and Indian countries, Anacyclus Pyrethrum is a member of the Anacyclus genus and family of Asteraceae.The roots, which are 5 to 10 cm long and have a dark, grayish brown color, have medicinal properties.

The roots of A. pyrethrum (L) are used in traditional medicine to cure a variety of conditions, including angina, salivary secretion, toothaches, drowsiness, and even paralysis of the limbs and tongue. They are used to prevent disease and cure gout and sciatica in the form of cream-based animal fats. Anacyclus pyrethrum (L) roots have been shown to possess additional pharmacological and biological qualities in literature, including but not limited to sialagogue, aphrodisiac, immunostimulant, antidepressant, antimicrobial, insecticidal, anesthetic, anti-inflammatory, anticonvulsant, antioxidant, antidiabetic, and memory enhancer effects.

Vernacular names:

English: Pellitory

Hindi: Akarakara

Marathi: Akkirakaram

Taxonomic Classification:

Kingdom: Plantae,

Division: Spermatophyta,

Sub–division: Angiosperms,

Class: Dicotyledons,

Sub class: Metachlamydae,

Order: Companulatae,

Family: Compositae or Asteraceae,

Genus: Anacyclus

Species: Pyrethrum.

Botanical Description

Acemellaoleracea is an annual herb that can occasionally grow in a decumbent position. The stems are hairless, often reddish, and can be erect or prostrate. Simple, opposite leaves that are broadly ovate to triangular, 5–11 cm long, 4–8 cm wide, with an acute to slightly acuminate apex and a truncate base. The margins are dentate. A discoid head up to 2.5 cm × 1.5 cm forms the inflorescence; 15–18 involucral bracts, 3 seriate, up to 8 mm × 1 mm, sharp apex; up to 6 mm × 1 mm straw-colored, often tinged purple-red. 400–620 disk blooms with a yellow, up to 3.5 mm-long, 5merous corolla. Fruit an achene about 2–2.5 mm by 1 mm, with a pappus with two bristles.

Traditional Uses:

Anecdotal usage for the plant Spilanthesacmella, which grows in tropical regions of South America and India, date back a long way. It has been utilized by many societies to treat a variety of conditions, including rheumatism, toothaches, and wound healing. The latter condition gave rise to the plant's idiom, "Toothache Plant."Recent studies have identified the primary bioactive components, which include spilanthol and N-alkyl amides, as well as other possible applications, some of which are related to testosterone and sexual health.In addition to being a potent antioxidant, akarkara is utilized as an analgesic and anti-inflammatory. Because it promotes the secretion of saliva and the digestive enzymes required for digestion, it is good for indigestion. Neem treatments are used to prevent dental cavities, eliminate cancer, and lessen gum inflammation.Urinary calculi can be dissolved and considerable diuretic activity is exhibited by A. olerecea.Scurvy prevention medication made from A. olerecea flower heads and roots is used to improve digestion.

The following is a list of Akarkara's exceptional qualities:

Treatment for Toothaches: The toothache plant is Acmellaoleracea (Spilanthesoleracea). The plant known as "toothache" gets its name from the chemical "spilanthol," which can both stimulate salivation and lessen the pain associated with toothaches. Spilanthesoleracea is used as an anesthetic for toothache and as an antipyretic, according to Jansen's 1985 report. Tooth discomfort can be relieved by using the extract or by chewing on the flower, either fresh or dried. A herb that the Peruvian Incas have used for generations to treat toothaches. It has an anesthetic effect of its own. Because akratom possesses antibacterial qualities that eradicate the bacteria that causes gum infection, it has been utilized in Ayurveda for a very long time. It lessens inflammation since it is a naturally occurring anti-inflammatory. Toothache relief can be achieved by applying root powder paste directly to the pain area.

Analgesic: It produces numbness in order to lessen or stop pain. Male rats were given varying dosages of an aqueous extract of fresh Spilanthesacmella flowers orally, and the analgesic potential of these doses was assessed using tail flick and hot plate tests at various post-treatment intervals. Sedation is associated by supraspinal mediated analgesic action.

Anti-rheumatic & Anti-arthritic: Due to its high antioxidant content and ability to enhance blood circulation, akarkara is beneficial in the treatment of arthritis. It is used to relieve arthritic pain and inflammation since it is an anti-inflammatory. According to Ayurveda, inflammation, discomfort, restricted movement, and other symptoms are caused by the aggravation of Vatadosha, which is the cause of arthritis. Because of its ability to balance the Vatadosha, akarkara helps relieve arthritis.

Anti-Bacterial & Anti-Viral: Akarkara has also demonstrated antibacterial and antiviral qualities, protecting you against a wide range of infectious disorders that are water- and air-borne and are brought on by bacteria and viruses.

Carminative: It helps the intestines release gas.

Digestion: As food passes down the digestive tract, akarkara roots stimulate the secretion of saliva and other digestive secretions, which helps with digestion.

Diuretic: Akarkara root has a diuretic effect that makes urinating more frequent and productive, which aids in the body's detoxification process. Diuretics are medications that promote the production of urine, which helps oedematoustissue lose its excess extracellular water content. Diauretics are medications that cause diuresis. Strong diuretic action and the capacity to dissolve urinary calculi are features of A. olerecea. Using cold water, a substantial diuretic activity in rats was found . According to the results, when taken orally in a single dose, the maximum dosage of flowers studied exhibited considerable diuretic activity.

Febrifuge: Because of its anti-microbial, antiviral, and antibacterial qualities, the alkaloids found in akarkara make it an effective febrifuge.

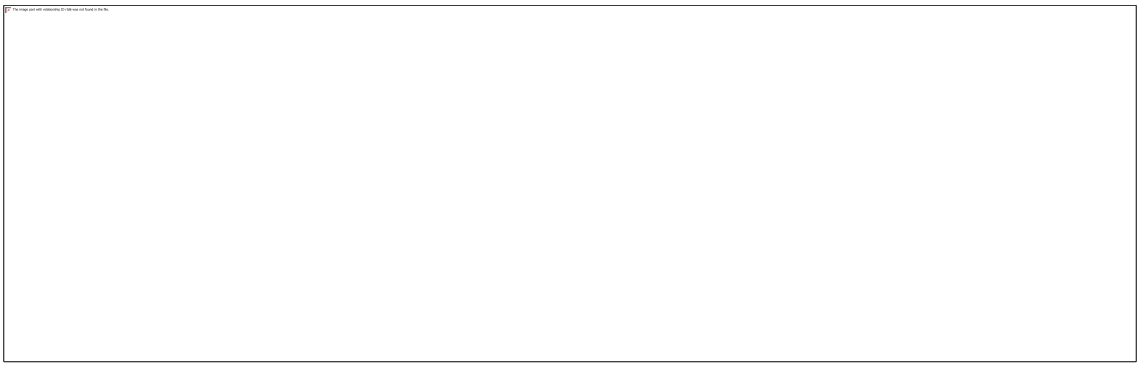
Vermifuge: Akarkara roots are an excellent vermifuge because of the alkaloids' anti-biotic and anti-microbial qualities, which also aid in eliminating intestinal worms.

Sialagogue: It stimulates salivary gland secretion and output. This is widely used for toothaches and can help with digestion as well as relieve dry mouth.

Memory improvement: Akarkara improves memory by blocking the cholinesterase enzyme, which is responsible for memory loss. Because it improves memory, this herb exhibits excellent outcomes in Alzheimer's illness. According to Ayurveda, it strengthens the nerves, which improves memory.

Chemical Components:

Several investigations have documented several chemical components found in A. pyrethrum. Phytochemical screening of the roots, leaves, and flowers indicated the presence of cathechic tannins, reducing chemicals, and alkaloids. In addition, the plant has trace amounts of Zn, Fe, Cu, Cd, Cr, Ni, and Pb as well as other compounds such gallic tannins, triterpenes, sterols, mucilage, coumarins, saccharids, and holosids. Compared to leaves and roots, flowers have the highest concentrations of flavonoids, total phenol, and polyphenols. While the aerial portions are rich in flavonoids and tannins, the roots are rich in alkaloids. The root includes gum, inulin, lignin, different salts, a brown, bitter resin, and a trace amount of tannic acid. The plant's roots have aphrodisiac properties because they contain the bioactive chemical N-alkylamides. By using mass- and NMR-spectroscopic techniques, seven pure alkamides were identified as follows: deca-2E,4E,9-trienoic acid isobutylamide; deca-2E,4E-dienoic acid isobutylamide (pellitorine); deca-2E,4E-dienoic acid 2-phenylethylamide; tetradeca-2E,4E-dien-8,10-diynoic acid isobutylamide (anacycline); undeca-2E,4E-dien-8,10-diynoic acid isopentylamide; dodeca-2E,4E-dien acid 4-hydroxy-2-phenylethylamide; and tetradeca-2E,4E,12Z-trien-8,10-diynoic acid isobutylamide (anacycline).



Important Formulations:

Powdered medication in the dose of 0.5–1 g (Kumaryasava, Nagavallabha, Kasturyadi, Vayu).Mouthwash, Dentifrices, Churna, Kwath, Gutika, Lehyam, Rasa, Vati, Tablet, Toothpaste, and Cream.

Morphology:

Akarkara grows to a height of three to four feet, making it a perennial herb. Its flowers have whitish or pale yellow hues. The stem of this plant rests on the ground the entirety of its length. Each has a single, sizable flower, with a golden disk. The rays are purple underneath and white above. Its smooth, pinnate leaves alternate with deeply divided sections. The cylindrical root has a tuft of gray hairs at its apex, and it is gently twisted and tapering. It has black splotches and is wrinkled and brownish. It was introduced to India and is now located in Bengal. It is native to Arabia, Syria, and North Africa. Evergreen creeper with many branches, dark color, and bitter flavor. The root is 7 to 10 cm long. Well, it isnoteworthy that the root of this plant retains its potency for seven years. Little leaves, resembling those of the capittha.Round-shaped flowers that bloom throughout the summer. Petals: upper side yellowish-white, pink, or pink. Fruits are oval-shaped and shallow.

Used Part: Entire plant

Macroscopically:

Akarkara is a procumbent, perennial herb. Before ascending straight, the stem is lying on the ground. The leaves have deeply cut segments and are smooth, pinnate, alternating, and pale green in color. Fruit achene, obovate. A tuft of grey hairs crowns the nearly cylindrical root. On the outside, it has wrinkles and is brown with black dots.

Strength, Purity, and Identity

Foreign Matter:	Not more than 2 Percent,
Total Ash:	Not more than 10 Percent
Acid-insoluble Ash:	Not more than 2 Percent
Alcohol-soluble extractive:	Not less than 8 Percent
Water-soluble extractive:	Not more than 22 Percent

Conclusion:

This review clearly shows that Anacyclus pyrethrum has a variety of phytoconstituents, indicating its potential applications for a range of medical conditions. Many human disorders, including those involving the immune system, inhibition, antidepressant, anticonvulsant, myrorelaxation, memory enhancement, aphrodisiacs, antimicrobial activity, local anesthetic, insecticidal, and molluscicidal effects, can be treated with the roots. Further research is necessary to examine the mechanism of action of Anacyclus pyrethrum in relation to other medicinal activity. In the end, our findings identify chemicals called arkarkara as potentially effective treatments for neurological and inflammatory illnesses.

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