

Anacyclus Pyrenthrum: An Unexplored Ethanomedicinal Plant

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ABSTRACT

Anacyclus pyrenthrum most widely growing species of the family Asteraceae. The plant having several pharmacological actions such as antidiabetic, immunostimulant, inhibitory effects, antidepressant activity, anticonvulsant activity, memory-enhancing activity, aphrodisiacs, antimicrobial activity, antioxidant, local anesthetic effect, insecticidal effect, action on COX and LOX, interactions with testosterone, interaction with libido, and its interaction with testicles. mostly the root is having phytochemical components which shows above pharmacological activity.

KEYWORDS: antidepressant activity, aphrodisiacs, antidiabetic, immunostimulant

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INTRODUCTION

Akarkara belongs to asteraceae family of plants and its botanical name is *Anacyclus pyrenthrum*. It is an herb with many medicinal uses. Apart from Ayurveda, it is used by other alternative systems of medicine like Unani and Homeopathy. The herb is mostly known and famous for its aphrodisiac effect on the body and helps in the detoxification of excess wastes and fluids from the body. Most beneficial and useful part of the plant is the root which is medicinally used in the form of dried powder.¹ *Anacyclus pyrenthrum* is a perennial herb much like chamomile in habitat and appearance. It is in a different family Asteraceae from the plants known as pellitory of the wall and spreading pellitory. It is found in North Africa, in the Mediterranean region, in North India, the Levant and in certain regions in the Arabian peninsula.

Anacyclus pyrenthrum or Pellitory or Spanish chamomile or Mount Atlas daisy or akarkara is a medicinal plant which is traditionally used as a sex stimulant, antidiabetic, antioxidant, asthmatic drug, cardiac disease, and throat problems, to remove laziness, nerve weakness, carminative, stomach ache, arthritis, diuretic, tooth and gum problems, aphrodisiacs, epilepsy, headache, pain, muscle relaxant, etc.



Fig: Anacyclus pyrenthrum

Common Names of *Anacyclus pyrenthrum*¹

- English name: Pellitory
- Hindi name: Akarkara
- Sanskrit name: Akarkara
- Gujarati name: Akkorakaro
- Bengali names: Akkalkara
- Marathi name: Akkalkara
- Telugu name: Akarkaram
- Tamil name: Akkirakaram

Taxonomical Classification¹

- Kingdom: Plantae
- Clade: Trachophytes

- Clade: Angiosperms
- Clade: Eudicots
- Order: Asteraceae
- Genus: Anacyclus
- Species: *A.pyrenthrum*

Ethnopharmacological Uses

In variety of traditional preparation the plant *anacyclus pyrenthrum* are used to cure numerous disease.

Anti-Diabetic

The antidiabetic activity of aqueous root extract of *Anacyclus pyrenthrum* was evaluated in alloxan induced diabetic rats. The aqueous root extracts of *Anacyclus pyrenthrum* at a conc. 150 and 300 mg/kg was orally administered to Alloxan induced diabetic rats. The prominent levels of blood glucose in the diabetic rats reverted back to near normal after treatment with aqueous root extract of *Anacyclus pyrenthrum*.²

Local Anesthetic effect (Clinical study)

A local anaesthetic consequence of *Anacyclus pyrenthrum* is investigated in vivo. In double blind study in 200 dentistry patients, the local anaesthetic effect of an alcoholic extract of the roots 2%, freshly dissolved in sterile distilled water was compared with that of 2% xylocaine hydrochloric solution.²

Anti-Inflammatory

Anacyclus pyrenthrum (L.) is a plant widely used in Moroccan traditional medicine to treat inflammatory and painful disease. The antinociceptive, anti-inflammatory and antioxidant activities of aqueous and methanol extracts of *Anacyclus pyrenthrum* roots the in vitro antioxidant activities of the extracts were determined by using 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging method, AEAPER and MEAPR produced significant reductions in CFA-induced paw edema and xylene-induced ear edema. A single oral administration of these extracts at 250 and 500 mg/kg significantly reduced mechanical hypersensitivity induced by CFA, which had begun 1 hr 30 min after the treatment, and was maintained till 7 hr. Chronic treatment with both extracts significantly reduced mechanical hyper sensitivity in persistent pain conditions induced by CFA³

Anti Convulsant

The anti convulsant activity of hydro alcoholic extract of *Anacyclus pyrenthrum*. Root and validate its use as antiepileptic drug as claimed in Unani system of medicine. Two experimental models of epilepsy viz. PTZ induced seizure test and maximal electroshock seizure test (MES) were used in the study. The rats of wistar strain were divided into four groups of six animals each. Group I served as plain control and was given distilled water 2 ml/kg orally. Group II was given diazepam 5 mg/kg i.p. and served as standard control. Animals in group III and IV were treated with hydro alcoholic extract of *Anacyclus pyrenthrum* onset of 1 st seizure, clonic and tonic seizure, total number of convulsions and duration of tonic and clonic convulsion were assessed in PTZ induced seizure test. The parameters were analysed and compared statically for different groups.⁴

Immunostimulant Activity

Hot water polysaccharide extracts of *Anacyclus pyrenthrum* (L.) was tested for their immunostimulant activity in mice. The fractions from *Anacyclus pyrenthrum* and increased

number of peritoneal exudates cells (PEC), and spleen cells of mice. In this case, the optimum doses were 50 and 25 mg/kg for the two fractions, respectively.⁵

Antidepressant Activity

The plant has been reported several pharmacological actions such as antidiabetic, immunostimulating effect, inhibitory effects, antidepressant activity, anticonvulsant activity, memory-enhancing activity, aphrodisiacs, antimicrobial activity, antioxidant, local anesthetic effect, insecticidal effect, action on COX and LOX, interactions with testosterone, interaction with libido, and its interaction with testicles. Mainly the root portion has beneficial properties that can serve the mankind.⁶

Reproductive Activity

Anacyclus pyrenthrum aqueous extract of roots was studied for its effect on sexual behavior, spermatogenesis, and sperm count. Fructose levels in seminal vesicles of albino rats were also recorded. Aqueous extract on administration in albino rats showed pronounced anabolic and spermatogenic effect in animals of respective groups. The sperm count and fructose levels in seminal vesicle were markedly increased. Improvement in sexual behaviour of male rats was characterized by increased mount and intromission frequency and reduced mount and intromission latency. The extract had a dose dependent influence on sperm count and seminal fructose concentration which increased significantly.⁷

Memory Enhancer

Memory impairment was produced by administration of scopolamine 1 mg/kg in rats. Passive avoidance paradigms, elevated plus maze and social learning task was used to assess learning and memory. It acts on central cholinergic system. Central cholinergic system is considered as the most important neurotransmitter involved in regulation of cognitive functions.⁸

Conclusion

Modern civilization, pollution, rapid rise in population, poor knowledge on medicinal plant and their unscrupulous collection from wild leads to decrease existence of valuable medicinal plant resources. Thus a proper conservation and sustainable cultivation and harvesting method are required. *Anacyclus pyrenthrum* an amazing medicinal plant is one of the most widely growing species⁶. The above collected information regarding the use of *anacyclus pyrenthrum* in world is matched with available literature. Thorough screening of literature available depicted the fact that is a well known remedy among the various ethnic group, ayurvedic and traditional practitioners for treatment of ailments.

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