Convolvulus pluricaulis

TAXONOMICAL CLASSIFICATION:[1]

Kingdom: Plantae

Sub-kingdom: Tracheobionta

Super-division: Spermatophyta

Division: Magnoliophyta

Class: Magnoliopsida

Sub-class: Asteridae

Order: Solanales

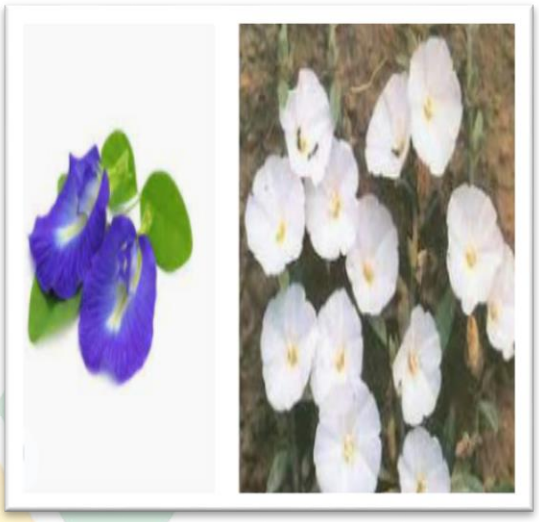
Family: Convolvulaceae

Genus: Convolvulus

INTRODUCTION:[2,3]

Convolvulus pluricaulis is a perennial herb that seems like morning glory. Its branches are spread on the ground and can be more than 30 cm long. The flowers are blue in color (5 mm) and the leaves, which are elliptic in shape (2 mm), are located at alternate positions with branches or flowers. Known as Aloe weed in English, the herb is commonly found in India, especially in the state of Bihar. All the parts of the herb are known to possess therapeutic benefits. It is believed to be the only herb that is capable of enhancing all the aspects related to brain power, such as learning, memory and the ability to recall. However, its popularity stems from its ability to treat insomnia effectively. Plant of Shankhpushpi is found everywhere in India in sandy and stony areas and prefers dry climate. The plant can be found in variety of places including sandy and rocky surfaces particularly in North India. This plant belongs to Convulvulaceae family and usually flowers during September and October. The flowers can range between white to light pink in colour. Various chemical compositions, such as glucose, sucrose, glycosides, alkaloids and various acids etc., are found in the plant. Convolvulus pluricaulis is a twining perennial herb considered as the most wonderful gift of nature to the mankind. In Ayurveda (an ancient system of Indian medicine), it

is mentioned as a rasayana which is commonly used as brain stimulator and memory enhancer. The herb has appearance like morning glory with blue flowers situated at alternate positions with flowers or branches. In India, it is commonly found in the state of Bihar. This herb's all parts are used medicinally and have beneficial effect on the body. It is considered to be the only herb which has the ability to enhance all the aspects connected to brain power, for example memory, learning, and the ability to recall. Research into the chemical constituents in Shankhpushpi had found presence carbohydrate-D-glucose, maltose, rhamnose, sucrose and starch, and certain other bio-chemicals which include glacial acetic acid, scopoletin, three coumarins, β-sitosterol, tropane alkaloids, kaempferol, convoline, convolidine, convolvine, confoline, convosine, palmitic acid (66.8%), linoleic acid (2.3%), and straight chain hydrocarbon hextriacontane, 20-oxodotriacontanol, tetratriacontanoic acid and 29-oxodotriacontanol.



PROPERTIES AND USES: [4,5]

- Effect on learning and memory
- Anxiolytic
- Antidepressant
- Antistress
- Neurodegenerative
- antiamnesic activity
- Anticonvulsant activity
- Antioxidant activity
- Hypolipidemic
- Effect on thyroid function
- Analgesic activity
- Antimicrobial

- Insecticidal
- Antifungal
- Antibacterial
- anthelmintic activity
- Antiulcer
- anticatatonic activity
- Antidiabetic activity
- prevents excessive menstruation
- cure of abscesses
- immunomodulation
- Cardiovascular activity
- Effect on learning and memory
- Anxiolytic activity
- Neuroprotective activity

SIDE EFFECTS OF EXCESS CONSUMPTION:[6]

There are no side effects observed with the use of Convolvulus Pluricaulis (Shankhpushpi). Some people may feel discomfort when taking its fresh herbal paste. It might be due to herbal taste. Otherwise, no disadvantage adverse effect has found. It is **SAFE and WELL-TOLERATED** in most of people.

DOSAGE: [6]

- Powder – 3-5 gm
- Extract – 250-500 mg
- Herbal paste – 5-20 gm

RESEARCH:

1. The herbal medicinal plant, Convolvulus pluricaulis: a rasayana drug has been primarily advocated for use in mental stimulation and rejuvenation therapy. In ancient systems of Indian medicine, Ayurveda, the plant is also known by the name Shankhpushpi and has been shown to act as a prominent memory improving drug, a psychostimulant and tranquiliser. The plant displays its biological activity due to the presence of several alkaloids, flavanoids and coumarins as active

chemicals. Previous reports by us and others have demonstrated beneficial effect of extracts of this plant in an in-vitro and in-vivo models of Alzheimer's disease (AD). Justification of its potential for an ancient brain tonic has been provided recently by clinical studies on polyherbal formulation of this plant. This review attempts to compile information on Convolvulus Pluricaulis in order to establish this herbal drug as a potent natural therapeutic agent to combat AD related symptoms. [7]

2. Convolvulus pluricaulis Choisy, commonly known as ''Shankhpushpi'', is an ayurvedic medicinal plant recommended as a brain tonic to promote intellect and memory, eliminate nervous disorders and to treat hypertension. Because of increasing demand of the drug, this plant species has been over-exploited. As a consequence, many unrelated plants are being sold by the crude drug dealers in India in the name of ''Shankhpushpi''. Information on its existing gene pool is currently lacking. We developed molecular (Random Amplification of Polymorphic DNA) and chemical (high performance liquid chromatography) markers that could distinguish the genuine plant species from its adulterants. Molecular characterization confirmed higher genetic variation at inter-zonal level as compared to intra-zonal populations. A total of 37 reproducible amplicons were generated of which 22 were polymorphic. The number of amplicons was in the range of 6–11 and genetic distance for the studied primers ranged from 0.07 to 0.34. Fifty nine per cent polymorphism was obtained across different geographical locations. Dendrogram studied through unweighted pair group method of arithmetic analysis differentiated all the genotypes into two major clusters, Cluster I had the single population of Rajasthan and Cluster II was represented by genotypes of Delhi, Haryana, Madhya Pradesh and Rajasthan. The Kaempferol content ranged from 0.07 to 0.49 mg/g and Delhi population was the highest accumulator. [8]
3. The objective of the study was to compare the phytochemical investigation and anti-inflammatory activity of ethanolic extract of two variety of shankhpushpi i.e. Convolvulus pluricaulis Choisy and Evolvulus alsinoides Linn. The phytochemical analysis was performed followed by characterization with FTIR and NMR spectroscopy and total phenolic content determination. Anti-inflammatory activity was evaluated by two i vitro models i.e. heat induced and hypotonic solution-induced hemolysis. Total phenolic content of C. pluricaulis and E. alsinoides was 668.143 + 1.107 and 593.453 + 0.565 micro g GAE/ml extract respectively. In heat hemolysis, inflammation was significantly reduced at 50, 100 and 300 micro g/ml in CP and at 50, 100 and 200 micro g/ml in EA. Both extracts were effective in inhibition of hemolysis and results of both were compared than CP shows better results than EA. [9]

4. This study investigate the neuroprotective effect of *Convolvulus pluricaulis* aqueous extract (AE) against scopolamine (1 mg/kg body weight (bwt))-induced neurotoxicity in the cerebral cortex of male Wistar rats. The study was carried out on male Wistar rats (age matched, weight 250 ± 20 g). The present study investigated cognitive-enhancing property of AE using Elevated plus maze (EPM) (transfer latency [TL]) and Morris water maze (MWM). Besides evaluating the effect of extract on neurochemical enzymes, *in vivo* antioxidant and free radical scavenging activities were also screened. All the measured parameters were compared with rivastigmine tartrate (1 mg/kg bwt) which was taken as standard. Pretreatment of rats with AE (150 mg/kg bwt) significantly reduced scopolamine-induced increase in the TL in EPM, whereas in MWM, administration of extract improved the impairment of spatial memory induced by scopolamine. The activity of acetylcholinesterase (AChE) was significantly inhibited by extract within the cortex and hippocampus. Reduced activities or contents of glutathione reductase, superoxide dismutase, and reduced glutathione within the cortex and hippocampus induced by scopolamine were elevated by the extract. Taken together, it could be postulated that extract may exert its potent-enhancing activity through both anti-AChE and antioxidant action. AE possesses neuroprotective potential, thus validating its use in alleviating toxic effects of scopolamine. [10]

PRECAUTIONS & WARNINGS: [7]

- Take Shankhpushpi in recommended dose and duration as a high dose can lead to stomach problems like loose motion.
- Use Shankhpushpi only under medical supervision during breastfeeding.
- Monitor your blood pressure while taking Shankhpushpi with your preexisting antihypertensive medication. This is because Shankhpushpi has blood pressure lowering property.
- Use Shankhpushpi only under medical supervision during pregnancy.
- Use Shankhpushpi oil after diluting with any base oil like coconut oil before applying to the body.
- Use Shankhpushpi leaves or root paste with honey or milk if you have a hypersensitive skin.

REFERENCES:

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3868798/pdf/apjtb-04-03-245.pdf
2. http://www.ijpab.com/form/2014%20Volume%202,%20issue%206/IJPAB-2014-2-6-326-329.pdf
3. https://www.phytojournal.com/vol1Issue1/Issue_may_2012/4.pdf
4. Sethiya, Neeraj & Mishra, Shrihari. (2010). Review on ethnomedicinal uses and phytopharmacology of memory boosting herb Convolvulus pluricaulis Choisy. Australian Journal of Medical Herbalism. 22. 19-25.
5. https://www.rjpbcs.com/pdf/2014_5(3)/[70].pdf
6. https://www.ayurtimes.com/shankhpushpi-convolvulus-pluricaulis-benefits-side-effects/
7. http://www.ijpsdr.com/index.php/ijpsdr/article/view/488
8. https://link.springer.com/content/pdf/10.1007/s13205-014-0227-8.pdf
9. https://www.bibliomed.org/?mno=135336
10. https://www.ijp-online.com/article.asp?issn=0253-7613;year=2011;volume=43;issue=5;spage=520;epage=525;aulast=bihaqi