



**A REVIEW ON HERBAL PLANT USED FOR HYPERTENSION TREATMENT**

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**ABSTRACT**

Hypertension (HTN) is the medical term for high blood pressure. It is dangerous because it makes the heart work too hard and contributes to atherosclerosis (hardening of arteries), besides increasing the risk of heart disease and stroke. HTN can also lead to other conditions such as congestive heart failure, kidney disease, and blindness. Conventional antihypertensive are usually associated with many side effects. About 75 to 80% of the world population use herbal medicines, mainly in developing countries, for primary health care because of their better acceptability with human body and lesser side effects. In the last three decades, a lot of concerted efforts have been channeled into researching the local plants with hypotensive and therapeutic values. The hypotensive effects of some of these medicinal plants have been validated and others disproved. However, Ayurvedic knowledge needs to be coupled with modern medicine and more scientific research needs to be done to verify the effectiveness, and elucidate the safety profile of such herbal remedies for their antihypertensive potential.

**KEYWORDS:** Hypertension, Antihypertensiv, High Blood Pressure.

**INTRODUCTION**

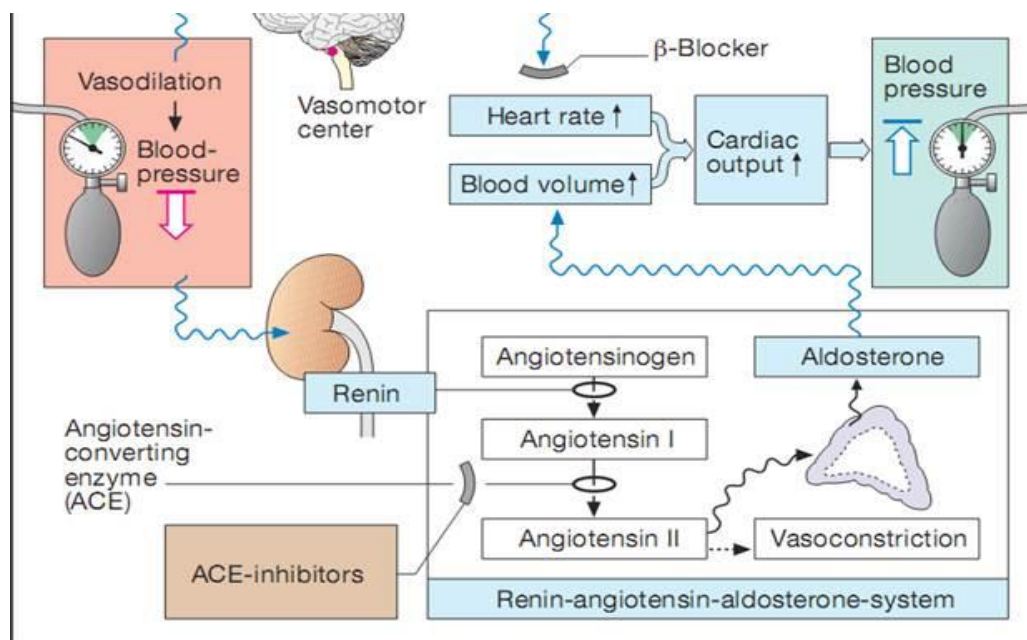
Hypertension (HTN or HT), also known as high blood pressure (HBP), is a long term medical condition in which the blood pressure in the arteries is persistently elevated. High blood pressure usually does not cause symptoms. Long term high blood pressure, however, is a major risk factor for coronary artery disease, stroke, heart failure, peripheral vascular disease, vision loss, and chronic kidney disease.

High blood pressure is classified as either primary (essential) high blood pressure or secondary high blood pressure. About 90–95% of cases are primary, defined as high blood pressure due to nonspecific lifestyle and genetic factors. Lifestyle factors that increase the risk include excess salt, excess body weight, smoking, and alcohol. The remaining 5–10% of cases are categorized as secondary high blood pressure, defined as high blood pressure due to an identifiable cause, such as chronic kidney disease, narrowing of the kidney arteries, an endocrine disorder, or the use of birth control pills.

**Pathophysiology<sup>[20-23]</sup>**

Pathophysiology is a branch which tells that function of body in disease conditions. The pathophysiology of hypertension is an area which attempts to explain mechanistically the causes of hypertension, which is a chronic disease characterized by elevation of blood pressure. Hypertension can be classified by cause as either essential or secondary. Essential

hypertension indicates that no specific medical cause can be found to explain the hypertension. About 90–95% of hypertension is essential hypertension. Secondary hypertension indicates that the hypertension is a result of a specific underlying condition with a well-known mechanism, such as chronic kidney disease, narrowing of the aorta or kidney arteries, or endocrine disorders such as excess aldosterone, cortisol, or catecholamine's. Persistent hypertension is a major risk factor for hypertensive heart disease, coronary artery disease, stroke, aortic aneurysm, peripheral artery disease, and chronic kidney disease. The pathophysiology of essential hypertension remains an area of active research, with many theories that are not mutually exclusive.



**B. Counter-regulatory responses in hypotension due to vasodilators**

### Symptoms of High Blood Pressure

#### Highlights

1. Rare symptoms include dizzy, headaches and nosebleeds.
2. Nervousness, sweating, difficulty in sleeping or facial flushing.
3. Blood spot in eye.
4. Facial flushing occurs when blood vessels in the face dilate.
5. Vision loss.
6. Kidney damage.
7. Erectile dysfunction.
8. Fluid buildup in the lung.
9. Memory loss.
10. Chest pain.
11. Cirrhosis
12. Difficulty in breathing
13. Fatigue and Confusion.
14. Blood in urine.
15. Irregular heart beat.

### METHODOLOGY

Various types of documents such as books, published research articles and these were thoroughly explored to collect valuable information regarding the medicinal plants used for the treatment of hypertension. The references of identified articles and hand searched journals on ethno botany, herbal medicine such as the journal of ethno pharmacology were also searched. Various web sites including Google scholar and pub med have also been searched for the collection of data using important related key words such as Ethno botanical survey, Ethiopian herbal medicine, antihypertensive plants, etc. Using the sources and tools, the scientific, family and local names of each plant species together with the parts used, method of preparation as well as other medicinal benefits of the identified plants were clearly described and presented in a Table 1.

**Table 1: List of medicinal plants used for management of hypertension.**

Sr.no.	Scientific Name	Local Name	Part Used	Chemical Constituents	Medical Uses
1.	Rauwolfia serpentina(Apocynaceae)	Chandrika	Roots and Rhizomes	Reserpine group and Indole alkaloid	Hypotensive and tranquillizer
2.	Allium sativum(Liliaceae)	Lehsun	Bulb	Allin,Allicin, Polysulphide	Hypotensive and Diuretic
3.	Hibiscus Rosa-Sinesis(Malyaceae)	Red Hibiscus	Leaves, Flowers and Roots	Hisbiscetin, polyphenol	Hypotensive and antibacterial
4.	Withania Somnifera (Solanaceae)	Ashwagandha	Root and Stem	Withasomnine, Vsamine, cuscohygrine	Hypotensive and antispasmodic
5.	Aconitus Napellus Linn.(Ranunculaceae)	Aconite Root	Roots	Aconine, Mesaconitine	Hypotensive and Cardiac depressant.

## HERBAL PLANT USED FOR HYPERTENSION TREATMENT

### RAUWOLFIA

#### INTRODUCTION

##### Synonyms and vernacular name

Bengali – sarpagandha; Tamil – Chinanmdpodi  
 Sans Chhota-chand; Hindi – Chandrika; Bihar- Pagla ki dawa

##### Biological source

Rauwolfia consists of the dried roots and rhizomes of *Rauwolfia serpentina Benth.* It contains not less than 0.15% of reserpine.

##### Family

*Apocynaceae*

##### Geographical source

It is widely distributed in West land and in shady forests in Punjab eastward to Nepal, Sikkim, and Assam in India; Bhutan, Pakistan, Java and Thailand, etc.

##### Cultivation

1. It grows spontaneous in tropical forests (temp, 10°C to 40°C) which are humid in summer at an altitude up to about 1200 metres.
2. Rauwolfia plants cannot tolerate temperature below 50C.
3. For cultivation rain must be enough and abundant in summer or it should have good irrigation.
4. Rauwolfia grows well in clays, acidic (pH-4 to 6) and well-manure soil. Ploughing must be deep for facilitating the development of the roots.
5. Propagation is carried out by planting seeds, root-culture or stem-cutting.
6. Seed propagation gives better yield of root inspite of the fact some seeds are weak in germination.
7. Therefore cultivation of rauwolfia is usually carried out by seed propagation. Immersing them in saline eliminates sterile seeds.
8. Sterile seeds are light, float and are separated.
9. Fertile seeds sink and are utilized. Fresh seeds germinate more and preferably fresh seeds are used.
10. In vegetative propagation especially in root-cuttings, development of roots is better if growth hormones are used.

##### Collection

1. They are collected in October-November after hot and dry period.
2. In Indian Pharmacopoeia collection of roots of 3 to 4 years old plants is mentioned but in culture it is found that roots of 2 years old plants are equally good.
3. For collection of roots plants are dug out, aerial parts are removed and roots are separated.
4. roots are washed and dried in air till moisture is about 10 to 12%. Roots should be stored protected from light.

##### Morphological characters



**Reference:** - WWW.Researchgate.net.com.

- (i) External features of roots and rhizomes are nearly similar but rhizomes can be made out by the presence of small central pith.
- (ii) Drug consists of mostly small pieces, which are 2 to 15 cm long and 3 to 22 mm diameter.
- (iii) Pieces are cylindrical, slightly tapering and tortuous.
- (iv) Outer surface is grayish yellow, pale brown or brown.
- (v) Fracture short.
- (vi) Fracture surface show yellowish to brown bark and dense pale yellow radiating wood with 2 to 8 annular rings occupying nearly three fourth of the diameter.
- (vii) Odour Odourless
- (viii) Taste bitter.

##### Microscopical characters (T.S.)

T. S. of the root presents a circular outline with typical stratified cork and other secondary features. Following are the tissues seen from the periphery to the center.

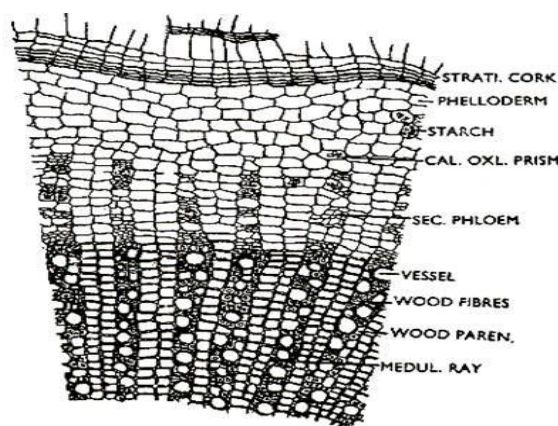


Fig. 12: T. S. of Rauwolfia root

##### Reference

Singh R.K., Singh A., Rath S., Ramamurthy A., A review of Sarpagandha whole herb v/s Reserpine .its Alkaloid in the management of the hypertension, International Ayurvedic Medical Journal,3(2) , 2015, page no.. 565-569.

## 1. Periderm

### a. Cork (Phellum)

Stratified, consists of alternating bands- of smaller, suberized and un-lignified cell up to 8 to 10 row in radial depth- larger, suberized but lignified cell upto 5 to 7 row in radial depth.

### b. Phellogen

Indistinct but is seen as a narrow layer of thin walled cells,

### c. Phelloderm

5 to 7 layers, immediately below the phloem, cell is arranged in the radial rows whereas away from phloem, cell is oval and has intercellular spaces. Phelloderm contains abundant starch grains (with triradiate hilum) and typical twin prisms of calcium oxalate.

## 2. Secondary phloem

Is transverse by conspicuous Medullary rays. Phloem consists of sieve tubes, companion cells and phloem parenchyma. Starch grains and calcium oxalate prism occurs throughout the phloem tissue.

## 3. Secondary xylem:

It is also transverse by well develop Medullary rays. Xylem consists of vessels, wood fibres and lignified parenchyma. The vessels appear rounded, polygonal or at times radially elongated and occurs inner single or in pairs. Xylem fibres appear as rounded and polygonal structure with thick lignified walls. Typical oxalate prism and starch grains resembling those of the phelloderm and phloem occur freely in the wood parenchyma.

## 4. Medullary rays

It runs radially from the center to the cortex through the phloem. Rays in the xylem region are lignified, pitted and are 1 to 5 cells wide although uniseriate rays are prominent. In the phloem region the ray cells are not lignified. Starch and typical oxalate prisms are in the medullary ray cells.

## Chemical constituents

- i. Alkaloids- Indole alkaloids (1.5 or 3%) present.
- ii. Weakly basic Indole type (pH 7 to 7.5)
- iii. Reserpine group – Reserpine, Rescinamine, deserpidine.
- iv. Tertiary indoline alkaloids (pH-8). Ajmaline group- Ajmaline and Ajmalicine.
- v. Strongly basic anhydronium bases (pH-11).
- vi. Serpentine group – Serpentine, Serpentinine and Alsotonine.

## Mechanism of Action

The mechanism of action of reserpine is well researched. Reserpine binds to protein receptors on the membrane of specialized secretory vesicles found in the intracellular cytosol of presynaptic neurons. The membrane receptors are called vesicular monamine transporters, or VMAT for short. The VMATs normally bind intracellular

neurotransmitters, including adrenaline, noradrenaline, dopamine, histamine, and serotonin. They facilitate the transfer of these chemicals into the vesicle. The vesicle then binds to the terminal end of the presynaptic neuron and releases these chemicals into the synapse. These chemicals pass over and bind to receptors on the postsynaptic neuron and ultimately facilitate the propagation of the nervous impulse. Reserpine binds strongly to the VMAT receptor and prevents the neurotransmitters from being incorporated into the presynaptic vesicle. It thus prevents and dampens the promulgation of the nervous signal in primarily sympathetic neurons of the brain and peripheral nervous system to decrease the blood pressure.

## Uses

1. Rauwolfia is used as hypotensive and tranquillizer.
2. Reserpine being the main alkaloid is responsible for the activity and is used in anxiety condition and other neuropsychiatric diseases.
3. Sedative – calm down activities and excitement (reserpine group).
4. Stimulates the central of peripheral nervous systems (Ajmaline group).
5. The decoction of root is used to increase uterine contraction in difficult cases.
6. The extract is used for intestinal disorders and as anthelmintic bitter tonic and febrifuge.

## GARLIC

**Synonyms:** Lehsun, Rasun, Belluli, Vallaippundu, Garlic.

## Biological source

Lehsun consists of the fresh compound bulb of *Allium sativum* Linn.

**Family:** Liliaceae.

## Geographical Source

Garlic is cultivated in India, Russia, USA, Italy and Southern Europe.

## Cultivation and collection

Your garlic should grow well if given the following conditions.

- Well drained soil
- Soil pH of 6.0 to 7.0
- Minimal weed competition
- Plenty of organic matter
- An inch of water while the bulb is forming - mid-May to July

### Morphological Characters

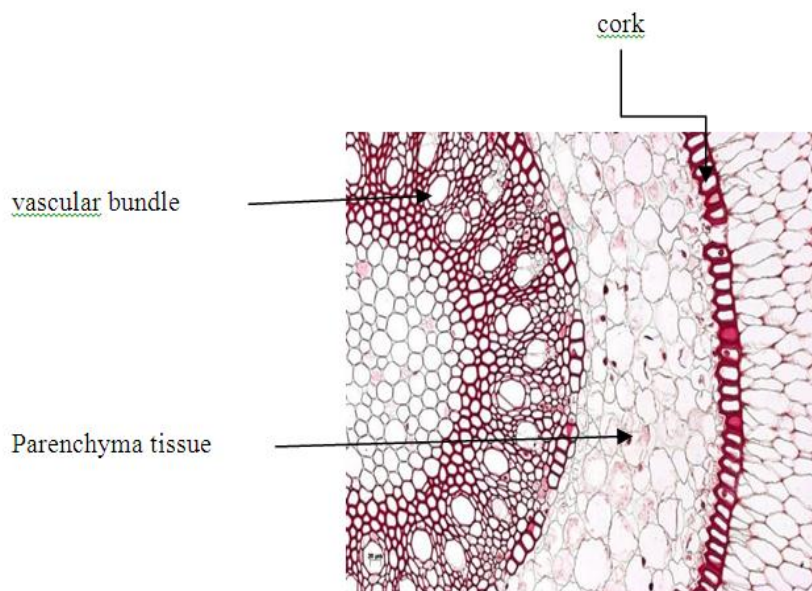


#### Reference: [www. Google.com](http://www.Google.com).

- (i) Type: Sub-globular compound bulb with several cloves, enclosed in a silky white or pinkish.

- (ii) The cloves are attached to a flat, circular, hard axis with numerous thin wiry roots from its underside and short sub-cylindrical outgrowths from the upper surface.
- (iii) Each clove is ovoid, surrounded by two papery scale leaves, the outer one whitish and loose, the inner one pink and adherent, but easily separable from the solid portion of clove; the papery scale leaves enclosed two whitish, fleshy scale, inner one thinner and small than the outer.
- (iv) The foliage leaves present in the centre are yellowish green.
- (v) Odour: Strongly alliaceous.
- (vi) Taste: Strongly pungent and alliaceous.

### Microscopical Character



#### Reference :- [www.researchgate.net.com](http://www.researchgate.net.com).

1. Epidermis is absent in T.S.
2. Cork consists of few layers. And few layer of cortical parenchyma tissue.
3. Steles are major part of drug consisting collective fibro vascular bundles.
4. Endodermis and pericycle are indistinguishable.

### Chemical Constituents

1. **Essential oil**(i) Alliin, a sulphur containing amino acid.  
(ii) Allicin- allyl sulphide.  
(iii) Polysulphide responsible for the unpleasant smell of the oil
2. Amino acid: Leucine, methionine, S-methyl cysteine, S-allyl cysteine.
3. Allyl propyl disulphide.
4. Vitamins: A, B, C and D and Fatty acid, mucilage and albumin. Minerals: Calcium, Iron and Zinc

### Mechanism of Action

- Garlic (*Allium sativum*) is frequently used for the treatment of many cardiovascular diseases that

include high cholesterol, heart disease, and hypertension.

- The active ingredient in garlic is known to be allicin (daily thiosulfinate).
- Garlic's ability to lower the blood pressure is multifactorial and includes: increasing the availability and activities of nitric oxide, inhibiting ACE thereby reducing a number of pathways that are known to decrease plasma volume and vasoconstriction, and lastly, increasing the production of H<sub>2</sub>S that results in hyper polarization of vascular smooth muscle cells.

### Uses

1. Analgesic, Stimulant, Anticonvulsant, Antibacterial, Diuretic, Tonic.
2. Used in hypertension and atherosclerosis (thickening of arterial wall).
3. Carminative, gastric stimulant and aids in digestion and absorption of food.
4. Used in the treatment of malignant tumors.

**HIBISCUS**

**Synonyme** - Red Hibiscus, Aka-bana(Japan),Acute (Samoa), Chinese hibiscus.

**Biological Source** - It Consists of dried ripe leaves, flower, and root of *Hibiscus Rosa-Sinesis*

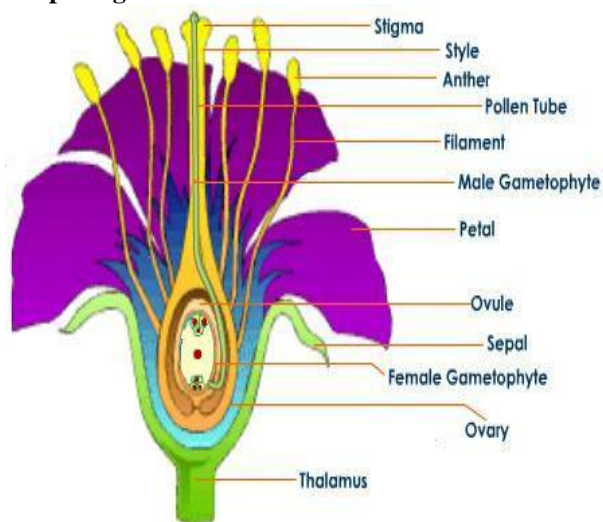
**Family**- Malyaceae

**Geographical source**

Red Hibiscus is a cultivated Hibiscus for which the origin and historical distribution is unknown. This species is no longer known in the wild.

**Cultivation and collection**

- It is widely grown as an ornamental plant throughout the tropics and subtropics. As it does not tolerate temperatures below 10 C (50 F), in temperate regions it is best grown under glass.
- However, plants in containers may be placed outside during the summer months or moved into shelter during the winter months.
- Numerous varieties, cultivars, and hybrids are available, with flower colors ranging from white through yellow and orange to scarlet and shades of pink, with both single and double sets of petals.
- The cultivar 'Cooperi' has gained the Royal Horticultural Society's Award of Garden Merit.

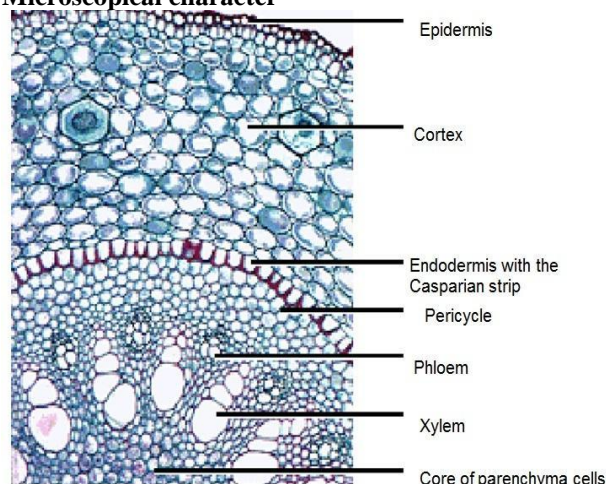
**Morphological character**

**Reference:-** www.researchgate.net.com.

**Color** - red, yellow, white

**Odour** – characteristics ,faint odour

**Taste** – bitter, mucillagenous.

**Microscopical character**

**Reference:-** www.researchgate.net.com.

- Endodermis- endodermis cell in t.s.showing casperian strips.
- marsilea- outer and inner endodermis in T.S.of marsilea
- endodermis- endodermis in L.S.
- Thick walled endodermis in the root of zea.
- Smilax- which is present in root.
- .casperian- strips present in the root-endodermis of cicer.
- colocasia- which is present in same as root

**Chemical Constituents**

- Lowers reported to yield hisbiscetin.
- Flowers yield polyphenols, flavonoids and anthocyanins.
- Polysaccharides which promote wound healing and are immune-modulating..Studies have isolated flavonoids, cyanidin, quercetin, hentriacontane, calcium oxalate, thiamine, riboflavin, niacin, ascorbic acid.
- Constituent study of flowers yielded total anthocyanin of 165 mg/kg; tannin, ascorbic acid, and total polyphone were 11.8g/kg, 478 mg/kg, and 14.4 mg/g respectively. Screening also yielded alkaloids and saponins.

**Mechanism Of Action**

we examined the effects of a crude methanolic extract of the calyces of Hibiscus on vascular reactivity in isolated aortas. HSE relaxed, concentration-dependently, KCl (high K(+)) and phenylephrine (PE) pre-contracted aortic rings, with a greater potency against the alpha(1)-adrenergic receptor agonist. The relaxant effect of heart was partly dependent on the presence of a functional endothelium as the action was significantly reduced in endothelium aortic rings. Pretreatment with atropine or methylene blue but not indomethacin significantly blocked the relaxant effects of heart. Endothelium-dependent and independent relaxations induced by acetylcholine and sodium nitroprusside, respectively, were significantly enhanced in aortic rings pretreated

with Hisbiscetin when compared to those observed in control aortic rings. The present results demonstrated that Hisbiscetin has a vasodilator effect in the isolated aortic rings of hypertensive rats. These effects are probably mediated through the endothelium-derived nitric oxide-cGMP-relaxant pathway and inhibition of calcium (Ca<sup>2+</sup>)-influx into vascular smooth muscle cells.

#### Uses

1. Hypertension
2. Antibacterial/Vermifuge
3. Chemopreventive effects
4. Laxative effects

#### ASHWAGANDHA

**SYNONYM-** Withania root, Ashwagandha, Asgand, Indian Ginseng.

**Biological Source-** It Consist of Dried Root and stems bases of *Withania Somnifera*

**Family-** Solanaceae

#### Geographical source

Withania is found growing in dry region of india, especially. Rajasthan, Madhya Pradesh and Maharashtra. It is also found in Africa, Sri lanka and Israel.

#### Cultivation and collection

1. Withania is collected mainly from wild grown plant.
2. About two thousand hectares of land is under cultivation in Madhya Pradesh. Cultivation is done by sowing the seeds in rainy season
3. It needs 5kg of seeds per hectare. Total height of the plant is about 1m.
4. It flower in the month of deceber. from February onwards, it is harvested by cutting 1 to 2 cm above the ground.
5. About 200kg of the dry drug per hectare is obtained on an average.
6. The roots after thorough drying, cleaning and trimming are sent to the market.

#### Morphological character



**Reference:** - [www.wikipedia.google.com](http://www.wikipedia.google.com).

**Color-** Buff to grey-yellow in colour, ste bases are green.

**Odour-** Strong and slight characteristic.

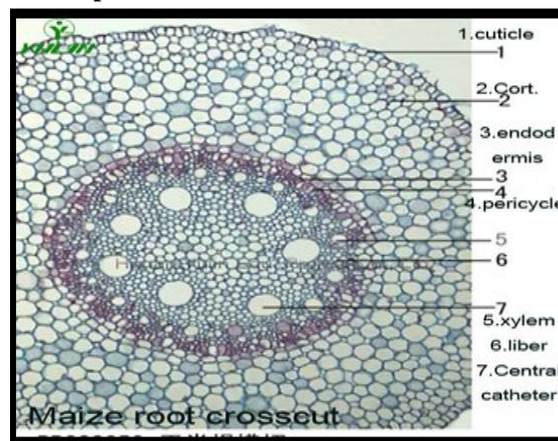
**Taste-** Mucilaginous, bitter and acrid, powdered drug is pungent and acidic in taste.

**Size-** 10-17.5cm in length and 6-12mm in diameter.

**Shape-** staight, unbranched and conical.fibre like secondary roots are also present on the drug. the roots as well as ,stem bases are longitudinally wrinkled. Nodes are prominent on the side; wherefrom the petiole arises fracture is short and uneven.

**Root-**It consist of straight, unbranched conical root in different length.

#### Microscopical character



**Reference:** - [www.wikipedia.google.com](http://www.wikipedia.google.com).

1. The T.S. section of Withania shows the outermost Layer of cork followed by phellogen and phelloderm.
2. Cork does not contain lignified cells, but is full of suberized cells.
3. Phelloderm is made up of parenchymatous cells.
4. Cambium is a narrowband of cells.
5. Phloes, secondary xylem (hard) and primary xylem are present.
6. Medullary rays are multiseriate.
7. Calcium oxalate crystals (microsphenoidal) in the phelloderm and starch grains throughout the cortex are also present.

#### Chemical constituents

1. Withania contains 0.13 to 2 % of total alkaloids.
2. Important of them are cuscohygrine, tropine, pseudotropine, anaferine and other.
3. Withasomnine and vsamine are the new alkaloids isolated recently.
4. Apart from the alkaloid, it contains starch, reducing sugar, glycoside and resin.
5. The plant is reported to contains a very important group of c-28 steroids, known as withanolide of which withanolide of which withaferine A is most important and is regarded to have antibiotics and antitumor activities.

### Mechanism of Action

1. Ashwagandha demonstrated GABA like properties and enhanced diazepam Effects in animals.
2. Rodent studies have shown it also appears to have depressant effects.
3. Ashwagandha has demonstrated an enhanced stress response as normal level.
4. such as the response to swimming dendrites, which is a marker of increased connectivity in the brain.
5. In human neuroblastoma cells, its extract is reported to promote the formation of Desentries which is marker increased conductivity of brain.
6. Adaptogens are substances that normalize body functions, strengthen system and function compromised by strees and have a protective effect a wide variety of environmental and emotional strees.

### Use

1. Antihypertensive and depressant activity.
2. The alkaloids are antispasmodic and anthelmintic.
3. It an action on smooth muscles and hence, used in asthma and also as uterine-sedative.
4. It is used in tonic and antitumor drug.
5. Withania has a great reputation as a tonic and aphrodisiac.
6. It also as antistress activity.

### ACONITE

**Synonym-** Aconite root, monk hood.

**Biological Source-** It consists of dried tuberous roots of *Aconitus napellus* Linn.

**Family-** Ranunculaceae

**Geographical Source**

It is found in North Europe, England, Hungary, Germany and Switzerland.

### Cultivation and collection

1. Due to poor germination rate, the plant is not propagated from seeds.
2. For cultivation the daughter roots are used.
3. The fusiform tuberous roots from which the lateral roots arise are developed into conical daughter tubercles.
4. There are several species of aconite and some of them are free of Aconitine.
5. Hence, the roots from the flowering plants are collected after identification, generally in autumn. the root are washed, dried and marketed.

### Morphological character



**Reference:** - [www.Google](http://www.Google). On [Wikipedia](http://Wikipedia) of [Aconite .Com](http://Aconite.Com).

**Colour-** dark brown

**Odour-** slight.

**Taste-** slight causing tingling sensation, followed by numbness of tongue.

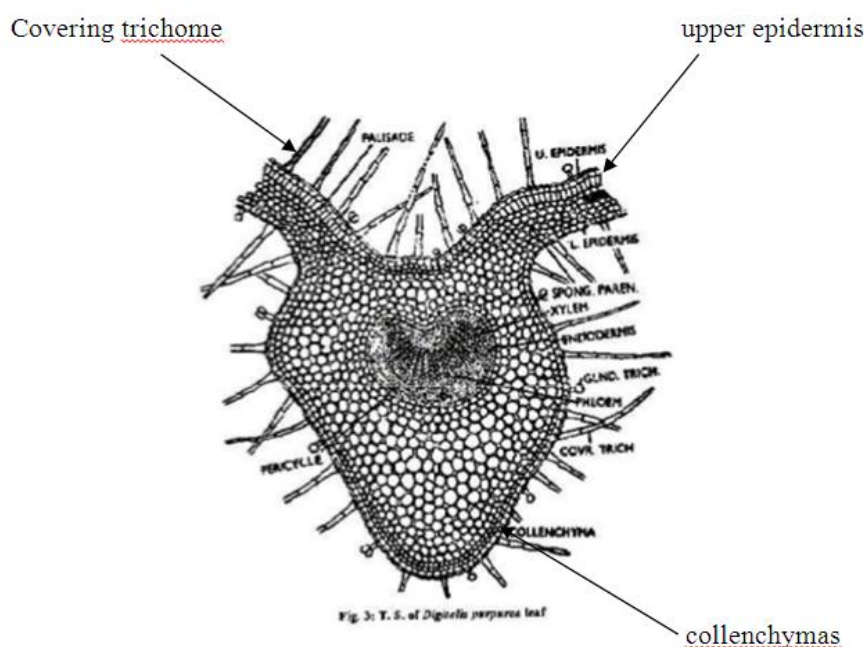
**Size-** usually 4 to 10 cm length and 1 to 3.5cm in width. it is broad towards the crown and tapering towards distal end

**Shape-** conical and tapering

**Fracture-** short and horny

**Surface-** slightly twisted, longitudinally ridged.

### Microscopical character





**Reference:-** Devi,P.V.et.al.in vivo growth inhibitory effect of Withania Somnifera on a transplantable mouse,tumour sarcoma 180.Indian J.exp.Biology 30.page no 169-172.1992.

1. Which contain anomocytic stomata is present.
2. Trichomes are nuiseriate multi cellular bluntly pointed.
3. Globular trachoma with unicellular stalls.
4. Covering trachoma, calcium oxalate crystals are present.
5. Sclernchyma, starch grains are present in endodermis.
6. Collenchyma present in three different places they are upper epidermis, lower epidermis, pericyclic part.

#### Chemical Constituent

1. Aconite contains 0.2 TO 1.5% OF Total Alkaloid.
2. The Alkaloid present in the root are aconite Aconine, Mesaconitine, Hypoconitine, Neopelline And Neoline.
3. Aconitine is Acetyl Benzolaconine, While Aconitic is Tricarboxylic Acid.
4. Aconitine on Hydrolysis Yield Benzylaconine and Acetic Acid.
5. Benzolaconine on further hydrolysis yield Aconine and Benzoic acid.
6. Traces of Ephedrine and sparteine also reported in drug.

#### Mechanism of Action

Hyoscyamine is an antagonist of muscarinic acetylcholine receptors (antimuscarinic). It blocks the action of acetylcholine at parasympathetic sites in sweat glands, salivary glands, stomach secretions, heart muscle, sinoatrial node, smooth muscle in the gastrointestinal tract, and the central nervous system. It decrease cardiac output and heart rate, lowers blood pressure and dries secretions. It may antagonize serotonin.

#### Use

1. used in hypotensive and cardiac depressant.
2. Aconite used in externally in treatment of neuralgia, sciatica, rhuemasm and inflammation.
3. it also used as analgesics and cardiac depressant.

#### RESULT AND CONCLUSION

Herbal medicines are free from side effects and less costly when compared to synthetic drugs. Botanicals have been used for centuries to treat various diseases including cardiovascular disorders. It is no surprise they have proven effective in lowering blood pressure and improving heart function.

Hypertension is an important public health challenge worldwide, Information on the burden of disease from hypertension is essential in developing effective prevention and control strategies.

The Present Review concluded that herbal plant used for hypertension treatment such as Rauwolfia, Garlic, Hibiscus, Ashwagandha and Aconite. These plant having minimum or no any side effect as compared to synthetic drug. these plant are easy available as compared to synthesized Compound.

These Herbal Plant as less Economic or less Price as compared to synthetic drug. The plant containing active constituents which shows antihypertension activity which can easy to extraction and isolation as compared to Synthetic Compound.

In the present review, a total of five medicinal plants have been identified and recorded for their use in management of hypertension.

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