IJAYUSH
International Journal of AYUSH
AYURVEDA, YOGA, UNANI, SIDDHA AND HOMEOPATHY
http://internationaljournal.org.in/journal/index.php/ijayush/

International Journal
Panacea
Research library
ISSN: 2349 7025

Review Article | Volume 13 Issue 7 | July 2024

THE EFFECT OF JATAMANSI PLANT IN HYPERTENSION -A DRUG REVIEW

***Dr. Suwarna Sawarkar[1] and Dr. Aakanksha Patwa[2]**

[1]Assistant Professor, Department of Dravyaguna, LN Ayurveda College Bhopal.
[2]Professor, department of Swasthavritta and Yoga, Mansarover Ayurveda Medical College and Hospital Bhopal. **Email id-** dr.aakanksha.patwa@gmail.com
*Corresponding Author's Email ID- drsuwarnasawarkar@gmail.com

Abstract

Background: Hypertension is a prevalent cardiovascular condition that significantly increases the risk of heart disease and stroke. Despite the availability of various antihypertensive medications, there is growing interest in natural remedies for managing blood pressure due to their holistic benefits and lower side effects. Jatamansi (Nardostachys jatamansi), a herb used in Ayurvedic medicine, has shown potential in controlling hypertension. **Objective:** To evaluate the effectiveness of Jatamansi in the management of hypertension through a comprehensive review of its pharmacological properties, mechanisms of action, and clinical efficacy. **Methods:** A detailed literature review included Ayurvedic texts, modern pharmacological studies, and clinical trials. The study focused on the bioactive compounds in Jatamansi, its pharmacological actions related to blood pressure regulation, and evidence from clinical studies. **Results:** Jatamansi contains significant bioactive compounds such as jatamansone, nardostachone, and valeranal, which contribute to its therapeutic effects. The herb exhibits vasodilatory, antioxidant, and anti-inflammatory properties, which are crucial in managing hypertension. Clinical studies have demonstrated a significant reduction in both systolic and diastolic blood pressure in patients treated with Jatamansi extract compared to control groups. **Discussion & Conclusion:** Jatamansi shows promising potential as a natural antihypertensive agent. Its multifaceted approach to reducing blood pressure, through mechanisms such as vasodilation and stress reduction, makes it a valuable addition to hypertension management. Further clinical trials are necessary to establish standardized dosages and confirm long-term safety and efficacy.

Keywords: Jatamansi, Nardostachys jatamansi, hypertension, Ayurvedic medicine, blood pressure, vasodilation, antioxidant, anti-inflammatory.

Introduction

Hypertension, commonly referred to as high blood pressure, is a significant global health concern that affects millions of people worldwide. It is a leading risk factor for cardiovascular diseases, including heart attacks, strokes, and heart failure, contributing to a substantial burden on healthcare systems. The condition is characterized by persistently elevated arterial blood pressure, which can damage blood vessels and organs over time if left unmanaged.[1]

Conventional treatments for hypertension typically involve a range of antihypertensive drugs, such as diuretics, beta-blockers, ACE inhibitors, and calcium channel blockers.[2] While these medications are effective in lowering blood pressure, they often come with side effects and may not address the underlying causes of hypertension, such as stress and oxidative stress. As a result, there is increasing interest in exploring alternative and complementary therapies that offer a holistic approach to managing hypertension.[3]

One such promising natural remedy is Jatamansi (Nardostachys jatamansi), a perennial herb native to the Himalayan region. Jatamansi has been an integral part of Ayurvedic medicine for centuries, renowned for its calming and therapeutic properties.[4] Traditionally, it has been used to treat a variety of ailments, including neurological disorders, digestive issues, and cardiovascular conditions.[5]

Jatamansi is believed to exert multiple beneficial effects on the cardiovascular system, making it a potential candidate for managing hypertension. The herb contains a variety of bioactive compounds, such as jatamansone, nardostachone, and valeranal, which have been shown to possess vasodilatory, antioxidant, and anti-inflammatory properties.[6] These pharmacological actions are crucial in reducing blood pressure and protecting the cardiovascular system.

Recent scientific research has started to uncover the mechanisms by which Jatamansi may help lower blood pressure. Its ability to induce vasodilation helps in reducing peripheral resistance, while its antioxidant properties combat oxidative stress, a key factor in hypertension. Additionally, Jatamansi's calming effects on the nervous system can aid in reducing stress-induced hypertension.[7]

This introduction presents a comprehensive exploration of the potential of Jatamansi in managing hypertension. By examining its pharmacological properties, mechanisms of action, and clinical evidence, this review aims to provide a thorough understanding of how this traditional herb can be integrated into modern hypertension treatment protocols, offering a natural and holistic approach to cardiovascular health.[8]

Aim & Objectives

Aim: To evaluate the effectiveness of Jatamansi in the management of hypertension.

Objectives:

1. To review the traditional uses of Jatamansi in Ayurvedic medicine.
2. To analyze the pharmacological properties of Jatamansi related to hypertension.
3. To assess the clinical efficacy of Jatamansi in reducing blood pressure.
4. To discuss the potential mechanisms by which Jatamansi exerts its antihypertensive effects.

Material & Method

Materials:

- Jatamansi root powder/extract
- Clinical data from existing studies
- Relevant Ayurvedic texts and modern pharmacological research articles

Method:

1. **Literature Review:** Conduct a comprehensive review of Ayurvedic texts, scientific journals, and clinical studies on Jatamansi and hypertension.
2. **Data Analysis:** Compile and interpret data to understand the efficacy and safety of Jatamansi in hypertension management.

Hypertension:

Definition

Hypertension, commonly known as high blood pressure, is a medical condition characterized by persistently elevated arterial blood pressure. Blood pressure is measured in millimeters of mercury (mmHg) and is recorded as two numbers: systolic pressure (the pressure when the heart beats) over diastolic pressure (the pressure when the heart rests between beats). A normal blood pressure reading is typically around 120/80 mmHg. Hypertension is diagnosed when these readings are consistently above 130/80 mmHg.

Classification

Hypertension is classified into several categories based on blood pressure readings:

- **Normal:** Systolic <120 mmHg and Diastolic <80 mmHg
- **Elevated:** Systolic 120-129 mmHg and Diastolic <80 mmHg
- **Hypertension Stage 1:** Systolic 130-139 mmHg or Diastolic 80-89 mmHg
- **Hypertension Stage 2:** Systolic ≥140 mmHg or Diastolic ≥90 mmHg
- **Hypertensive Crisis:** Systolic >180 mmHg and/or Diastolic >120 mmHg

Types

1. **Primary (Essential) Hypertension:**
    - The most common type, accounting for about 90-95% of cases.
    - No specific cause is identified; rather, it is associated with a combination of genetic and environmental factors.
2. **Secondary Hypertension:**
    - Caused by an underlying condition, such as kidney disease, hormonal disorders, or the use of certain medications.
    - Accounts for 5-10% of hypertension cases.

Causes and Risk Factors

Primary Hypertension:

- **Genetic Factors:** Family history of hypertension.

- **Age:** Blood pressure tends to increase with age.
- **Gender:** Men are more likely to develop hypertension at a younger age compared to women.
- **Ethnicity:** Higher prevalence in African Americans.
- **Lifestyle Factors:** Unhealthy diet (high in salt, fat, and cholesterol), lack of physical activity, obesity, excessive alcohol consumption, and smoking.

Secondary Hypertension:

- **Kidney Diseases:** Chronic kidney disease, glomerulonephritis.
- **Endocrine Disorders:** Hyperthyroidism, Cushing's syndrome, pheochromocytoma.
- **Medications:** Oral contraceptives, corticosteroids, nonsteroidal anti-inflammatory drugs (NSAIDs).
- **Obstructive Sleep Apnea:** Disrupted breathing during sleep.

Symptoms

Hypertension is often called the "silent killer" because it typically has no symptoms until significant damage occurs. When symptoms do appear, they may include:

- Headaches
- Shortness of breath
- Nosebleeds
- Dizziness
- Chest pain
- Visual changes

Pathogenesis of Hypertension According to Ayurveda

Ayurveda, the ancient Indian system of medicine, offers a unique perspective on the pathogenesis of hypertension. Known as "Raktachapa" or "Uccha Raktachapa" in Ayurvedic terms, hypertension is understood through the lens of the tridosha theory, which encompasses Vata, Pitta, and Kapha doshas. Each of these doshas represents different physiological and pathological processes in the body. Hypertension is typically considered a Vata-pitta predominant condition, but an imbalance of any of the three doshas can contribute to its development.

Doshas and Their Role in Hypertension

- **Vata Dosha:** Represents movement, circulation, and nervous system activities.
- **Pitta Dosha:** Represents metabolism, heat, and transformation processes.
- **Kapha Dosha:** Represents structure, lubrication, and stability.

Pathogenesis (Samprapti) of Hypertension

1. **Nidana (Causative Factors):**
    - **Ahara (Dietary Factors):** Excessive intake of salty, sour, spicy, and processed foods; consumption of alcohol and caffeinated beverages.
    - **Vihara (Lifestyle Factors):** Sedentary lifestyle, excessive physical exertion, irregular sleep patterns, mental stress, and emotional disturbances.
    - **Manasika (Psychological Factors):** Chronic stress, anxiety, and depression.
2. **Dosha Imbalance:**
    - **Vata Prakopa (Aggravation):** Irregular and unhealthy dietary habits, excessive mental and physical activity, and psychological stress lead to the aggravation of Vata dosha. This disturbed Vata increases the force and irregularity of blood circulation.
    - **Pitta Prakopa (Aggravation):** Consumption of heat-generating foods, exposure to heat, and anger lead to the aggravation of Pitta dosha. This

increased Pitta causes excessive heat and inflammation in the blood vessels, leading to their constriction and increased blood pressure.

- **Kapha Prakopa (Aggravation):** Sedentary lifestyle and consumption of heavy, oily foods lead to the aggravation of Kapha dosha. This results in increased body weight, cholesterol, and plaque formation in the arteries, contributing to hypertension.

3. **Srotorodha (Obstruction in Channels):**
    - The aggravated doshas cause obstruction in the body's microchannels (srotas), particularly those related to the cardiovascular system. This obstruction disrupts the normal flow of blood, leading to increased pressure within the arteries.
4. **Rasa-Rakta Dhatu Dushti (Vitiation of Body Tissues):**
    - Vitiation of the first two body tissues, Rasa (plasma) and Rakta (blood), occurs due to improper digestion and metabolism. This leads to poor quality of blood and plasma, which affects the cardiovascular system and increases blood pressure.
5. **Dhamani Pratichaya and Dhamani Kathinaya (Arterial Stiffness and Thickening):**
    - The aggravated doshas, particularly Vata and Pitta, cause changes in the arterial walls, leading to stiffness and thickening (Dhamani Pratichaya and Dhamani Kathinaya). This results in increased resistance to blood flow and elevated blood pressure.
6. **Agni Dushti (Digestive Fire Imbalance):**
    - Improper functioning of Agni (digestive fire) leads to the formation of Ama (toxins). These toxins accumulate in the blood vessels, causing inflammation and contributing to hypertension.
7. **Ojas Kshaya (Depletion of Vital Essence):**

- Chronic stress and improper lifestyle deplete Ojas (the vital essence of immunity and vitality), leading to weakness and susceptibility to hypertension.

Pathogenesis of Hypertension According to Modern Review

Hypertension, or high blood pressure, is a complex and multifactorial disease characterized by persistently elevated blood pressure levels. It is a leading cause of cardiovascular morbidity and mortality worldwide. The pathogenesis of hypertension involves a combination of genetic, environmental, and lifestyle factors that interact to cause sustained elevation in blood pressure. Understanding the mechanisms underlying hypertension is crucial for developing effective prevention and treatment strategies.

Pathogenesis of Hypertension

1. **Genetic Factors:**
    - **Heritability:** Hypertension tends to run in families, suggesting a genetic predisposition. Various genetic loci and polymorphisms have been associated with blood pressure regulation.
    - **Monogenic Hypertension:** Rare forms of hypertension are caused by mutations in single genes, such as those encoding for components of the renin-angiotensin-aldosterone system (RAAS).
2. **Renin-Angiotensin-Aldosterone System (RAAS):**
    - **Renin Release:** Produced by the kidneys in response to low blood pressure, sodium depletion, or sympathetic nervous system activation, renin catalyzes the conversion of angiotensinogen to angiotensin I.
    - **Angiotensin II Formation:** Angiotensin I is converted to angiotensin II by angiotensin-converting enzyme (ACE). Angiotensin II is a potent vasoconstrictor, increasing blood pressure by narrowing blood vessels.

- **Aldosterone Secretion:** Angiotensin II stimulates the adrenal cortex to release aldosterone, which promotes sodium and water retention by the kidneys, increasing blood volume and pressure.

3. **Sympathetic Nervous System (SNS):**
    - **Overactivation:** Chronic activation of the SNS contributes to hypertension by increasing heart rate, cardiac output, and peripheral vascular resistance.
    - **Neurotransmitters:** Norepinephrine and epinephrine released by sympathetic nerve endings cause vasoconstriction and increase heart contractility.
4. **Endothelial Dysfunction:**
    - **Nitric Oxide (NO):** The endothelium produces NO, a vasodilator that helps regulate blood vessel tone. Reduced NO availability leads to vasoconstriction and increased blood pressure.
    - **Endothelin:** This vasoconstrictor peptide, produced by endothelial cells, is often elevated in hypertension, contributing to increased vascular resistance.
5. **Vascular Remodeling:**
    - **Structural Changes:** Chronic hypertension leads to thickening and stiffening of blood vessel walls (arterial remodeling), increasing peripheral resistance and maintaining high blood pressure.
    - **Inflammation:** Inflammatory cytokines and oxidative stress can damage the vascular endothelium and promote remodeling.
6. **Kidney Function and Sodium Homeostasis:**
    - **Sodium Retention:** The kidneys play a critical role in regulating blood pressure by controlling sodium and water balance. Impaired sodium excretion leads to volume expansion and increased blood pressure.

- **Pressure-Natriuresis Relationship:** In hypertensive individuals, the ability of the kidneys to excrete sodium in response to increased blood pressure is impaired.

7. **Hormonal Factors:**
    - **Antidiuretic Hormone (ADH):** Also known as vasopressin, ADH promotes water reabsorption in the kidneys, increasing blood volume and pressure.
    - **Insulin Resistance and Hyperinsulinemia:** Common in metabolic syndrome and type 2 diabetes, these conditions can contribute to hypertension through sodium retention and sympathetic activation.
8. **Lifestyle and Environmental Factors:**
    - **Diet:** High salt intake, low potassium intake, excessive alcohol consumption, and poor dietary habits can contribute to hypertension.
    - **Physical Inactivity:** Sedentary lifestyle increases the risk of hypertension by promoting obesity and metabolic syndrome.
    - **Obesity:** Excess body fat, particularly visceral fat, is associated with increased blood pressure due to adipokine dysregulation, inflammation, and insulin resistance.
    - **Stress:** Chronic psychological stress can lead to sustained sympathetic nervous system activation and elevated blood pressure.

Pathophysiological Mechanisms

1. **Vasoconstriction and Increased Peripheral Resistance:**
    - Hypertension is primarily a disorder of increased vascular resistance. Vasoconstrictors such as angiotensin II, endothelin, and catecholamines cause blood vessels to narrow, increasing resistance to blood flow.
2. **Increased Cardiac Output:**

- Cardiac output is determined by heart rate and stroke volume. Factors that increase heart rate (e.g., sympathetic nervous system activation) or stroke volume (e.g., increased blood volume) can elevate blood pressure.

3. **Volume Overload:**
    - Sodium and water retention due to hormonal imbalances (e.g., aldosterone, ADH) and impaired renal function contribute to increased blood volume, raising blood pressure.
4. **Arterial Stiffness:**
    - Aging and chronic hypertension cause arterial walls to become less elastic. Stiff arteries cannot expand as easily with each heartbeat, leading to higher systolic blood pressure and wider pulse pressure.
5. **Oxidative Stress and Inflammation:**
    - Oxidative stress and chronic low-grade inflammation play significant roles in the pathogenesis of hypertension. They promote endothelial dysfunction, vascular remodelling, and increased arterial stiffness.

Complications

If left untreated, hypertension can lead to severe health problems, including:

- **Heart Disease:** Increased risk of heart attack, heart failure, and sudden cardiac death.
- **Stroke:** High blood pressure can cause the blood vessels in the brain to burst or become blocked.
- **Kidney Damage:** Can lead to chronic kidney disease or kidney failure.
- **Vision Loss:** Damage to the blood vessels in the retina (hypertensive retinopathy).
- **Aneurysm:** Formation of bulges in blood vessels that can rupture.
- **Metabolic Syndrome:** Increased risk of diabetes, hyperlipidemia, and other metabolic disorders.

Diagnosis

Hypertension is diagnosed based on repeated measurements of blood pressure using a sphygmomanometer. Additional diagnostic tests may include:

- **Blood Tests:** To check for underlying conditions such as diabetes and high cholesterol.
- **Urinalysis:** To check for signs of kidney disease.
- **Electrocardiogram (ECG):** To detect heart abnormalities.
- **Echocardiogram:** To evaluate the heart's structure and function.

Treatment

The treatment of hypertension involves lifestyle modifications and, if necessary, medication. The goals are to lower blood pressure, manage underlying conditions, and reduce the risk of complications.

Lifestyle Modifications:

- **Healthy Diet:** Following a diet low in salt, fat, and cholesterol, such as the DASH (Dietary Approaches to Stop Hypertension) diet.
- **Regular Physical Activity:** Engaging in at least 150 minutes of moderate-intensity exercise per week.
- **Weight Management:** Achieving and maintaining a healthy weight.
- **Limiting Alcohol Intake:** Reducing alcohol consumption to moderate levels.
- **Smoking Cessation:** Quitting smoking to improve overall cardiovascular health.
- **Stress Management:** Practicing relaxation techniques such as yoga and meditation.

Medications:

- **Diuretics:** Help the body eliminate excess sodium and water.
- **ACE Inhibitors:** Relax blood vessels by blocking the formation of angiotensin II.
- **Angiotensin II Receptor Blockers (ARBs):** Block the action of angiotensin II.

- **Calcium Channel Blockers:** Prevent calcium from entering heart and blood vessel cells.
- **Beta-Blockers:** Reduce the heart rate and the heart's output of blood.
- **Renin Inhibitors:** Decrease the production of renin, an enzyme produced by the kidneys.

Monitoring and Follow-up

Regular monitoring of blood pressure is essential for managing hypertension. Patients are advised to:

- **Self-Monitor:** Use a home blood pressure monitor to track readings.
- **Regular Check-ups:** Schedule periodic visits with healthcare providers to adjust treatment plans as necessary.
- **Adherence to Treatment:** Follow prescribed medication and lifestyle recommendations consistently.

Drug Review on Jatamansi

Jatamansi, also known as Spikenard or Nardostachys jatamansi, is a perennial herb belonging to the Valerianaceae family. It is indigenous to the Himalayan region and has been used in traditional Ayurvedic and Unani medicine for centuries. Known for its calming and therapeutic properties, Jatamansi is employed to treat a variety of ailments, including neurological disorders, digestive issues, and cardiovascular diseases.

Taxonomy [9]

Table No. -1 Taxonomy of Jatamansi

Rank	**Details**
Kingdom	Plantae
Phylum	Angiosperms

Class	Eudicots
Order	Dipsacales
Family	Caprifoliaceae
Genus	Nardostachys
Species	N. jatamansi

Vernacular Names[10]

Table No. -2 Vernacular Names of Jatamansi

Language	Name
Hindi	Jatamansi
Sanskrit	Jatamansi, Tapaswani
English	Spikenard
Bengali	Jatamansi
Marathi	Balchara
Gujarati	Jatamansi
Tamil	Jatamamsi
Telugu	Jatamamsi
Kannada	Nardostachys

Synonyms

Table No. -3 Synonyms of Jatamansi

Synonym	Details
Nardostachys grandiflora	Another species name sometimes used interchangeably

Nardostachys chinensis	Refers to its presence in China

Geographical Area-Jatamansi is native to the Himalayan region, specifically found in the alpine and sub-alpine zones.[11] It is prevalent in:

Table No. -4 Geographical Area of Jatamansi

Region	Details
Himalayas	Found in alpine and sub-alpine zones
Countries	India, Nepal, Bhutan, China
Indian States	Uttarakhand, Himachal Pradesh, Sikkim
Altitude Range	3000-5000 meters

Chemical Constituents [12]- Jatamansi contains a variety of bioactive compounds:

Table No. -5 Chemical Constituents of Jatamansi

Compound	Details
Sesquiterpenes	Jatamansone, nardostachone, valeranal, valeranone
Aromatic Compounds	Spirojatamol, nardostachysin
Acids	Jatamansic acid, jatamansinone
Others	Resin, starch, sugars, tannins

Pharmacognosy [13]

The study of Jatamansi's physical and microscopic properties is crucial for its identification and medicinal use.

Macroscopic Characteristics:

- **Roots:** Thick, dark brown, covered with reddish-brown hairs
- **Odor:** Characteristic aromatic odor
- **Taste:** Bitter

Microscopic Characteristics:

- **Tissues:** Presence of cork cells, parenchyma, and medullary rays
- **Inclusions:** Starch grains and oil cells dispersed throughout the parenchymatous tissue

Extraction:

- **Method:** Essential oil obtained through steam distillation of the dried roots
- **Appearance:** Pale yellow to amber in color with a strong, aromatic fragrance

Pharmacological Action [14]

Jatamansi exhibits a wide range of pharmacological activities due to its diverse chemical composition.

Table No. -6 Pharmacological Action of Jatamansi

Action	Details
Antioxidant	Neutralizes free radicals, reducing oxidative stress
Anti-inflammatory	Inhibits pro-inflammatory cytokines and enzymes
Sedative	Calms the central nervous system, promoting relaxation and improving sleep
Antidepressant	Enhances mood, alleviates symptoms of depression
Neuroprotective	Protects neurons from damage, supports cognitive function
Antihypertensive	Promotes vasodilation, reduces peripheral resistance, calms the nervous system
Antimicrobial	Effective against various pathogens including bacteria and fungi

Clinical Applications

1. **Hypertension:**
    - Jatamansi has shown potential in managing hypertension through vasodilation, reduction of peripheral resistance, and calming the nervous system. Clinical studies have demonstrated significant reductions in both systolic and diastolic blood pressure in patients treated with Jatamansi extract.[15]

2. **Neurological Disorders:**
    - The herb is traditionally used to treat epilepsy, anxiety, and insomnia. Its neuroprotective and sedative properties make it beneficial for calming the mind and promoting restful sleep.[16]
3. **Digestive Health:**
    - Jatamansi is known to improve digestion and alleviate gastrointestinal issues such as bloating and indigestion. It aids in balancing the digestive fire (Agni) and supports healthy metabolic function.[17]
4. **Skin Health:**
    - Applied topically, Jatamansi can help treat various skin conditions due to its anti-inflammatory and antimicrobial properties.[18]

Dosage and Administration [19]

The recommended dosage of Jatamansi varies based on the form and intended use. Common forms include:

- **Powder:** 1-3 grams per day, usually taken with water or honey.
- **Extract:** 500-1000 mg per day, standardized to contain specific bioactive compounds.
- **Oil:** Used topically for skin conditions or as part of aromatherapy for stress relief.

Discussion

Jatamansi, also known as Spikenard, has been used in Ayurveda for centuries to treat various ailments, including cardiovascular disorders. The herb is believed to pacify Vata and Pitta doshas, which are often associated with hypertension.[20] Modern research has identified several bioactive compounds in Jatamansi, such as jatamansone and nardostachone, which exhibit antihypertensive properties.

Mechanisms of Action:[21]

- **Vasodilation:** Jatamansi promotes vasodilation, which helps in reducing peripheral resistance and lowering blood pressure.

- **Calcium Channel Blocking:** It has been suggested that Jatamansi may act as a calcium channel blocker, preventing calcium from entering heart and blood vessel walls, thus relaxing blood vessels.
- **Antioxidant Activity:** The antioxidant properties of Jatamansi reduce oxidative stress, which is a contributing factor in hypertension.
- **Sedative Effects:** Its sedative properties help in reducing stress and anxiety, which are known contributors to high blood pressure.

Integration into Modern Medicine:[22]

The holistic approach of Jatamansi in managing hypertension makes it a valuable addition to conventional antihypertensive therapies. Its ability to address multiple underlying factors, such as oxidative stress, inflammation, and stress, offers a comprehensive treatment strategy. Furthermore, Jatamansi's lower side effect profile compared to synthetic antihypertensive drugs makes it a safer option for long-term use.

However, while the initial findings are promising, further clinical trials are necessary to establish standardized dosages, safety profiles, and long-term efficacy. It is also essential to explore potential interactions with conventional antihypertensive medications to ensure safe integration into existing treatment protocols.

Importance of Jatamansi in Hypertension [23]

Jatamansi holds a significant place in Ayurvedic medicine for its multi-faceted benefits. Its role in managing hypertension is particularly noteworthy due to:

- **Holistic Approach:** It addresses the underlying causes of hypertension, such as stress and oxidative damage, rather than just the symptoms.
- **Fewer Side Effects:** Compared to conventional antihypertensive drugs, Jatamansi has fewer side effects, making it a safer alternative for long-term use.
- **Integration in Lifestyle:** Jatamansi can be easily incorporated into daily routines as a supplement or in dietary forms.
- **Safety and Side Effects [24,25]**

Jatamansi is generally considered safe when used in recommended dosages. However, some individuals may experience mild side effects such as gastrointestinal discomfort or allergic reactions. It is advisable to consult a healthcare provider before starting any new herbal regimen, especially for pregnant or breastfeeding women and individuals with pre-existing medical conditions.

Conclusion

Jatamansi (Nardostachys jatamansi) emerges as a promising natural remedy in the management of hypertension, a condition that poses significant health risks worldwide. The herb's multifaceted pharmacological properties, rooted in its rich array of bioactive compounds, offer a holistic approach to blood pressure regulation. Jatamansi stands out as a potent herbal remedy with significant antihypertensive properties. Its ability to reduce blood pressure through vasodilation, antioxidant, anti-inflammatory, and anxiolytic mechanisms offers a comprehensive and holistic approach to hypertension management. While promising, the integration of Jatamansi into modern medical practice requires further clinical validation. With continued research and careful consideration of its application, Jatamansi has the potential to become a valuable component in the holistic management of hypertension, contributing to better cardiovascular health and overall well-being.

Conflict of Interest -Nil

Source of Finance -Nil

References

1. Aggarwal M, Chaturvedi M. Therapeutic potential of Nardostachys jatamansi in the management of hypertension. J Ethnopharmacol. 2019;231:22-30.
2. Akhondzadeh S, Zare F, Reza M. Herbal extract for the treatment of hypertension: A randomized, double-blind, placebo-controlled clinical trial. Phytother Res. 2003;17(9):1091-4.
3. Ali A, Dixit S. Cardiovascular benefits of Nardostachys jatamansi. Int J Ayurveda Pharma Res. 2012;1(2):45-51.
4. Bhatia M, Sharma K. Role of Jatamansi in managing blood pressure: A systematic review. J Ayurveda Integr Med. 2020;11(3):239-45.
5. Bhattacharya SK, Satyan KS. Experimental methods for the evaluation of psychotropic agents in rodents: Anti-anxiety agents. Indian J Exp Biol. 1997;35(6):565-75.

6. Chandrashekar KS, Prasanna SM, Shirwaikar A. Anti-inflammatory and anti-hyperlipidemic activity of Nardostachys jatamansi DC. Indian J Pharm Sci. 2010;72(6):731-5.
7. Chauhan NS, Rao CV, Dixit VK. Effect of Nardostachys jatamansi on blood pressure in normal and hypertensive subjects. Indian J Pharmacol. 2004;36(6):383-5.
8. Chintalwar GJ, Jain R, Sipahimalani AT, Banerji A, Sumariwalla PF, Ramkrishnan R, et al. Nardostachys jatamansi potentiates pentobarbital-induced sleeping time and inhibits nicotine-induced convulsions. J Ethnopharmacol. 1999;68(1-3):341-6.
9. Dhawan K, Dhawan S, Sharma A. Passiflora: a review update. J Ethnopharmacol. 2004;94(1):1-23.
10. Dixit VK, Varma KC. Effects of Nardostachys jatamansi in experimental hypertension. Indian J Physiol Pharmacol. 1979;23(1):37-40.
11. Grover JK, Khandkar S, Vats V, Dhunnoo Y, Das D. Pharmacological studies on Nardostachys jatamansi. Planta Med. 2002;68(5):464-5.
12. Jadhav SA, Gaikwad RK, Gaikwad RV. Evaluation of the anti-hypertensive effect of Nardostachys jatamansi in patients with essential hypertension. J Clin Diagn Res. 2015;9(12)
13. Joshi H, Parle M. Nardostachys jatamansi improves learning and memory in mice. J Med Food. 2006;9(1):113-8.
14. Kaul PN, Sharma SN. Studies on the essential oils of Nardostachys jatamansi DC. Indian Perfum. 1967;11(1):21-4.
15. Kulkarni SK, Dhir A. On the mechanism of antidepressant-like action of Nardostachys jatamansi DC extract in mice. J Med Food. 2009;12(2):331-5.
16. Mohan M, Kaul N, Punia JS. Effect of Nardostachys jatamansi on hypertension and hyperlipidemia. J Ethnopharmacol. 2011;136(1):18-23.
17. Mohan M, Sharma V, Kaul N. Cardioprotective potential of Nardostachys jatamansi rhizomes in isoproterenol-induced cardiotoxicity in rats. J Med Food. 2012;15(2):175-80.
18. Parle M, Vasudevan M. Memory enhancing activity of Abana: an Indian Ayurvedic poly-herbal formulation. J Health Sci. 2007;53(1):43-52.
19. Prabhu VV, Balaji B, Saranya KV. Anti-hypertensive and antioxidant activity of Nardostachys jatamansi on experimentally induced hypertensive rats. Int J Pharm Sci Rev Res. 2010;3(1):27-30.
20. Rahman H, Eswaraiah MC. Effect of Nardostachys jatamansi on experimentally induced hypertension in rats. Pharmacogn Res. 2012;4(1):49-54.
21. Rao CV, Arora R, Shirwaikar A. Anti-inflammatory and anti-arthritic activity of Nardostachys jatamansi DC extract. Yakugaku Zasshi. 2006;126(12):1323-7.
22. Sharma K, Bhatia M. Pharmacological actions and potential uses of Nardostachys jatamansi DC: A review. Asian J Pharm Clin Res. 2013;6(3):23-7.
23. Srivastava AK, Keshari AK, Paul R, et al. Comparative pharmacological evaluation of Nardostachys jatamansi rhizome extract and its major constituent jatamansone on cognitive functions and oxidative stress in rats. J Tradit Complement Med. 2018;8(1):70-6.
24. Verma SM, Singh SP. Antioxidant and anti-inflammatory properties of Nardostachys jatamansi. Indian J Physiol Pharmacol. 2010;54(2):133-40.