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# HYPERTENSION: A REVIEW AND THE ROLE OF HOMOEOPATHY IN ITS MANAGEMENT

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#### **ABSTRACT**

Hypertension, often termed the "silent killer," is one of the leading contributors to cardiovascular morbidity and mortality globally. Despite advancements in conventional pharmacotherapy, challenges such as drug resistance, side effects, and patient non-compliance persist. This review explores hypertension's epidemiology, pathophysiology, risk factors, and conventional treatment while focusing on the homoeopathic approach. Emphasizing the holistic principle of "similia similibus curentur," homoeopathy is safe options for managing essential hypertension. The review highlights key remedies and the scope of integrating homoeopathy into primary healthcare.

**KEYWORDS:** Hypertension, Homoeopathy, Essential Hypertension, Individualization.

#### **DEFINITION**

Hypertension affects more than 1.28 billion people globally, with a disproportionately high burden in low- and middle-income countries. Often asymptomatic, it poses a serious risk for cardiovascular diseases, kidney failure, and stroke. Homoeopathy, with its individualized non-toxic approach, offers a complementary perspective in managing this growing epidemic.

Hypertension is defined as sustained elevated blood pressure, with a systolic BP ≥130 mmHg or diastolic BP ≥80 mmHg. It is classified into primary (essential) hypertension and secondary hypertension, depending on the underlying cause. [2]

Hypertension is defined as a consistent elevation in arterial blood pressure, typically ≥140/90 mmHg, as per WHO.<sup>[1]</sup>

# Classification of Hypertension $^{[1,3,4,5,6]}$

#### 1. Normal Blood Pressure

- Systolic BP: <120 mmHg</li>
- Diastolic BP: <80 mmHg</li>
- Blood pressure within this range is considered normal. Lifestyle modifications may be recommended to maintain this level, especially if other risk factors are present.

### 2. Elevated Blood Pressure (Pre-hypertension)

- **Systolic BP**: 120-129 mmHg
- **Diastolic BP**: <80 mmHg
- This category indicates an increased risk of developing hypertension, and lifestyle changes are often recommended.

#### 3. Hypertension Stage 1

- **Systolic BP**: 130-139 mmHg
- **Diastolic BP**: 80-89 mmHg
- At this stage, individuals are at an increased risk of cardiovascular diseases and may require lifestyle changes along with antihypertensive medications.

### 4. Hypertension Stage 2

- **Systolic BP**:  $\geq$ 140 mmHg
- Diastolic BP: ≥90 mmHg
- This stage is characterized by sustained high blood pressure that may cause damage to
  organs like the heart, kidneys, and eyes. Immediate medical intervention with medications
  is often necessary.

#### 5. Hypertensive Crisis

- **Systolic BP**: >180 mmHg
- **Diastolic BP**: >120 mmHg
- This is an emergency situation that requires immediate treatment. It is subdivided into:
- Hypertensive Urgency: Severe high blood pressure without organ damage.

 Hypertensive Emergency: Severe high blood pressure with evidence of target organ damage (e.g., encephalopathy, myocardial infarction).

## $Etiology^{[2,4]}$

- **Primary (Essential) Hypertension**: This is the most common form of hypertension, accounting for about 90-95% of cases. The exact cause is not known, but it is believed to be influenced by a combination of genetic, environmental, and lifestyle factors.<sup>[2,3]</sup>
- **Secondary Hypertension**: This form is caused by an underlying condition or disease. It accounts for about 5-10% of all hypertension cases and is typically more easily identifiable and treatable than primary hypertension.<sup>[2,3]</sup>

#### **Risk Factors**

# Major Risk Factors for Hypertension $^{[2,7,8]}$

- **1. Age**: Blood pressure tends to rise with age, particularly after 45 for men and 65 for women.
- **2. Family History**: A family history of hypertension increases the likelihood of developing the condition.
- **3. Obesity**: Excess body weight requires the heart to work harder, increasing blood pressure.
- **4. Physical Inactivity**: Lack of exercise is linked to higher heart rate and stiffer arteries, contributing to elevated blood pressure.
- **5. Unhealthy Diet**: Diets high in sodium (salt) and low in potassium can raise blood pressure.
- **6. Excessive Alcohol Consumption**: Regular heavy drinking can lead to increased blood pressure.
- 7. Tobacco Use: Smoking.
- **8. Chronic Kidney Disease**: Impaired kidney function can lead to fluid retention and increased blood pressure.
- **9. Sleep Apnea**: Obstructive sleep apnea can cause intermittent drops in oxygen levels, increasing blood pressure.

## **Minor or Modifiable Risk Factors**<sup>[2,4,7]</sup>

**1. High Cholesterol**: Elevated cholesterol levels can lead to plaque buildup in arteries, increasing blood pressure.

- **2. Diabetes**: High blood sugar can damage blood vessels and increase the risk of hypertension.
- **3. Stress**: Chronic stress can lead to temporary increases in blood pressure and unhealthy coping mechanisms like poor diet or smoking.
- **4. Medications**: Certain drugs, including NSAIDs, decongestants, and birth control pills, can raise blood pressure.
- **5. Chronic Conditions**: Conditions like metabolic syndrome and thyroid disorders can contribute to high blood pressure.

### Pathophysiology<sup>[2,3,7]</sup>

- Renin-Angiotensin-Aldosterone System (RAAS): Increases vasoconstriction and sodium retention.
- Sympathetic Nervous System: Promotes vasoconstriction and cardiac output.
- Endothelial dysfunction: Impairs nitric oxide-mediated vasodilation.
- Natriuretic peptides deficiency and sodium sensitivity contribute further.

## Clinical Features<sup>[2,4,5,6]</sup>

#### 1. Asymptomatic in Early Stages

 Most individuals with hypertension do not experience symptoms, especially in the early stages of the condition. It's often diagnosed during routine screening.

#### 2. Headaches

 Severe or long-standing hypertension may cause persistent headaches, typically in the morning.

#### 3. Dizziness or Lightheadedness

 Dizziness or a feeling of lightheadedness, especially when standing up quickly (orthostatic hypotension), can occur as a result of poorly managed hypertension or due to medication.

### 4. Chest Pain

 Chest pain or discomfort can occur when the high blood pressure leads to strain on the heart, increasing the risk of conditions like angina or myocardial infarction.

#### 5. Shortness of Breath

 Difficulty breathing or shortness of breath can occur as a result of heart failure, which is a common complication of long-term hypertension.

### 6. Blurred Vision

- The retina may be affected by chronic hypertension, leading to hypertensive retinopathy, which can cause blurred vision.
- o **Reference**: Kumar & Clark's Clinical Medicine (9th edition). Elsevier; 2017.

#### 7. Fatigue

Fatigue can develop as a result of the heart having to work harder to pump blood throughout the body. This may be associated with heart failure, a common outcome of uncontrolled hypertension.

#### 8. Palpitations

 Palpitations or a sensation of a pounding heart can occur as a result of arrhythmias (irregular heartbeats) associated with hypertension.

#### 9. Blood in Urine (Hematuria)

o This may be indicative of kidney damage due to prolonged hypertension, which can impair kidney function and lead to proteinuria (protein in the urine) and hematuria.

#### 10. Edema (Swelling)

• Swelling, especially in the lower legs, ankles, or feet, can be a sign of fluid retention, which may result from kidney or heart complications related to hypertension.

#### 11. Nosebleeds (Epistaxis)

 Frequent nosebleeds, though not a definitive sign of hypertension, can occur in individuals with high blood pressure, especially if the blood vessels in the nose become more fragile.

## Diagnostic and Clinical Investigation<sup>[2,4]</sup>

Hypertension is primarily diagnosed by measuring blood pressure using a sphygmomanometer. Lab investigations are included as follows:

**1. Blood Tests:** To check for kidney damage (creatinine levels) and electrolyte imbalances (e.g., potassium, sodium).

- **2. Urine Tests:** To detect proteinuria or hematuria, which may suggest kidney damage.
- **3.** Electrocardiogram (ECG): To check for signs of heart strain or arrhythmias.
- **4. Echocardiogram:** To assess left ventricular hypertrophy (thickening of the heart muscle) due to long-term hypertension.
- **5. Fundoscopy:** To evaluate hypertensive retinopathy.

# $Complications^{[2,4,5]}\\$

Cardiac: Heart failure, myocardial infarction

Neurological: Stroke, TIA

Renal: Chronic kidney disease

Ocular: Hypertensive retinopathy

### **Conventional Management**

- Non-pharmacological: DASH diet, exercise, stress reduction, salt and alcohol restriction
- Pharmacological: Diuretics, ACE inhibitors, ARBs, calcium channel blockers, betablocker

# $Homoeopathic\ Management^{[9,10,11,12]}$

Homoeopathy views hypertension as a manifestation of inner disharmony. It focuses on treating the individual, not merely the disease, based on a holistic evaluation of the physical, mental, and emotional spheres.

Medicine	Key Indications
Aurum metallicum	High blood pressure with <b>melancholy</b> , <b>suicidal thoughts</b> , heart
	affections. Sensitive to contradiction. Worse at night. Angina
	with palpitations
Glonoinum	Sudden rise in BP, <b>throbbing headache</b> , flushed face, worse
	from heat or sun exposure. Rush of blood to head. Good in
	hypertensive crises.
Lachesis	Hypertension with <b>loquacity</b> , jealousy, left-sided complaints,
	especially in menopause. Cannot bear tight clothes around neck.
Baryta mur	High BP in <b>elderly</b> , with arteriosclerosis or history of stroke.
	Vertigo, memory issues. Suited to senile hypertensive patients.
Crataegus	Excellent <b>heart tonic</b> . Used for chronic heart conditions with
oxyacantha	high BP, weak pulse, and arrhythmia. Supports myocardium.
Nux vomica	Hypertension due to <b>stress</b> , anger, sedentary lifestyle,
	stimulants (coffee, alcohol).
Natrum muriaticum	Emotional suppression, <b>grief</b> , reserved personality, craving salt.
	High BP with headaches. Worse from sun
Veratrum viride	Sudden violent rise in BP, red face, slow pulse, cold

	extremities. Hypertension in inflammatory conditions.
Plumbum	High BP with <b>arteriosclerosis</b> , hardening of vessels, muscular
metallicum	weakness, paralysis tendency.
Belladonna	Acute rise in BP with <b>pulsating headache</b> , flushed face, dilated
	pupils. Sudden and violent symptoms.
Rauwolfia	Used in <b>essential hypertension</b> . Calms nervous system,
serpentina	reduces blood pressure gradually.
Aurum muriaticum	Heart-related high BP, often with arteriosclerosis and emotional
natronatum	sensitivity. Chest heaviness, better in open air.

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