



## Review On Hypertension

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### ABSTRACT :

The prevalence, awareness, diagnosis, treatment, and management of hypertension in an adult population-representative sample were the topics of discussion in this review. Due to its high incidence and link to an elevated risk of cardiovascular disease, hypertension is a significant global health issue. Recent remarkable decreases in the mortality rates from coronary heart disease and stroke in developed countries can be attributed in large part to advancements in the detection and treatment of hypertension. In several of these nations, nevertheless, the rates of high blood pressure control have actually decreased in recent years. Worldwide, 1.2 billion individuals are predicted to have hypertension by 2010. Approximately 125 people in the Eastern, and it has an impact on almost 125 million people. What is even more concerning is the rising rate of cardiovascular problems associated with high blood pressure, such as heart failure, and-stage renal disease, and stroke.

**Keyword** :- Hypertension, Angiotensin, Diagnosis, Risk factors, Treatment

### Introduction :

In the UK, one of the major preventable causes of premature morbidity and mortality is high blood pressure, or hypertension (Cain AE et al 2002). A significant risk factor for heart failure, myocardial infarction, chronic renal disease, ischemia and hemorrhagic stroke, cognitive impairment, and early mortality is hypertension. The population's blood pressure is regularly distributed, and there is no natural threshold above or below which "hypertension" is categorically defined as non-existent. There is a constant danger associated with rising blood pressure; for every 2 mmHg increase in systolic blood pressure, there is a corresponding 7% and 10% increase in the risk of dying from ischemic heart disease and stroke, respectively. In the UK, hypertension is surprisingly widespread, and its incidence is strongly, age-related factors. Systolic and/or diastolic blood pressure in any given person can be 89 is raised. Those under 50 are more likely to have increased diastolic pressure. Systolic hypertension becomes a more serious issue as people age due to the bigger arteries' gradual hardening and loss of flexibility. High blood pressure affects at least 25% of people, and over 50% of those over 60 [1]. One of the most popular primary care interventions is the clinical therapy of hypertension, which accounted for around £1 billion in pharmacological expenses in 2006 alone [2].

### History of hypertension:

William Harvey, a physician who lived from 1578 to 1657, contributed to our understanding of the circulatory system by describing blood circulation in his book "De motu cordis," which is where the contemporary history of hypertension begins. In 1733, English clergyman Stephen Hales reported the first blood pressure reading.(WG Haynes, 1998) Thomas Young, among others, provided descriptions of hypertension as a condition in 1808 and particularly Richard Bright in 1836. Frederick Akbar Mahomed (1849-1884) reported the first case of high blood pressure in a person who did not have kidney disease. Otto Frank, a physiologist, used the term "essential hypertension" ('hypertonie essential') in 1925 to characterize high blood pressure that could not be explained. In 1928, physicians from the Mayo Clinic coined the phrase malignant hypertension to characterize a syndrome of very high blood pressure, severe retinopathy, and acceptable kidney function, which usually resulted in death within a year from strokes, heart failure, or kidney failure [3]. As a result, hypertension was frequently classed as either "malignant" or "benign". In 1931, John Hay, Professor of Medicine at Liverpool University, said that "there is some truth in the cliché that the biggest risk to a man with a high blood pressure resides in its discovery, for then some fool is bound to try"and reduce it" [4].In 1937, famous US cardiologist Paul Dudley White supported this idea, stating that "hypertension may be an important compensatory mechanism which should not be tampered with, even where it is certain that we could control it".According to Charles Friedberg's 1949 classic textbook "Diseases of the

Heart," "people with'mild benign' hypertension... [defined as blood pressures up to 210/100 mm Hg]... need not be treated."Subsequently, the National Institutes of Health funded additional population studies that revealed that African Americans had a higher burden of hypertension and related consequences.

## Defination of Hypertension

Hypertension is described as an abnormal rise in diastolic and/or systolic pressure; mean arterial pressure is also higher in hypertension, but it is rarely measured in humans. In previous years, the diastolic value was highlighted when measuring hypertension. However, increases in systolic pressure ("systolic hypertension") are associated with an increased risk of coronary and cerebrovascular disease (e.g., stroke). As a result, we now understand that both systolic and diastolic pressure levels are critical to consider. According to the most recent U.S. national guideline [5], the following indicate various stages of hypertension:

## Symptoms Of High Blood Pressure

Although individuals with isolated hypertension are usually asymptomatic, they may experience symptoms such as dizziness, headache (particularly pulsating headaches behind the eyes that occur early in the morning), blurred vision, facial flushing, or tinnitus. Accelerated hypertension is defined as severe hypertension with a systolic blood pressure (SBP) of 240 mmHg or a diastolic blood pressure (DBP) of 120 mmHg or higher. Increased hypertension is linked to disorientation, visual abnormalities, nausea, and vomiting. When hypertension produces a rise in intracranial pressure (pressure exerted by the cranium on brain tissue and brain fluid), it is referred to as malignant hypertension or hypertensive crisis, and it is a medical emergency requiring immediate blood pressure lowering. This syndrome may result in end-organ damage. Over time, untreated high blood pressure can damage organs such as the heart, kidneys, or eyes, leading to consequences such as: angina, heart attack or heart failure, stroke, kidney failure, peripheral artery disease, and retinopathy (eye damage).

## Types Of High Blood Pressure

**There Are Two Main Types OF High Blood pressure:**

### Essential(primary)Hypertension

- a. The major type of high blood pressure accounts for around 90-95% of cases.
- b. There is no single recognized reason.
- c. Possible causes include genetic and environmental factors.

### Secondary Hypertension

1. Rare types of high blood pressure.
2. Resulting from another medical condition or treatment.
3. Causes include kidney difficulties (renovascular hypertension), adrenal gland tumors, thyroid disorders, and aortic constriction.
4. Other causes of high blood pressure include:
5. Isolated systolic hypertension: the systolic pressure (top number) is elevated but the diastolic pressure is normal.
6. Isolated diastolic hypertension: the diastolic pressure (bottom number) is elevated while the systolic pressure is normal.
7. White coat hypertension - where the blood pressure is elevated owing to the stress of a visit to the doctor or nurse.

## Pathophysiology

1. Objectives
2. Recognize the hemodynamic causes of systemic hypertension.
3. Identify the basic and secondary forms of hypertension.
4. Recognize the role of the kidney in systemic hypertension: innocent bystander or aggressor.
5. Understand the involvement of Angiotensin II, aldosterone, and the sympathetic nervous system in the development of hypertension.

## Diagnosis

Hypertension is diagnosed when blood pressure is consistently high. Traditionally, this necessitated three distinct sphygmomanometer measurements at one monthly interval. The initial assessment of hypertension patients should involve a thorough history and physical examination. With the advent of 24-hour ambulatory blood pressure monitors and home blood pressure machines, practices have changed to avoid incorrectly labeling patients with white coat hypertension. In the United Kingdom, current best practice is to follow up on a single increased clinic reading with an ambulatory measurement, or less ideally, with home blood pressure monitoring over a 7-day period.

## Care For High Blood Pressure

\* The most crucial aspect of controlling high blood pressure is follow-up treatment. Here are six things to remember concerning follow-up care

- Hypertension Management: Blood Pressure Monitoring at Home Monitoring your own blood pressure is an effective strategy to stay on top of hypertension. Learn how to prepare and follow step-by-step instructions for taking your own blood pressure readings.
- High Blood Pressure Medication Guidelines: What You Should Know If your doctor has prescribed blood pressure medicine, here are twelve things you should be aware of during your therapy.

**Side-effect of Antihypertensive Drugs**

<b>Common Drug Classes</b>	<b>Medications</b>	<b>Common side effects</b>
<b>Diuretics</b>	Chlorthalidone, hydrochlorothiazide, Indapamide	Increase urination, low sodium, gout
<b>Beta-blockers</b>	Metoprolol, atenolol, nebivolol	Fatigue, depression
<b>Alpha blockers</b>	Prazocin, doxazosin	Low blood pressure, dizziness
<b>Alpha agonists</b>	Clonidine, methyl dopa	Rebound hypertension if you miss the dose of medication, dry mouth, drowsiness
<b>Calcium channel blockers</b>	Amlodipine, diltiazem	Swelling of feet
<b>Angiotensin converting enzyme inhibitors (ACEI)</b>	Lisinopril, ramipril	Dry cough, increase in blood levels of potassium, swelling of lips and tongue (very serious reaction!!)
<b>Angiotensin receptor blockers (ARB)</b>	Telmisartan, olmesartan	increase in blood levels of potassium
<b>Vasodilators</b>	Minoxidil, hydralazine	Swelling of feet

**Future Directions :**

This is the second iteration of these guidelines. There are numerous areas of diagnosis, evaluation, and treatment that require more clarification. However, the research strongly supports MgSO<sub>4</sub> for severe preeclampsia and prenatal corticosteroids for women with preeclampsia before 34 weeks. Priorities include self-measurement of blood pressure, the accuracy of urinary protein to creatinine and albumin to creatinine ratios for diagnosing proteinuria, multivariable prediction of preeclampsia, prediction of complications in women with preeclampsia, the role of bed rest in the prevention or treatment of preeclampsia, the BP goal that optimizes perinatal and maternal outcomes in women with non-severe hypertension, and the use of postCardiovascular risk. Future iterations are anticipated to occur as frequently as ever.

**Conclusion :**

Hypertension is common over the world, and as the population ages, the number of people with hypertension increases. As a result, the challenge of identifying, treating, and controlling hypertension is enormous. Current efforts are focused on the identification and treatment of hypertension in middle and elderly life. Because hypertension prevalence increases linearly with age, preventive treatments such as a good diet and regular physical activity should begin early in life. For individuals who have already developed hypertension, early detection and treatment is critical. Existing antihypertensive medicines are not perfect alone, so a combination of drugs is required in a high proportion of patients. The selection of such medications should be logical and evidence-based.

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