



THE SILENT KILLER: BLOOD PRESSURE

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What is Blood Pressure?



- Blood Pressure is the arterial pressure of blood exerted on the walls of arteries with each heart beat
- It is the force exerted by the blood against any unit area of the wall of arteries
- It is measured in millimetres of mercury (mmHg)
- Thus the force of blood against the walls of the blood vessels is known as blood pressure.
- Depends on several factors such as blood volume, blood vessel space, force of the heart beat, and blood viscosity



SYSTOLIC AND DIASTOLIC PRESSURE

- **SYSTOLIC PRESSURE:** The maximum pressure exerted in the arteries when the blood is ejected into them during systole (averages 120mm Hg)
- **DIASTOLIC PRESSURE:** The lowest arterial pressure is called the diastolic pressure (averages 80mm Hg). Diastolic pressure occurs while the heart ventricles are relaxing
- **BLOOD PRESSURE:** is expressed as the ratio of **systolic pressure and diastolic pressure**

Normal resting BP = 120/80



SYMPTOMS OF BLOOD PRESSURE

NO SYMPTOMS : HENCE SILENT KILLER

If BP is between 120/80 and 140/90: pre hyper tension

Monitor your BP at least once every year



FACTORS AFFECTING BLOOD PRESSURE

- Affected considerably by numerous factors including age, sex, heredity and other physical and emotional states

CONTROVERSY!!!!

Where to draw a line between normal and elevated blood pressure levels (hypertension), particularly in older persons: DECREASED DISTENSIBILITY OF THE ARTERIES

WHITE COAT HYPERTENSION: Because of nervousness, about 22% of hypertensive individuals have high blood pressure in the doctor's room than during the normal daytime

REGULATION OF BLOOD PRESSURE

heredity, and
However, there
draw the line
pressure levels

vessels, *vasodilation* increases it. Vasoconstriction and vasodilation together are referred to as *vasomotion*.

The pattern of vasomotion (Fig. 19.11) indicates

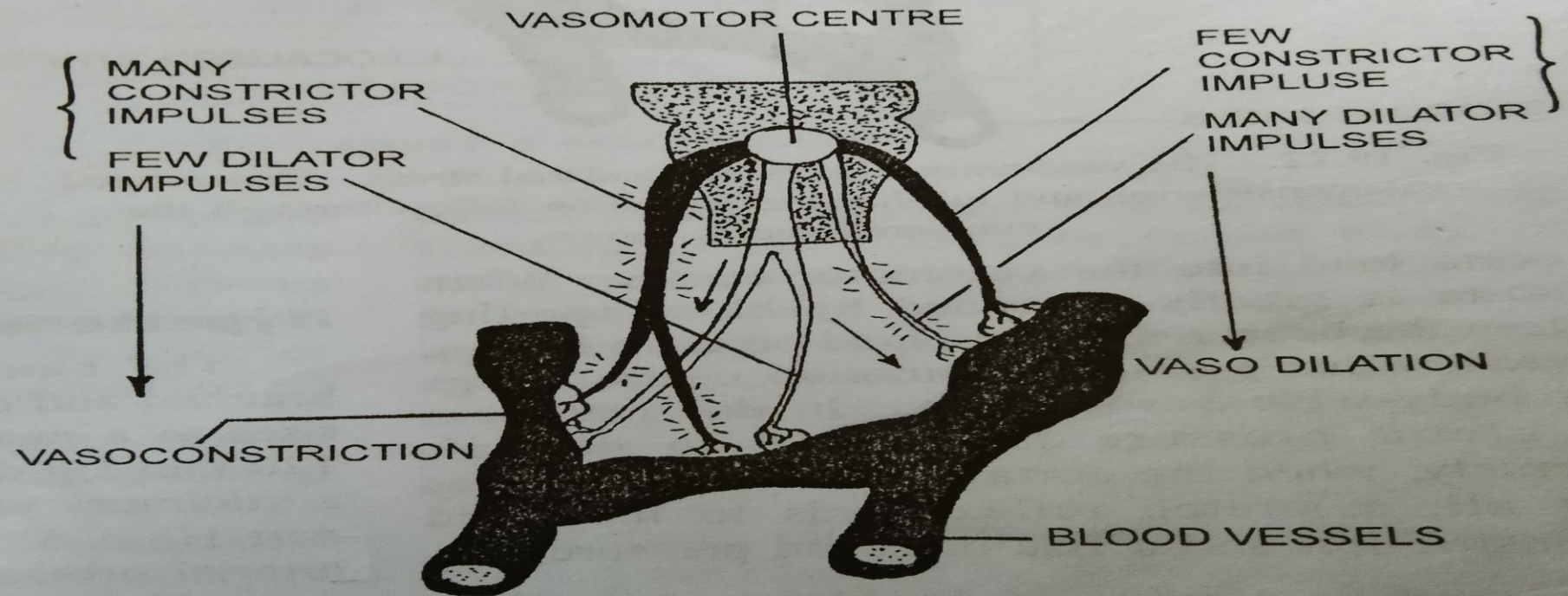


Fig. 19.11. The pattern of vasomotion

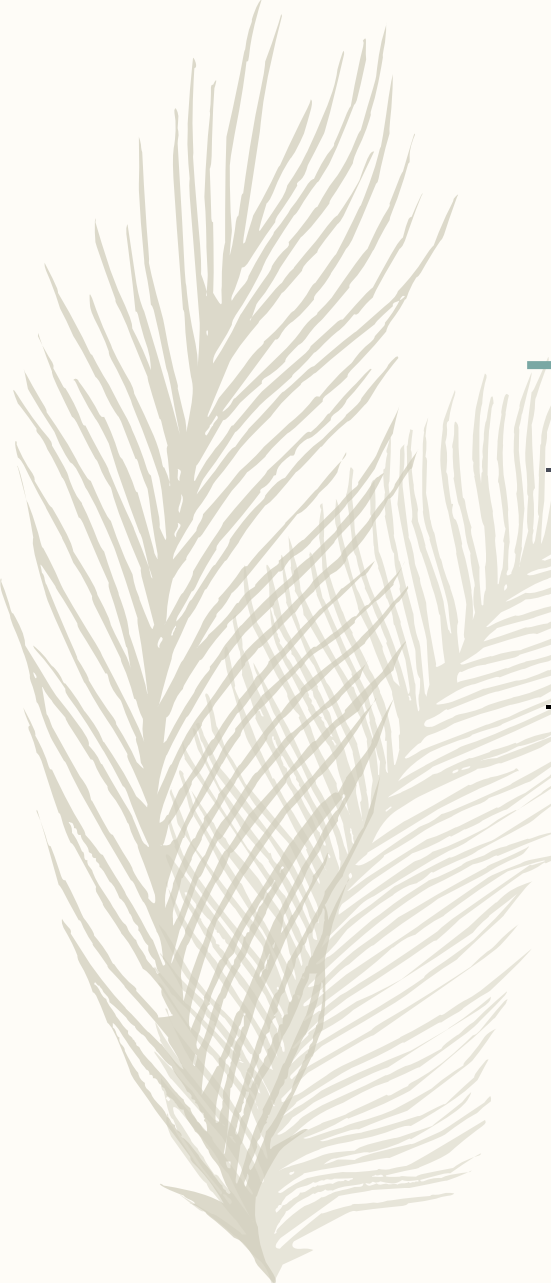


HYPERTENSION:

HYPERTENSION: A sustained elevation of the systemic arterial pressure is called hypertension

TYPES:

- 1. Essential Hypertension:** In most of the humans with high blood pressure, the cause of the hypertension is unknown
- 2. Malignant Hypertension:** Chronic hypertension can enter an accelerated phase in which there is papilledema, cerebral symptoms and progressive renal failure
- 3. Experimental Hypertension:** Some of the procedures that involves manipulation of the kidneys, nervous system or adrenals

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- 4. **Renal or Goldblatt Hypertension:** The hypertension that follows constriction of the renal arterial blood supply or compression of the kidney is called renal or Goldblatt hypertension
 - 5. **Neurogenic Hypertension:** Bilateral lesions of the nucleus of tractus solitarius (NTS), the site of termination of baroreceptor afferents in the medulla, cause severe hypertension that can be fatal

HYPERTENSION IS TREATABLE BUT NOT CURABLE

- Hypertension causes a number of serious disorders including hypertrophy of cardiac muscle or heart enlargement
- There is an increased incidence of atherosclerosis in hypertension and myocardial infarcts are common even when the heart is not enlarged.
- Starling's law operates in hypertension, but there may be heart failure.
- Hypertensive individuals are predisposed to cerebral haemorrhage. An additional disorder is renal failure.



WAYS TO PREVENT HYPERTENSION

- 1. Reduce salt intake
- 2. Maintain your weight on healthier side
- 3. Eat a balanced diet
- 4. Exercise regularly
- 5. Monitor your B.P and start medication

MEDICATIONS TO PREVENT HYPERTENSION

- A combination of medications- beta blockers, angiotensin-converting enzyme (ACE) inhibitors, angiotensin II receptors blockers (ARBs), calcium channel blockers, renin blockers and vasodilators





THANK YOU