



HOMEOGLEANINGS

QUARTERLY MEDICAL BULLETIN

EDITORIAL BOARD : Dr. Keval Soni Dr. Rita Mandal Dr. Rahul Gangapure

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Patron
Dr. Keval Soni
(President, SMMHMC)
Mob.: 9879548770



Principal
Dr. Mahesh Khamar



Academic Incharge
Dr. Rahul Gangapure



Editor
Dr. Gaurav Sharma
Dept. of Materia Medica



EDITORIAL

Welcome one and all to Nature's Season. This is a season of hope and despair in most parts of our country. The farmer community looks forward to this season with a lot of hope and expectations. Monsoon rains is the main source of water in our country. If the monsoon rains are good the farmers rejoice while there is a lot of despair if the rains are not adequate. This is also a season of anxiety and expectations for the parent community as they wait eagerly for the admission of their children in various levels of education. It is a beginning of a new academic session as far as our college is concerned. This is also a season of patriotism and festivals. Continuing with the tradition we are glad to present our 2nd special bulletin with a special topic. This time we have chosen to present topics related to circulatory system in general and Hypertension in particular. We would also request the staff and students to start preparing for the topic of the next quarterly bulletin, which is '**Peptic Ulcer**'.



Dr Kalpana Arora

Assistant Professor

(Department of Human Anatomy)

ANATOMICAL ASPECTS OF HYPERTENSION

Hypertension is the medical term for persistently high blood pressure.

This means that the blood applies too much force against the walls of the blood vessels, while passing through it.

Blood pressure usually refers to the pressure in arteries generated by the left ventricle during systole and the pressure remaining in the arteries when the ventricle is in diastole.

Contraction of the ventricles generates **blood pressure**, the hydrostatic pressure exerted by blood on the walls of a blood vessel.

Basic structure of a blood vessel:-

The wall of a blood vessel consists of three layers, or tunics, of different tissues:

Inner tunica intima is the inner lining of a blood vessel and is in direct contact with the blood as it flows through the lumen.

Middle tunica media is a muscular and connective tissue layer that shows the greatest variation among the different vessel types.

External tunica externa is the outer covering of the blood vessel consists of elastic and collagen fibres.

The **tunica media** comprises of smooth muscle cells and elastic fibres. The primary role of smooth muscle cells which encircle the lumen of the blood vessel is to regulate its diameter. The extent of smooth muscle contraction in particular vessel types is crucial in the **regulation of blood pressure**.

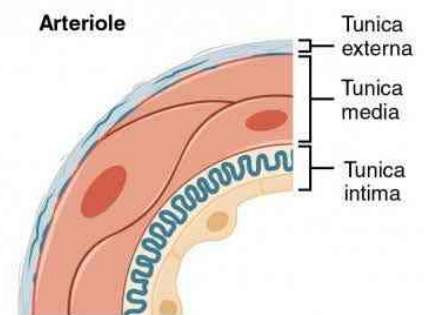
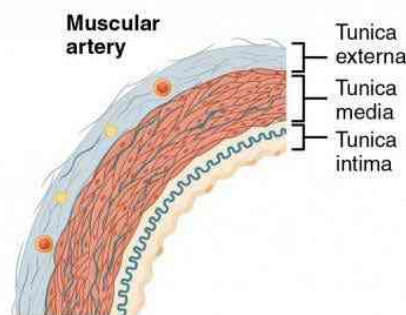
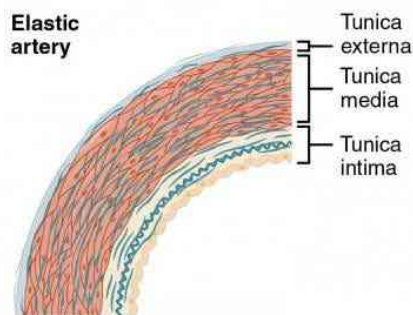
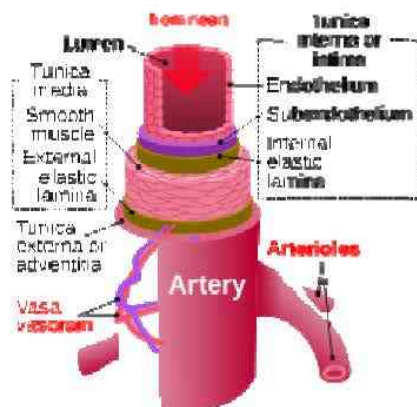
Arteriole plays an important role in regulating the blood flow into the capillaries by regulating **resistance** and therefore known as **resistance vessels**. Thick muscle wall and muscle tone controls the arterial pressure. When

the blood vessel diameter is smaller, the friction is greater, so there is more resistance. Contraction of the smooth muscle of an arteriole causes vasoconstriction, which increases resistance and relaxation of the smooth muscle causes vasodilation, which decreases resistance. Vasoconstriction of arterioles increases blood pressure, and vasodilation of arteriole decreases blood pressure. **Persistent increased tone of arteriolar wall produces hypertension.**

The tunica externa of the arteriole consists of loose collagenous connective tissue containing abundant unmyelinated sympathetic nerves. These **sympathetic nerve supply** along with the actions of local chemical mediators, can alter the diameter of arterioles and thus vary the rate of blood flow and resistance through these vessels.

Hypertension causes thickening of the tunica media, accelerates development of atherosclerosis and coronary artery disease and increases systemic vascular resistance. Because arteries in the brain are usually less protected by surrounding tissues as compared to the major arteries in other parts of the body, prolonged hypertension can eventually cause them to rupture, resulting in a stroke.

Hypertension also damages kidney arterioles, causing them to thicken, which narrows the lumen. This reduces the blood supply to the kidneys and the kidneys secrete more rennin, which elevates the blood pressure even more.





Ms Khushi Vaghela

1st BHMS

PHYSIOLOGICAL ASPECTS OF HYPERTENSION

- IT IS CONSIDERED AS , MUCH FORCE AGAINST WALL OF BLOOD VESSELS.
- IT IS ALSO CALLED AS HIGH BLOOD PRESSURE (HIGH BP).

SOME FACTS

- ACUTE CAUSE OF HYPERTENSION INCLUDES STRESS, BUT IT CAN HAPPEN ITS OWN OR CAN RESULT FROM KIDNEY DISEASES.
- UNMANAGED HYPERTENSION LEADS TO HEART ATTACK, STROKE AND OTHER PROBLEMS.
- LIFESTYLE FACTORS ARE BEST WAY TO ADDRESS HYPERTENSION.
- FOR AN EXAMPLE WHO (WORLD HEALTH ORGANISATION) SUGGST THAT GROWTH OF PROCESSED FOOD INDUSTRY HAS IMPACTED AMOUNT OF SALT IN DIET WORLD WIDE AND THAT LEADS TO HYPERTENSION.
- ACCORDING TO WHO 2008 ETIMATE PREVELANCE OF RAISED BLOOD PRESSURE IN INDIA WAS 32.5%.

RISK FACTORS

1. AGE : WITH AGE ADVANCES , BP INCREASES SLIGHTLY BECAUSE ARTERIES BECOME STIFFER AND NARROWER
2. SEX : MORE PRONE IN MALES THAN FEMALES
3. SIZE AND WEIGHT : HIGH RISK TO OBASE OR OVER WEIGHT PERSON
4. ALCOHOL OR TOBACCO USE : CONSUMING LARGE AMOUNT OF ALCOHOL OR TOBACCO DAILY , LEADS TO HYPERTENSION.
5. EXISTING HEALTH CONDITIONS : CARDIOVASCULAR DISEASES , DIABETES , CHRONIC KIDNEY DISEASES , HIGH CHOLESTEROL
6. OTHER FACTORS :
 - I. LACK OF PHYSICAL ACTIVITY
 - II. PROCESSED FOOD (LOW POTASSIUM IN DIET)

- III. CERTAIN MEDICINES
- IV. FAMILY HISTORY OF HIGH BP OR UNMANAGED STRESS.

TYPES

1. PRIMARY HYPERTENSION

- IT CAN RESULT FROM MULTIPLE FACTORS INCLUDING BLOOD PLASMA VOLUME AND ACTIVITY OF HORMONES THAT REGULATES BLOOD VOLUME AND BLOOD PRESSURE.
- IT ALSO INFLUENCED BY FACTORS SUCH AS STRESS AND LACK OF EXERCISE.

2. SECONDARY HYPERTENSION

- IT HAS SPECIFIC CAUSE AND COMPLICATIONS OF ANOTHER PROBLEM.
- IT CAN RESULT FROM :
 - I. DIABETES : IT IS DUE TO KIDNEY PROBLEM AND NERVE DAMAGE.
 - II. KIDNEY DISEASES
 - III. RARE CANCER OF ADRENAL CORTEX
 - IV. CUSHING SYNDROME CAN BE CAUSE BY CORTICOSTEROID DRUGS.
 - V. CONGENITAL ADRENAL HYPERPLASIA
 - VI. HYPERTHYROIDISM
 - VII. HYPERPARATHYROIDISM
 - VIII. PREGNANCY
 - IX. SLEEP APNEA
 - X. OBESITY
REGULATION

A. NEUROGENIC CONTROL :

- VASOMOTOR CENTRE INCLUDE OTHER CENTRES IN PONS AND MIDBRAIN.

ARTERIAL BARORECEPTORS RESPOND TO VESSEL WALL DIALATATION BY INCREASING AFFERENT IMPULSE ACTIVITIES.

- THIS DECREASE EFFERENT SYMPATHETIC ACTIVITIES AND AUGMENT VAGAL TONE.

B. RENIN ANGIOTENSINE SYSTEM :

- ANGIOTENSINOGEN IS CONVERTED INTO ANGIOTENSINE 1(ANGI 1).
- ANGI 1 CONVERTED INTI ANGI 2 BY THE ACTION OF ANGIOTENSINE CONVERTING ENZYME (ACE).
- FUNCTIONS OF ANGIOTENSINE 2 :
 - i. INCREASES BLOOD PRESSURE
 - ii. INCREASES WATER INTAKE

iii. REGULATES SODIUM BALANCE

HIGH LEVEL OF ANGI 2 IN TI PLASMA INHIBITS RENIN SECRETION FROM JUXTAGLOMERULAR APPARATUS.

C. ATRIAL NETRIURETIC PEPTIDE :

- RELEASE FROM ATRIAL GRANULES.
- FUNCTION : IT PRODUCES NETRIURESIS , DIURESIS & MODEST DECREASE IN BP , WHILE DECREASING PLASMA RENIN AND ALDOSTYERONE.

D. EICOSANOIDS :

- LOCAL HORMONE RELEASED BY MIST CELLS OR NEREBY CELLS & RAPIDLY INACTIVATED.
- FUNCTION : PULMONARY ARTERIAL HYPERTENSION(AUTOCRINE AND PARACRINE MEDIATERS).

E. ADRENAL STEROIDS :

- MINERALO CORTICOID AND GLUCOCORTICOID INCREASE BLOOD PRESSURE.

F. RENOMEDULLARY VASODEPRESSION :

RENOMEDULLAREY CLLLS SECRETE INACTIVE AMEDULLIPIN 2 WHICH CAUSES PROLONGED HYPOTENSION EFFECT , POSSIBLY BY DIRECT VASODIALATATION.

G. SODIUM AND WATER EXCRETION :

- CAUSES INCREASE BLOOD PRESSURE BY INCREASING BLOOD VOLUME.
SYMPTOMS

- THERE IS NO SYMPTOMS TO MAKE YOU AWARE OF CONDITION , SO IT IS CALLED AS "SILENT KILLER" , SO REGULAR CHECKING OF BP IS VITAL.
- WHILE UNDETECTED IT CAUSES DAMAGE TO VITAL ORGANS (I.E. KIDNEYS) AND CARDIOVASCULAR SUSTEM.
- IT IS NOTICED THAT PEOPLE HAVING HIGH BP CAUSES SWEATING , ANXIETY , SLEEPING PROBLEMS , ETC.

IF BP REACHES AT THE LEVEL OF HYPERTENSIVE CRISIS , A PERSON MAY EXPERIENCE HEADACHE AND NOSEBLEED.

Guided By:-

Dr Kiran Gangapure

**Professor & H.O.D.
(Dept of Physiology)**



Dr Dhara Joshi
Assistant Professor
(Dept. of Physiology)

Some Facts About Hypertension

- Hypertension is one of the most common **lifestyle diseases** today, with every third person we meet, having suffered from it. And experts say that even **kids can be victims of high blood pressure**.
- The fact is that in 90% patients there is **no known cause** for hypertension and this makes it even more important to be alert. Most are not even aware that they have hypertension, which makes the scenario rather grim.



- Hypertension is likely to end up **being an epidemic in the near future**, and approximately one-third of our population will suffer from it by 2020.
- World Hypertension league(charitable organization) has decided to dedicate 17th may as a **WORLD HYPERTENSION DAY**.
- It has been increasing consistently since 1980. Currently, estimate put the **incidence of hypertension** to 20 to 40% in urban areas and 12 to 17% in rural areas of India.

- High blood pressure or **hypertension kills** nearly 1.5 million people every year.
- Late eating, excessive time spent **on smartphones by youngsters** who seem to be living in a virtual world instead of physically walking around and getting to know people personally, sedentary lifestyles etc. contribute majorly to the rise in hypertension.
- The basic reason for high blood pressure is **atherosclerosis**. There are multiple factors responsible which lead to atherosclerosis resulting in hypertension which include stress, sedentary lifestyle, faulty food habits, lack of exercise etc.
- A small group of patients with high blood pressure have what is called **secondary hypertension**, in which the high blood pressure is the result of another condition or illness, such as kidney diseases, disorders of the thyroid, pituitary or adrenal glands, pregnancy, obesity and sleep disorders and adverse effects of medicines.
- People should follow an active lifestyle which will help in **weight loss**. Even small amounts of weight loss can make a big difference in helping to prevent high blood pressure.
- **Trouble with memory** or understanding. Uncontrolled high blood pressure may affect your ability to think, remember and learn. Trouble with memory or understanding concepts is more common in people with high blood pressure.



Dr Amola Chadha
Assistant Professor
(Dept. of Pathology)

PAEDIATRIC HYPERTENTION

Hypertension in paediatric population is nowadays commonly observed and also now getting a leading cause of mortality and morbidity in developed countries.

Overweight and obesity are strongly co-related with Primary Hypertension in children, which is a burning problem due to sedentary lifestyle, diet of junk / processed foods, lack of physical activities.

Adolescents having blood pressure between 120/80 and 95th percentile are considered having PREHYPERTENSION. Children with blood pressure between 95th and 99 percentile + 5 mmHg are classified as STAGE 1 Hypertensive and with B.P above 99 percentile + 5 mmHg are STAGE 2 Hypertensive.

Children with Hypertension should be screened for other risk factors like Cardiovascular diseases, D.M ,Hyperlipidemia and should be evaluated for target organ damage with retinal examination and ECG changes.

PATHOPHYSIOLOGY –

B.P is determined by the balance between cardiac output and vascular resistance. A rise in either of these, in the absence of a compensatory decrease of the other, increases mean B.P which becomes the driving pressure.

Changes in electrolyte haemostasis, particularly changes in sodium,, calcium and potassium concentrations also affect cardiac output and vascular resistance.

Under normal conditions, the amount of sodium excreted in urine, matches the amount ingested, resulting in near consistency of extracellular volume. Retention of Na⁺ results in increased extracellular volume, which is associated with elevated B.P. By means of various physical and hormonal mechanisms, this elevation triggers changes in both GFR and Tubular reabsorption of Na⁺, resulting in excretion of excess sodium and restoration of sodium balance.

A rise in the intracellular Ca⁺ concentration, due to changes in plasma calcium concentration, increases vascular contractility. In addition, there is also release of Renin, synthesesis of epinephrine and sympathetic nervous system activity.

The complexities of the system explains the difficulties in identifying the mechanism that accounts for hypertension in a particular patient, and so the treatment is often designated to affect regulatory factors rather than the cause of the disease.

In a child who is obese, hyperinsulinemia may elevate BP by increasing sodium reabsorption and sympathetic tone.

SYMPTOMS –

Usually asymptomatic, unless it is high or sustained. Symptoms are common with Secondary Hypertension like headache, irritability, dizziness, epistaxis, anorexia, visual changes, seizures may occur with significant rise in B.P. This can also cause cardiac failure, pulmonary oedema, renal dysfunction. There is also HYPERTENSIVE CRISES which includes headache, seizures, vomiting, chest pain, palpitations and shortness of breath.

Conditions which INCREASE THE RISK of high blood pressure –premature birth, low birth weight, congenital heart disease, kidney problems. B.P checks might begin in infancy, however risk factors depend on health conditions, genetics and lifestyle factors.

TYPES –

1.PRIMARY – Occurs on its own, without any identifiable cause, more common in children above 6 years of age.

2.SECONDARY – More common in young children with chronic kidney disease, heart problems, adrenal disorders, renal artery stenosis, sleep disorders, certain drugs.

TREATMENT –

1.Therapeutic lifestyle interventions – weight reduction, physical activity, diet changes etc.

2.Pharmacotherapy – Symptomatic essential hypertension, secondary hypertension with associated D.M, target organ damage or failed pharmacological interventions require pharmacotherapy.

PREVENTION –

1.Prevent childhood obesity.

2.Regular physical activity.

3.Consumption of fruits, veggies, moderate use of salt intake, low consumption of processed food, animal fats etc.

4.Decrease in sedentary lifestyle.



Dr Heena Shah

Professor & H.O.D.

(Dept of Obstetrics & Gynaecology)

HYPERTENSIVE DISORDERS COMPLICATING PREGNANCY

GESTATIONAL HYPERTENSION

BP MORE THAN 140/90 MMHG FOR FIRST TIME DURING PREGNANCY

NO PROTEINURIA

BP RETURNS TO NORMAL WITH IN 12 WKS OF POSTPARTUM

PRE ECLAMPSIA

BP 140/90 MM HG AFTER 20 WEEKS OF GESTATION

PROTEINURIA

PERSISTANT HEADACHE WITH VISUAL DISTRUBANCE

THROMBOCYTOPENIA

OEDEMA

ECLAMPSIA

ALL ABOVE SYMPTOMS OF PRE ECLAMPSIA WITH CONVULSIONS

CONVULSIONS WITHOUT NEUROLOGICAL DISEASE

CHRONIC HYPER TENSION

BP 140/90 MMHG BEFORE PREGNANCY OR DIAGNOSED BEFORE 20 WEEKS OF GESTATION

OR HYPERTENSION FIRST DIAGNOSED AFTER 20 WEEKS OF GESTATION AND PERSISTENT AFTER 12 WEEKS POSTPARTUM

SUPERIMPOSED ON CHRONIC HYPERTENSION

WOMEN HAVING CHRONIC HYPERTENSION BEFORE PREGNANCY

WITH RISE IN DIASTOLIC PRESSURE MORE THAN 30MMHG WITH PROTEINURIA AND GENERALISED OEDEMA

TRANSIENT OR LATE HYPERTENSION

HYPERTENSION WITHOUT EVIDENCE OF PREECLAMPSIA DEVELOPING NEAR TERM OR EARLY PUERPERIUM IN NONHYPERTENSIVE WOMEN

EFFECTS OF PREGNANCY ON THE HYPERTENSION

THERE MAY BE MIDPREGNANCY FALL OF BP IN ABOUT 50%

IN 50% BP TENDS TO RISE AS PREGNANCY ADVANCE

EFFECTS OF HT ON PREGNANCY

MATERNAL RISK IN FORM OF PREECLAMPSIA , ABUPTIO PLACENTA, CONGESTIVE HEART FAILURE, MALIGNANT HYPERTENSION CEREBROVASCULAR ACCIDENT , RENAL DAMAGE.

FOETAL RISK DUE TO PLACENTAL INSUFFICIENCY BABIES LIKELY TO GROWTH RETARDED, PRETERM BIRTH IS HIGH, HIGH BP MORE THAN 160/100 MMHG PRODUCE PERINATAL LOSS

MATERNAL COMPLICATION

DURING PREGNANCY

ACCIDENTAL HAEMORRHAGE, OLIGURIA ANURIA DIMNESS OF VISION BLINDNESS,PRETERM LABOUR

HELLP SYNDROME CEREBRAL HAEMORRHAGE ARDS, HAEMATOLOGICAL COMPLICATION,

DURING LABOUR

PPH DUE TO COAGULATION FAILURE

DURING PUERPERIUM

SHOCK, SEPSIS ,PSYCHOSIS

FOETAL COMPLICATION

IUFD, IUGR, ASPHYXIA, PREMATUREITY DUE TO PRETERM BIRTH

MATERNAL MORTALITY INCREASED DUE TO COMPLICATION



Dr Rahul Gangapure
Professor & H.O.D.
(Dept. of Community Medicine)

Measures to control high blood pressure

By making the following lifestyle changes, you can lower your blood pressure and reduce your risk of heart disease.

If you've been diagnosed with high blood pressure, you might be worried about taking medication to bring your numbers down.

Lifestyle plays an important role in treating your high blood pressure. If you successfully control your blood pressure with a healthy lifestyle, you might avoid, delay or reduce the need for medication.

Here are 10 lifestyle changes you can make to lower your blood pressure and keep it down.

1. Lose extra pounds and watch your waistline

Blood pressure often increases as weight increases. Being overweight also can cause disrupted breathing while you sleep (sleep apnea), which further raises your blood pressure.

Weight loss is one of the most effective lifestyle changes for controlling blood pressure. Losing even a small amount of weight if you're overweight or obese can help reduce your blood pressure. In general, you may reduce your blood pressure by about 1 millimeter of mercury (mm Hg) with each kilogram (about 2.2 pounds) of weight you lose.

Besides shedding pounds, you generally should also keep an eye on your waistline. Carrying too much weight around your waist can put you at greater risk of high blood pressure.

In general:

- Men are at risk if their waist measurement is greater than 40 inches (102 centimeters).
- Women are at risk if their waist measurement is greater than 35 inches (89 centimeters).

These numbers vary among ethnic groups. Ask your doctor about a healthy waist measurement for you.

2. Exercise regularly

Regular physical activity — such as 150 minutes a week, or about 30 minutes most days of the week — can lower your blood pressure by about 5 to 8 mm Hg if you have high blood pressure. It's important to be consistent because if you stop exercising, your blood pressure can rise again.

If you have elevated blood pressure, exercise can help you avoid developing hypertension. If you already have hypertension, regular physical activity can bring your blood pressure down to safer levels.

Some examples of aerobic exercise you may try to lower blood pressure include walking, jogging, cycling, swimming or dancing. You can also try high-intensity interval training, which involves alternating short bursts of intense activity with subsequent recovery periods of lighter activity. Strength training also can help reduce blood pressure. Aim to include strength training exercises at least two days a week. Talk to your doctor about developing an exercise program.

3. Eat a healthy diet

Eating a diet that is rich in whole grains, fruits, vegetables and low-fat dairy products and skimps on saturated fat and cholesterol can lower your blood pressure by up to 11 mm Hg if you have high blood pressure. This eating plan is known as the Dietary Approaches to Stop Hypertension (DASH) diet.

It isn't easy to change your eating habits, but with these tips, you can adopt a healthy diet:

- **Keep a food diary.** Writing down what you eat, even for just a week, can shed surprising light on your true eating habits. Monitor what you eat, how much, when and why.
- **Consider boosting potassium.** Potassium can lessen the effects of sodium on blood pressure. The best source of potassium is food, such as fruits and vegetables, rather than supplements. Talk to your doctor about the potassium level that's best for you.
- **Be a smart shopper.** Read food labels when you shop and stick to your healthy-eating plan when you're dining out, too.

4. Reduce sodium in your diet

Even a small reduction in the sodium in your diet can improve your heart health and reduce blood pressure by about 5 to 6 mm Hg if you have high blood pressure.

The effect of sodium intake on blood pressure varies among groups of people. In general, limit sodium to 2,300 milligrams (mg) a day or less. However, a lower sodium intake — 1,500 mg a day or less — is ideal for most adults.

To decrease sodium in your diet, consider these tips:

- **Read food labels.** If possible, choose low-sodium alternatives of the foods and beverages you normally buy.

- **Eat fewer processed foods.** Only a small amount of sodium occurs naturally in foods. Most sodium is added during processing.
- **Don't add salt.** Just 1 level teaspoon of salt has 2,300 mg of sodium. Use herbs or spices to add flavor to your food.
- **Ease into it.** If you don't feel you can drastically reduce the sodium in your diet suddenly, cut back gradually. Your palate will adjust over time.

5. Limit the amount of alcohol you drink

Alcohol can be both good and bad for your health. By drinking alcohol only in moderation — generally one drink a day for women, or two a day for men — you can potentially lower your blood pressure by about 4 mm Hg. One drink equals 12 ounces of beer, five ounces of wine or 1.5 ounces of 80-proof liquor.

But that protective effect is lost if you drink too much alcohol.

Drinking more than moderate amounts of alcohol can actually raise blood pressure by several points. It can also reduce the effectiveness of blood pressure medications.

6. Quit smoking

Each cigarette you smoke increases your blood pressure for many minutes after you finish. Stopping smoking helps your blood pressure return to normal. Quitting smoking can reduce your risk of heart disease and improve your overall health. People who quit smoking may live longer than people who never quit smoking.

7. Cut back on caffeine

The role caffeine plays in blood pressure is still debated. Caffeine can raise blood pressure up to 10 mm Hg in people who rarely consume it. But people who drink coffee regularly may experience little or no effect on their blood pressure.

Although the long-term effects of caffeine on blood pressure aren't clear, it's possible blood pressure may slightly increase.

To see if caffeine raises your blood pressure, check your pressure within 30 minutes of drinking a caffeinated beverage. If your blood pressure increases by 5 to 10 mm Hg, you may be sensitive to the blood pressure raising effects of caffeine. Talk to your doctor about the effects of caffeine on your blood pressure.

8. Reduce your stress

Chronic stress may contribute to high blood pressure. More research is needed to determine the effects of chronic stress on blood pressure. Occasional stress also can contribute to high blood pressure if you react to stress by eating unhealthy food, drinking alcohol or smoking.

Take some time to think about what causes you to feel stressed, such as work, family, finances or illness. Once you know what's causing your stress, consider how you can eliminate or reduce stress.

If you can't eliminate all of your stressors, you can at least cope with them in a healthier way. Try to:

- **Change your expectations.** For example, plan your day and focus on your priorities. Avoid trying to do too much and learn to say no. Understand there are some things you can't change or control, but you can focus on how you react to them.
- **Focus on issues you can control and make plans to solve them.** If you are having an issue at work, try talking to your manager. If you are having a conflict with your kids or spouse, take steps to resolve it.
- **Avoid stress triggers.** Try to avoid triggers when you can. For example, if rush-hour traffic on the way to work causes stress, try leaving earlier in the morning, or take public transportation. Avoid people who cause you stress if possible.
- **Make time to relax and to do activities you enjoy.** Take time each day to sit quietly and breathe deeply. Make time for enjoyable activities or hobbies in your schedule, such as taking a walk, cooking or volunteering.
- **Practice gratitude.** Expressing gratitude to others can help reduce your stress.

9. Monitor your blood pressure at home and see your doctor regularly

Home monitoring can help you keep tabs on your blood pressure, make certain your lifestyle changes are working, and alert you and your doctor to potential health complications. Blood pressure monitors are available widely and without a prescription. Talk to your doctor about home monitoring before you get started.

Regular visits with your doctor are also key to controlling your blood pressure. If your blood pressure is well-controlled, check with your doctor about how often you need to check it. Your doctor may suggest checking it daily or less often. If you're making any changes in your medications or other treatments, your doctor may recommend you check your blood pressure starting two weeks after treatment changes and a week before your next appointment.

10. Get support

Supportive family and friends can help improve your health. They may encourage you to take care of yourself, drive you to the doctor's office or embark on an exercise program with you to keep your blood pressure low.

If you find you need support beyond your family and friends, consider joining a support group. This may put you in touch with people who can give you an emotional or morale boost and who can offer practical tips to cope with your condition.



DR. JIGISHA PANCHAL
ASSISTANT PROFESSOR
(DEPT. OF MEDICINE)

HYPERTENSION

HYPERTENSION: MEANS ABNORMALLY HIGH BLOOD PRESSURE

HIGH BLOOD PRESSURE is a common condition in which long term force of blood against your artery wall is high enough that it may eventually cause health problems, such as heart disease.

SYMPTOMS:

Most people with high blood pressure have no signs or symptoms, even if blood pressure readings reach dangerously high levels.

A very few people with high blood pressure may have headaches, shortness of breath or nose bleed; but these signs and symptoms aren't specific and usually don't occur until high blood pressure has reached a severe or life threatening stage.

RISK FACTORS:

- STRESS
- AGE: ADVANCED AGE, AFTER 64 YRS
- RACE: MORE COMMON IN AFRICAN HERITAGE, MORE COMMON IN WHITES
- FAMILY HISTORY: TENDS TO RUN IN FAMILIES
- BEING OVER WEIGHT OR OBESE
- NOT BEING PHYSICALLY ACTIVE
- USING TOBACCO
- TOO MUCH OF INTAKE OF SALT IN DIET
- TOO LITTLE OF POTASSIUM IN DIET
- DRINKING TOO MUCH OF ALCOHOL
- CERTAIN CHRONIC CONDITIONS

CLASSIFICATION:

7 TH JOINT NATIONAL COMMITTEE ON PREVENTION / DETECTION/ EVALUATION AND TREATMENT OF HYPERTENSION HAVE CATEGORISED HYPERTENSION AS FOLLOWS:

CATEGORY	SYSTOLIC	DIASTOLIC
NORMAL	<120	<80
PRE-HYPERTENSIVE	120-139	80-89
HYPERTENSIVE- STAGE 1	140-159	90-99
-STAGE 2	>160	>100

TYPES:

<u>TYPE</u>	<u>CAUSE</u>	<u>% OF CASES</u>
PRIMARY/ ESSENTIAL HYPERTENSION	<i>No identifiable cause</i>	94%
SECONDARY HYPERTENSION	<i>Some people have high blood pressure caused by an underlying condition</i>	6%
	RENAL CONDITION	4%
	ENDOCRINAL CAUSES	1%
	ADRENAL GLAND TUMORS	
	THYROID PROBLEMS	
	OTHERS	1%
	CERTAIN DEFECTS YOU'RE BORN WITH (CONGENITAL) IN BLOOD VESSELS	
	CERTAIN MEDICATIONS, SUCH AS BIRTH CONTROL PILLS, COLD REMEDIES, DECONGESTANTS, PAIN RELIEVERS AND ILLEGAL DRUGS SUCH AS COCAINE AND AMPHETAMINES (CNS STIMULANTS)	

COMPLICATIONS:

- HEART ATTACK → MYOCARDIAL INFARCTION/ ISCHEMIC HEART DISEASE
- CEREBROVASCULAR STROKE → HEMORRHAGIC/ ISCHEMIC
- ANEURYSMS
- HEART FAILURE
- WEAKENED AND NARROWED BLOOD VESSELS IN YOUR KIDNEYS → HYPERTENSIVE NEPHROPATHY
- THICKENED NARROWED OR TORN BLOOD VESSELS IN THE EYES → HYPERTENSIVE RETINOPATHY
- METABOLIC SYNDROME → HYPERTENSION WITH DIABETES MELLITUS AND DYSLIPIDEMIA
- TROUBLE WITH MEMORY OR UNDERSTANDING
- DEMENTIA

PULSE PRESSURE: is the difference between systolic and diastolic blood pressure.

Normal pulse pressure is 30-60mm Hg

Widened pulse pressure may increase the risk of heart attacks and cardiovascular disease.

MEAN ARTERIAL PRESSURE: is the product of cardiac output and total peripheral resistance.

It is the tissue perfusion pressure.

Normal arterial pressure = Diastolic Blood pressure + $\frac{1}{3}$ rd of pulse pressure.

Normal mean arterial pressure is approx. 100 mmHg

It tells the doctor how well the body is processing oxygenated blood that is delivered to the tissues and organs. It is an average blood pressure in a person during a single cardiac cycle.

Low MAP occurs in shock.

ISOLATED SYSTOLIC HYPERTENSION: This is said to be present when systolic blood pressure is > 140mmHg and diastolic blood pressure is <90 mmHg. It is commonly seen in old age (>65 years of age)

ACCELERATED HYPERTENSION: A significant recent increase in blood pressure over previous hypertensive levels, associated with evidence of vascular damage or fundoscopic examination, but without papilloedema.

MALIGNANT HYPERTENSION: A trait of blood pressure >200/140 mmHg, grade IV Retinopathy (i.e. with papilloedema) and Renal dysfunction.

HYPERTENSIVE URGENCY: A situation in which blood pressure is markedly elevated but without any evidence of end organ damage. In this condition, the control of elevated blood pressure can be done gradually.

HYPERTENSIVE EMERGENCY: This is the situation in which the blood pressure is markedly elevated, but with evidence of some end organ damage. In this condition, the control of elevated blood pressure has to be done immediately in order to prevent further end organ damage.

WHITE COAT HYPERTENSION: A transient increase in blood pressure in normal individual when blood pressure is recorded in a physician's consulting room, or in a hospital.

PSEUDOHYPERTENSION: A false increase in blood pressure recording due to stiff and non-compliant vessels (Osler's sign), occurring in old age. In these individuals, actual intra arterial blood pressure is lower than the blood pressure measured by a sphygmomanometer.

TRANSIENT HYPERTENSION: It is systemic hypertension seen for a transient phase of time. When the patient is under stress or when he is having a disorder with a transient hypertensive phase.

This may be seen in -

- Acute cerebro vascular accidents
- Acute myocardial infarction
- Acute Glomerulo-nephritis
- Pregnancy
- Acute intermittent porphyria

EPISODIC OR PAROXYSMAL HYPERTENSION: It is seen in patient with Pheochromocytoma (tumor arising from chromaffin cells- adrenal medulla/ extra adrenal paragangliomas). Although patient may be normotensive, hypotensive or hypertensive =with Pheochromocytoma.

LABILE HYPERTENSION: Patient who sometimes, but not always have arterial blood pressure with hypertensive range and classified as having labile hypertension.

PARADOXICAL HYPERTENSION: In this form of hypertension, patients paradoxically show an increase in blood pressure, even when on anti-hypertensive drugs.

HYPERTENSIVE STATES: These are situations in which there is increase in both systolic and diastolic blood pressure, occurring in normal individuals, as during sexual intercourse or on diving into cold water.

Here goes the brief summary on Hypertension, from internal medicine point of view. With today's living the incidences of Hypertension are in increasing trend.

It is important to mention that, life style modification and stress management play a pivot role in management of Hypertension.

Homoeopathic medication offers a wonderful tool for treatment of hypertension. It is prescribed on the basis of individualisation, and also considering the patient's mental state.



Dr Gaurav Sharma

Associate Professor (Dept. of Materia Medica)

HOMOEOPATHIC MANAGEMENT OF HYPERTENSION

Remedy	Prepared from:	Used to treat hypertension associated with:
Baryta carbonicum	Barium carbonate crystals	Cardiovascular problems, especially if associated with headaches.
Baryta muriaticum	Barium chloride crystals	A high systolic pressure and a low diastolic pressure.
Adrenalinum	Adrenaline (epinephrine) hormone	Long-term <u>stress</u> .
Glonoinum	Glyceryl trinitrate	Sudden flushing or increased blood flow to the head.
Serum Anguillar Icthyotoxin	Eel serum	Fluid retention and kidney problems
Thyroidinum	Dried sheep/calf thyroid gland	Being <u>overweight</u> .
Nux vomica	Strychnine-containing seeds of the poison nut	Intermittent high readings; overwork, <u>smoking</u> , over-eating or drinking too much <u>alcohol</u> .
Crataegus	Hawthorn	A need for general heart and circulatory support; irregular pulse, heart failure.
Passiflora incarnata	Passion flower	Anxiety and stress.
Picric acidum	Picric acid	Stress due to overwork; headaches, fatigue or fluid retention.
Phosphoricum acidum	Phosphoric acid	Listlessness; emotional shock, lethargy;
Ignatia	Seeds from St Ignatius' bean tree	Headache and stress following emotional upset
Arnica montana	Leopard's bane plant (Sneezewort)	Emotional shock or abnormal blood clotting.
Aurum Mur Natronatum	Double Chloride of Gold & Sodium	Hypertension and cardiac Myopathy.
Rauwolfia Serpentina	Sarp Gandha	Useful in controlling Systolic Hypertension
Veratrum Viride	Indian Hellebore	Useful in controlling Systolic as well as Diastolic Hypertension



Dr Prital Shah

Assistant Professor

(Dept. of Repertory)

A Case of Essential Hypertension

39 year old female comes with complain of heaviness of head (entire head) since a few months, no specific cause that triggers the heaviness but it does get aggravated after improper sleep.

No significant past history.

Family history- hyperlipidemia, and hypertension to all her siblings and mother.

Patient as a person-

Craving- bread³, sweet 2.

Menstrual cycle - regular

Aversion- milk 3.

Obstetrics history- G2P2 A0L2

Patient belongs to maharashtrian family, married since 15years.

It is a love marriage. Born and brought up in Nagpur, settled in Surat after marriage.

She conceived after 6 years of marriage.

The 6years were stressful as she didn't receive emotional support from her husband.

By nature very reserved, doesn't communicate her emotions easily. It took three sessions for me to ventilate her past experiences.

Still sulks over past traumatic events.

O/E- BP- 140- 150/ 90- 96, this was her BP range for one entire week monitored daily before starting the medicine. Her Lipid profile was with S.cholesterol-220, Triglycerides – 100, No other positive systemic or general examination .

Diagnosis – Essential Hypertension with dyslipidemia

Analysis and evaluation

1 Disposition sulking

2 Aversion milk 3+

3 Craving for bread 3+

4 Craving for sweets 2+

5 Headache as presenting complain

Dominant miasm -Sycotic

Fundamental miasm– Sycotic

Susceptibility – Moderate

Prevalent Sycotic manifestation with lack of characteristic symptomatology over the structure form and function of the disease, Characteristic physical generals and a slow progress of disease gives an understanding of the susceptibility of the patient.

Naturm group was prevalent and the final remedy selected was natrum Carb on the basis of physical generals.

Planing and programming

Dealing with Sycotic manifestation of dyslipidemia and essential hypertension and susceptibility judgement natrum Carb 200 was given HS once in a week consecutively for 6 weeks.

Her blood pressure range was showing -120-124/80-84 range within first 4 doses of her constitutional .

Her headache was completely taken care of ,so was her sulkiness .

She was continued with this therapeutics management for 6 months . Her lipid profile was followed up after 6 months which showed a normal lipid profile .

So she is still under same therapeutic management as the fundamental miasm is influential and the patient in climateric phase ,hence needs monitoring .She is yet not started on any Anti-hypertensive .



MISS SHWETA SHINGALA

3RD YEAR BHMS

MATERIA MEDICA..... A POEM.....

It's changing me day by day.....

I have a strong belief, come what may

HOMOEOPATHY is here to stay!

I cry and I laugh, and weep sometimes,
practicing classical in these modern times!

finding a remedy may be a pain,
but all this work never goes in vain

In some there's a LYCO and a SULFHUR in others,
HEPAR is hyper, BELLA is burning red PHOSPHO is very attractive,
a STAPH in quiet and smiling mothers.....

Then there's ACONITE for the tremendous fear
and ARSENICUM and CARBO will relieve when death is near....

Histerical and Superiority ...oww is PLATINA

Sheep is weeping ...is PULSATILLA

Washer woman is SEPIA

But SILICEA grit is famous

THUJA looks like Ganeshji

I am not the same as I now categorize
and no longer the twenty minute conversations materialize

I want to know the stories involved.....

The riddle of the remedy still unsolved

What's with the chilly CALC and angry NUX

The LACHESIS who cannot wear a tux?

It's changing's the way i look at things,

oh the wonder and the joy it brings.....

Hope for the future, when there is none

This is a start ,I m not done.

Events

A "Save Earth By Tree Plantation " programme was organised in SMMHMC on 13th July 2019 .
The Management, Staff ,Interns and students enthusiastically participated in the programme.



A seminar on " Research Methodology in Homoeopathy" , was delivered by Dr Leena Dighe ,Principal, V H Dave Homeopathic Medical College, was organized in SMMHMC on 3rd July 2019 .The Management, Staff and interns of the college were in Attendance.



A seminar on "Sign Language for Equality " was conducted in SMMHMC, on 27th June 2019 by Ms Suji from Thiruvananthpuram.



6th DAY CELEBRATION# 4th YR BHMS STUDENTS CELEBRATED " SQUAD DAY" ON 22 JUNE 2019



5th DAY CELEBRATION# 4th YR BHMS STUDENTS CELEBRATED " CULTURE DAY " ON 21 JUNE 2019



5th "INTERNATIONAL DAY OF YOGA" WAS CELEBRATED IN SMMHMC CAMPUS ALONG WITH STUDENTS AND ALL TEACHING STAFF, NON TEACHING STAFF, HOSPITAL STAFF ON 21 JUNE 2019



4th DAY CELEBRATION# 4th YR BHMS STUDENTS CELEBRATED " SWAG DAY " ON 20 JUNE 2019.



International de-addiction day was celebrated in our college on 19th June 2019 jointly with Excise & Custom department, Vadodara. Dr. Yogesh Patel, well known Psychiatrist of Vadodara was the honour of the Guest. All the students of the college participated in the event with great enthusiasm.



3rd DAY CELEBRATION# 4th YR BHMS STUDENTS CELEBRATED " PROFESSIONAL DAY " on 19th JUNE 2019@ SMMHMC CAMPUS

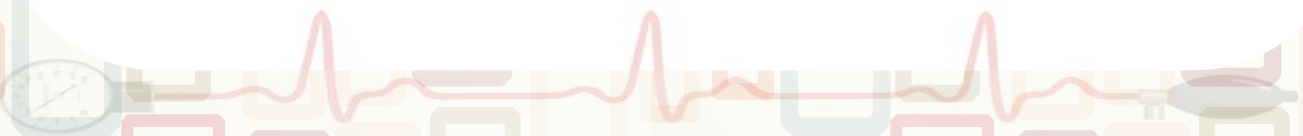


2nd DAY OF CELEBRATION # 4th YR BHMS STUDENTS CELEBRATED "SAREE DAY " On 18 JUNE 2019 @ SMMHMC CAMPUS



4th YR BHMS CELEBRATED " PATRIOTIC DAY" ON 17 JUNE 2019 @ SMMHMC CAMPUS





PHARMACY TOUR #2019 # 21ST MAY 2019 #SMMM STUDENTS AND STAFF VISITED
HOMOEOPATHIC PHARMACOPOEIA LABORATORY@GHAZIABAD. UP



PHARMACY TOUR #2019# 21 ST MAY 2019 #SMMM STUDENTS AND STAFF VISITED DR.
WILMAR SCHWABE INDIA @ NOIDA. UP



Pharmacy Tour Diaries

College Organised a funfilled, entertaining and educative tour for 1st BHMS students from 16th May 2019 to 25th May 2019.

The Journey started on 16th May as students started their Journey along with Staff Members in Luxury AC buses from College premises for Jodhpur where they visited Monumental places like Jaswant Thada, Mehrangarh Fort & Umaid Bhawan Palace. From Jodhpur the next destination was Jaipur where students saw Jaigarh fort, Amber Fort, Jantar Mantar & City Palace to name a few.

The next destination was Agra where students saw the Amazing TAJ MAHAL one of the seven wonders of the world and Agra Fort.

On 21st of May 2019 Students Visited the Homoeopathic Pharmacopeia Laboratory Ghaziabad and Wilmar Schwabe Pharmaceutical Company in Noida.

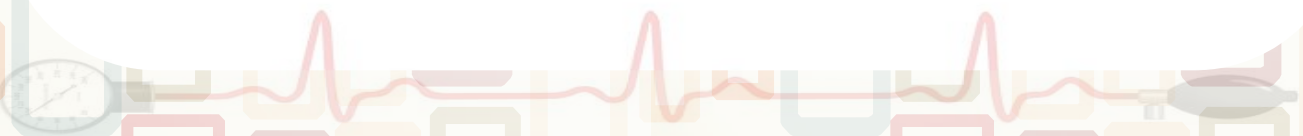
The Next Halt was the Adventurous Ranthambore Tiger Safari . The Safari was simply amazing as most of the students saw the "TIGER" roaming around freely in his natural habitat for the first time. To go inside the Jungle in an Open Canter and enjoying the little drizzle added to the excitement further.

Udaipur was the next stop and students enjoyed Boating in Lake PICHHOLA along with visiting the City palace and Saheliyon ki Badi a famous garden in the heart of the City. Icing on the cake was a surprise from our Beloved Keval Soni sir who organized a Movie for all the students and staff Members in the evening.

Last destination was the Visit to Shamlaji Temple on our way Back to Vadodara. Students also enjoyed two Dance Parties in Jaipur and Ranthambore respectively. Tour was organized in such a way that the students were taken care of very well with delicious and nutritious food along with a comfortable stay in 4 star properties at all destinations .









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Published by:-

Shree Mahalaxmiji Mahila Homoeopathic Medical College & Hospital

B/s Gujarat Tractor, Vadodara-390011.

Phone : 7573008722/23/24/25/26/27/28/29/31/36/37/38 Telefax : 0265 2322617

Website : www.smmhmc.ac.in

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