

Assignment

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Hypertension, Risk factors, complications & Management.

Introduction:

- Hypertension, also known as raised or high blood pressure, is a condition in which the blood vessels have persistently raised pressure.

Blood pressure is the force that a person's blood exerts against the walls of their blood vessels. This pressure depends on the resistance of the blood vessels and how hard the heart has to work. So, if one has high blood pressure, the force of the blood pushing against the artery walls is consistently too high and hence the heart has to work harder to pump the blood throughout our body.

Normally, the ideal blood pressure for a healthy person is about 120/80 mmHg. Whereas in case of hypertension one can have a sustained blood pressure of 140/90 mmHg or above it.

Hypertension typically develops over the period of time. Usually, one did not notice any symptoms in it. However, even symptoms high blood pressure can cause harm to our blood vessels and organs like brain, heart, eyes and kidneys.

One may develop hypertension/high blood pressure due to genetics, age, certain health conditions and more prominently due to lifestyle.

Blood pressure Ranges

Blood pressure category	Systolic (mm Hg)	Diastolic (mm Hg)
Healthy	120	80
Elevated	120-129	less than 80
stage 1 hypertension	130-139	80-89
stage 2 hypertension	140 or higher	90 or higher
stage 3 hypertension	over 180	or over 120

Topic

Date

Sign and Symptoms:

- Majority of the people suffering from hypertension do not feel any hypertension symptoms (asymptomatic). However 'headache' is one of the prominent symptoms which can be seen in the patients with high blood pressure (ie. 180/120 mm Hg or higher). Some of the other symptoms include,

- i) Dizziness
- ii) Vomitting
- iii) chest pain
- iv) Difficulty breathing
- v) Blurred vision or other vision changes

Risk factors:-

- There are several health factors like modifiable, non-modifiable risk factors that contribute to hypertension.

- i) Modifiable risk factors:- Modifiable risk factors includes our unhealthy diets (excessive salt intake, diet rich in trans fat, high intake of carbohydrates), physical inactivity, Alcoholism, consumption of tobacco and being overweight or obese.
- ii) Unhealthy diet:- Various macro, micronutrients including protein, fibres, and fats are associated with the maintenance of blood pressure. However, Saturated fats, trans fats, sugar-sweetened beverages, dietary cholesterol, high intake of sodium are the unhealthy items which causes hypertension.

Topic

Date

- b) Lack of physical activity:- Insufficient physical activity is highly prevalent in urbanised populations. Physical activity not only include the vigorous or intense workout, even a moderate physical exercise like walking to work can reduce the risk of incident hypertension.

Regular physical activity hence helps in maintaining low blood pressure, which ultimately results in reduced cardiovascular risk.

- c) Overweight and obesity:- Obesity is considered one of the potential risk factor for hypertension. Obesity causes the increased visceral and retroperitoneal fat, also considered as one of the major factor for atherosclerosis which involves narrowing and the stiffening of arteries which may often lead to hypertension.

- d) Alcoholism:- Drinking a lot of alcohol can affect ~~our~~^{the} muscles in our blood vessels that can cause them to become narrower. When our blood vessels are narrower, the heart has to work harder to push blood around our body and pump faster. This makes our blood pressure rise up.

It is shown that light to moderate drinkers had a lower risk of hypertension than non-drinkers, and heavy drinkers had a greater risk than both moderate and non-drinkers.

Therefore, these modifiable risk factors can be mitigated if we change our lifestyle, food choices and habits.

Topic

Date

i) Non-modifiable risk factors:- These factors includes genetics ie. family history of hypertension, Age (over 65 years) also diseases one is suffering such as diabetes or kidney disease.

ii) Other risk factors:- The other risk factors which may develop hypertension include air pollution, stress, sleep difficulties and so on.

Complications:-

- Hypertension can cause target-organ damage. The primary organs targeted are the eye, brain, heart, kidneys and peripheral blood vessels.

Several complications caused by uncontrolled high blood pressure are as follows:-

- i) Cardiovascular disease (Heart attack or stroke), coronary artery disease
- ii) Narrowed blood vessels in the kidneys
- iii) Thickened or narrow blood vessels in the eyes.
- iv) Aneurysm
- v) Damage to the brain

Damage to the arteries:-

- a) Aneurysm:- A constant pressure of blood moving through a weakened artery can cause the artery wall to bulge. This condition is called aneurysm. An aneurysm can burst and cause bleeding inside the body which is life threatening.

Topic

Date

Damage to the brain:-

⇒ A proper blood supply helps brain to work and function properly. However, when the blood vessels are damaged by high blood pressure it can cause them to be narrower, break or leak. High blood pressure also can cause blood clots to form in the arteries leading to the brain. These clots formed can block the blood flow, raising the risk of stroke.

Also, the narrowed or blocked arteries may limit the blood flow to the brain which could lead to a certain type of dementia which may trouble with your memory, thinking power etc.

Damage to the kidneys:-

⇒ Kidney basically filter the extra fluid and waste from the blood. Now, the high blood pressure can damage the blood vessels inside leading to the kidney. These damaged blood vessels prevent the kidneys doing its job i.e. it prevent from being effective at filtering waste from the blood. This allows the fluid and waste to collect and accumulate.

When the kidneys doesnot work well on their own, it's a serious and dangerous condition called "kidney failure".

Damage to the eyes:-

⇒ Hypertension, also called high blood pressure can damage the small, delicate blood vessels that supply blood to the eyes. Damage to the blood vessels in the retina results in a medical condition called retinopathy.

Management:-

⇒ Other than the non-modifiable risk factors (age, genetics), lifestyle changes can help lower the blood pressure.

Some of the ways to prevent hypertension are listed below:-

⇒ Be physically active, which can include normal walking, running, dancing, swimming or activities that build strength.

⇒ loose weight if one is overweight or obese as it contributes to a lot of lifestyle disorders including diabetes and hypertension.

⇒ Regular health check ups (BP measurement if must). One should track their blood pressure and if one has high pressure seek medicinal attention immediately.

⇒ Do not eat too much salty food, foods high in saturated or trans fats.

Always include fruits and vegetables in your diet.

⇒ Try to avoid drinking alcohol too much, use of tobacco or smoking.

⇒ Reducing and managing stress with medication and exercises.

Therefore, one must try to live a healthy lifestyle, in order to be prevented from lifestyle disorders like Hypertension, diabetes which may lead to a serious health condition like cardiovascular diseases, kidney damage as well as other health problems.

Reference: ?

Management:

Other than the cardiovascular risk factors (age, gender, blood pressure) can help lower the blood pressure. Some of the ways to prevent hypertension are listed below:

=> Be physically active which can include normal walking, running, swimming or activities that build strength.

=> Loose weight if one is overweight or obese as it contributes to a lot of lifestyle diseases including diabetes and hypertension.

=> Regular health check ups (at least once a year) to monitor blood pressure and if one has high blood pressure seek medical attention immediately.

=> Don't eat too much salty food, keep up a balanced diet. Always include fruits and vegetables in your diet.

=> Try to avoid drinking alcohol too much, use of tobacco or smoking.

=> Reducing and managing stress with meditation and exercises.

Therefore, one must try to live a healthy lifestyle, in order to be protected from lifestyle diseases like hypertension, diabetes which may lead to a serious health condition like cardiovascular diseases. Regular check ups as well as other health problems.