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Hypertension

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Hypertension

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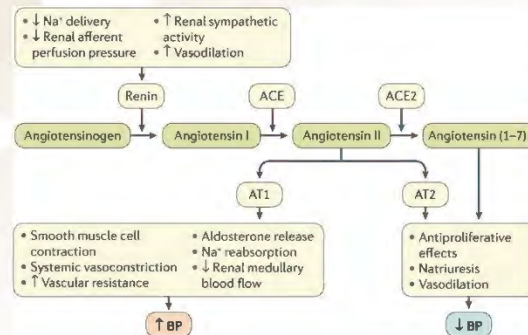
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Signs and Symptoms

- Hypertension is difficult to diagnose because it is asymptomatic (Prakash, 2019)
- If your blood pressure is severely high, there may be these symptoms:
 - Severe headaches
 - Fatigue
 - Vision Problems
 - Chest pain
 - Difficulty breathing
 - Confusion
 - Irregular heartbeat
 - Nosebleeds
 - Pounding in your chest, neck, or ears (Beckerman, 2020)

What is Blood Pressure?

Blood pressure is the ratio of the systolic blood pressure (the pressure that the blood exerts in the arteries when the heart contracts) and the diastolic blood pressure (the pressure when the heart relaxes) (Oparil, 2018). Hypertension is defined by the measurement of the blood pressure. Hypertension can be caused by genetic predisposition, age, environmental factors, high sodium diet, poor sleep cycle, high mental stress and excessive alcohol consumption (Oparil, 2018). Slow development change in the vascular walls and atherosclerosis contribute to hypertension (Oparil, 2018).



Underlying Pathophysiology

Sodium homeostasis regulation

- Crucial regulator of blood volume

Cardiac output and peripheral resistance

- Smooth muscle constriction is thought to change arteriolar vessel walls by angiotensin that leads to an irreversible rise in peripheral resistance (Oparil, 2018)

Renin-angiotensin system

- Angiotensin II is a potent vasoconstrictor and thus causes a rise in blood pressure (Oparil, 2018)

Endothelial dysfunction

- Vascular endothelial cells play an important role in cardiovascular regulation by producing several local vasoactive agents (Oparil, 2018)

Topic

- Hypertension also known as the silent killer, can have many complications and risk factors associated with it. (Prakash, 2019)
- "Hypertension is a chronic medical condition in which the blood pressure in the arteries is elevated" (Prakash, 2019).
- "Worldwide, hypertension is the leading risk factor for morbidity and mortality" (Prakash, 2019).
- "Hypertension is an independent, modifiable risk factor for the development of cardiovascular disease and the leading cause of disability worldwide." (Lamprea-Montealegre, et al, 2018).
- The diagnosis for hypertension is made after several blood pressure measurements. (Krabbe, 2019).

Blood Pressure Categories

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

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heart.org/bplevels

(Understanding blood pressure readings, n.d.)

Why this Topic?

I chose hypertension as my topic because it is interesting. Since there are no symptoms of hypertension until you get high blood pressure. I also feel that the heart and vascular system is so amazing with all it does that I wanted to learn more about it, so I chose hypertension as my topic. Hypertension can cause MI, encephalopathy, CAD, IPH, stroke (McCance et al., 2019). Hypertension is important to understand, so I feel that choosing this topic is a great topic to do research on.

Implications of Nursing Care

Educating patients on:

- ❖ Life-style changes
- ❖ Smoking cessation
- ❖ Heart healthy diet
- ❖ Removal of trans-fat from the diet
- ❖ Limiting caffeine intake
- ❖ Maintaining a healthy body weight
- ❖ Monitoring your blood pressure regularly
- ❖ Proper way to take blood pressure
- ❖ Following up with doctor regularly
- ❖ Blood pressure goals
- ❖ Increase physical activity
- ❖ Pharmacological therapy education

Significance of Pathophysiology

Hypertension can cause:

- MI
- Encephalopathy
- CAD
- IPH
- Organ damage
- Retinopathy
- Ventricular hypertrophy
- Microalbuminuria
- Heart Failure
- Stroke
- PAD
- Atrial Fibrillation
- CKD
- Cognitive impairment
- Leading single contributor to all-cause death and disability worldwide (Oparil, 2018)

References



Conclusion

Hypertension can cause many complications including organ damage. It is essential to make healthy lifestyle changes, make regular doctor's appointments, and take your blood pressure regularly. Approximately one in four adults have hypertension (Oparil, 2018). Taking the proper steps to understanding and managing hypertension is vital. With no early signs or symptoms of hypertension, it is important to be educated and aware of risks and complications that hypertension has.

