

Pheochromocytoma

Pathophysiology:

A pheochromocytoma is a rare, tumor that develops in the adrenal gland. Usually it affects only 1 but can affect both, and is usually benign or noncancerous. The tumor releases hormones that cause high blood pressure either chronically or episodically. This can, if left untreated, cause severe damage to other systems, mainly the cardiovascular system.

Treatment:

The primary mode of treatment is removal of the tumor. Most of the time, the entire adrenal gland with the tumor is removed surgically

Pre-Op Medications:

Alpha blockers – to keep smaller arteries and veins open and relaxed

Beta blockers – to get the heart to beat slower and with less force

High Salt Diet – Alpha and Beta blockers will dilate the blood vessels causing the amount of fluid in the vessels to be low. This diet will draw more fluid inside preventing dangerously low B/P.

Etiology:

Although the causes of pheochromocytoma are unknown, we do know that the tumor develops in the chromaffin cells in the center of the adrenal gland. These cells are responsible for excreting the catecholamines epinephrine (adrenaline) and norepinephrine (noradrenaline) which help regulate many things including heart rate, B/P and Blood sugar.

The catecholamines trigger your fight or flight response, and in turn raise your B/P, and pulse and boost other systems to heighten your response time. A pheochromocytoma causes an irregular and excessive release of these hormones.

Labs and Diagnostics:

24 hour Urine Test
Blood Test

Imaging Test: X-ray, MRI, MIBG, PET, : to visualize if a tumor is present
Genetic Testing

Signs & Symptoms:

- High B/P
- Diaphoresis (heavy sweating)
- Headache
- Rapid H/R
- Tremors
- Pallor (paleness in the face)
- Dyspnea (SOB)

Risk Factors:

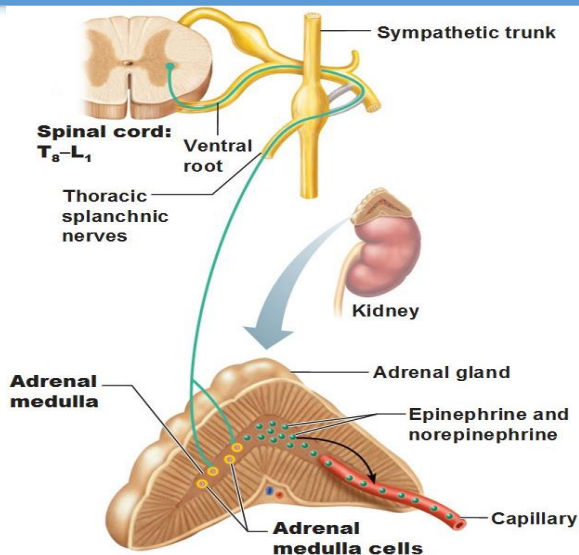
Genetics

Tumors at multiple sites
Cancers in this area

Triggers:

- Anxiety or Stress
- Position Changes
- Labor and Delivery
- Surgery
- **FOOD HIGH IN TYRAMINE**

Anatomy



Nursing Interventions:

Monitor vitals (B/P and H/R), monitor for hypertensive crisis (>180 systolic or >120 diastolic), Monitor for chest pain, neuro status, EKG changes, hyperglycemia. Provide a calm, cool environment with very little stimulation to prevent an increase in B/P. Educate the patient on the disease process, and prevention measures for triggers. Avoid **FOODS HIGH IN TYRAMINE!** Including aged cheese, aged meat, milk etc.