

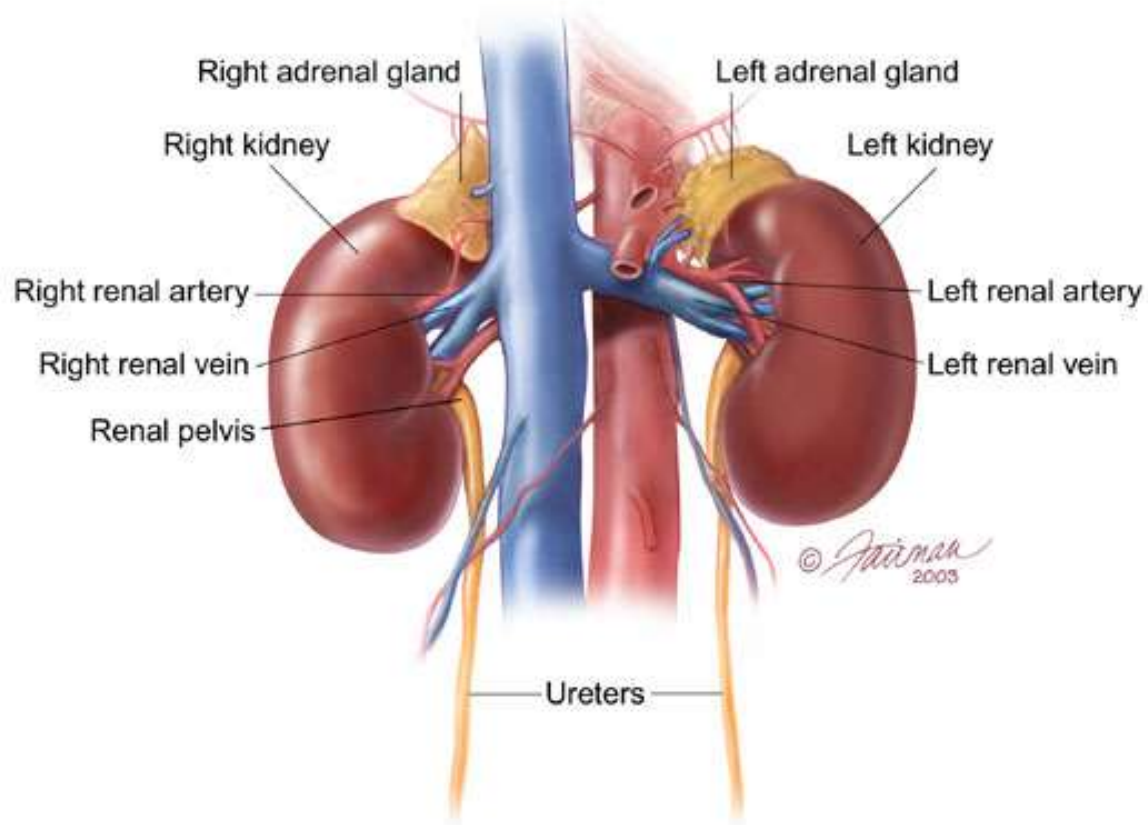
Hyperaldosteronism

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The Adrenal Glands

- ▶ Hyperaldosteronism is a disease caused by problems in the adrenal glands.
- ▶ The adrenal glands produce groups of steroid hormones called:
 - Mineralocorticoids
 - Sex hormones
 - Glucocorticoids
- ▶ Aldosterone is one of the hormones produced. It is an integral part of Hyperaldosteronism.

Hyperaldosteronism is a disease caused by excess production of the normal adrenal hormone, aldosterone, by the adrenal glands.



Aldosterone

Aldosterone is a hormone that controls sodium and potassium levels in the blood. Its overproduction leads to retention of salt and loss of potassium, which then leads to hypertension (high blood pressure).

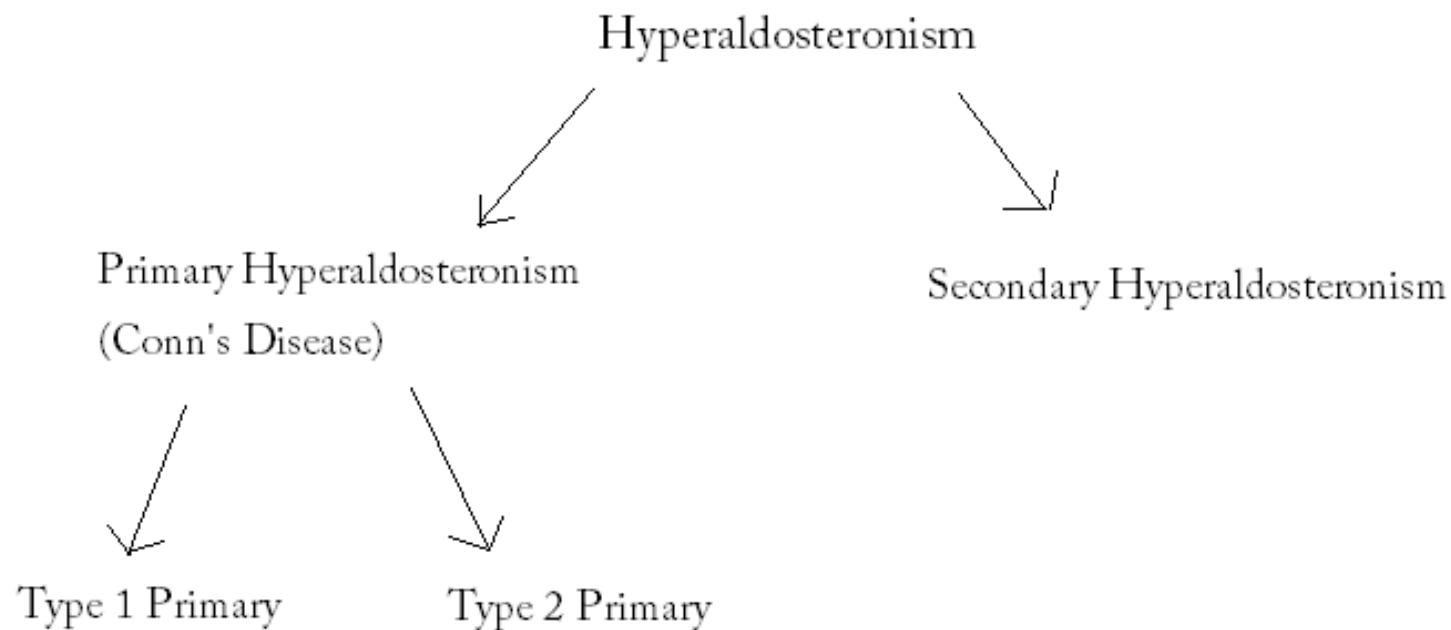


Who is affected by Hyperaldosteronism?

- ▶ People in their 30's–50's (adulthood), with prevalence increasing with age
- ▶ Females are more likely to be affected than males
- ▶ African Americans have a significantly greater risk of fatality from the disease than other races
- ▶ Rare in children (It is more likely to have been inherited if diagnosed in a child)



Branches of Hyperaldosteronism



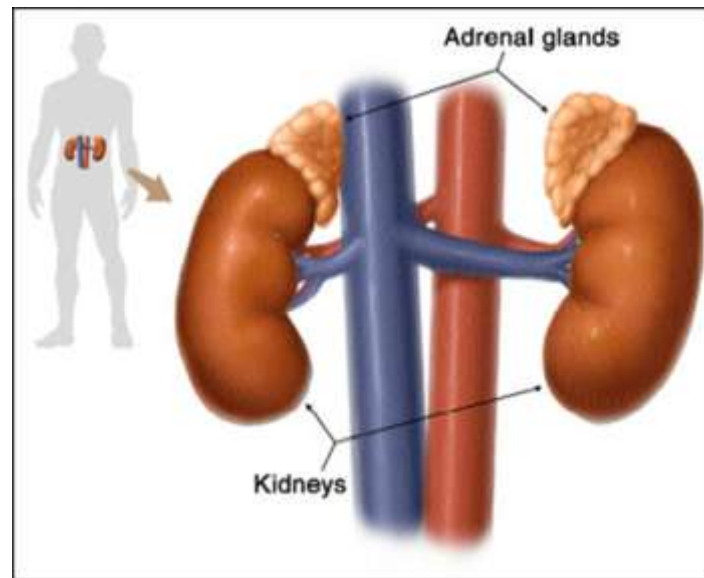
Primary Hyperaldosteronism (Conn's disease)

- Caused by a problem within the adrenal glands
- Usually caused by a benign tumor of the adrenal gland or bilateral adrenal hyperplasia (enlargement of an organ caused by an increase in the reproduction rate of its cells)



Secondary Hyperaldosteronism

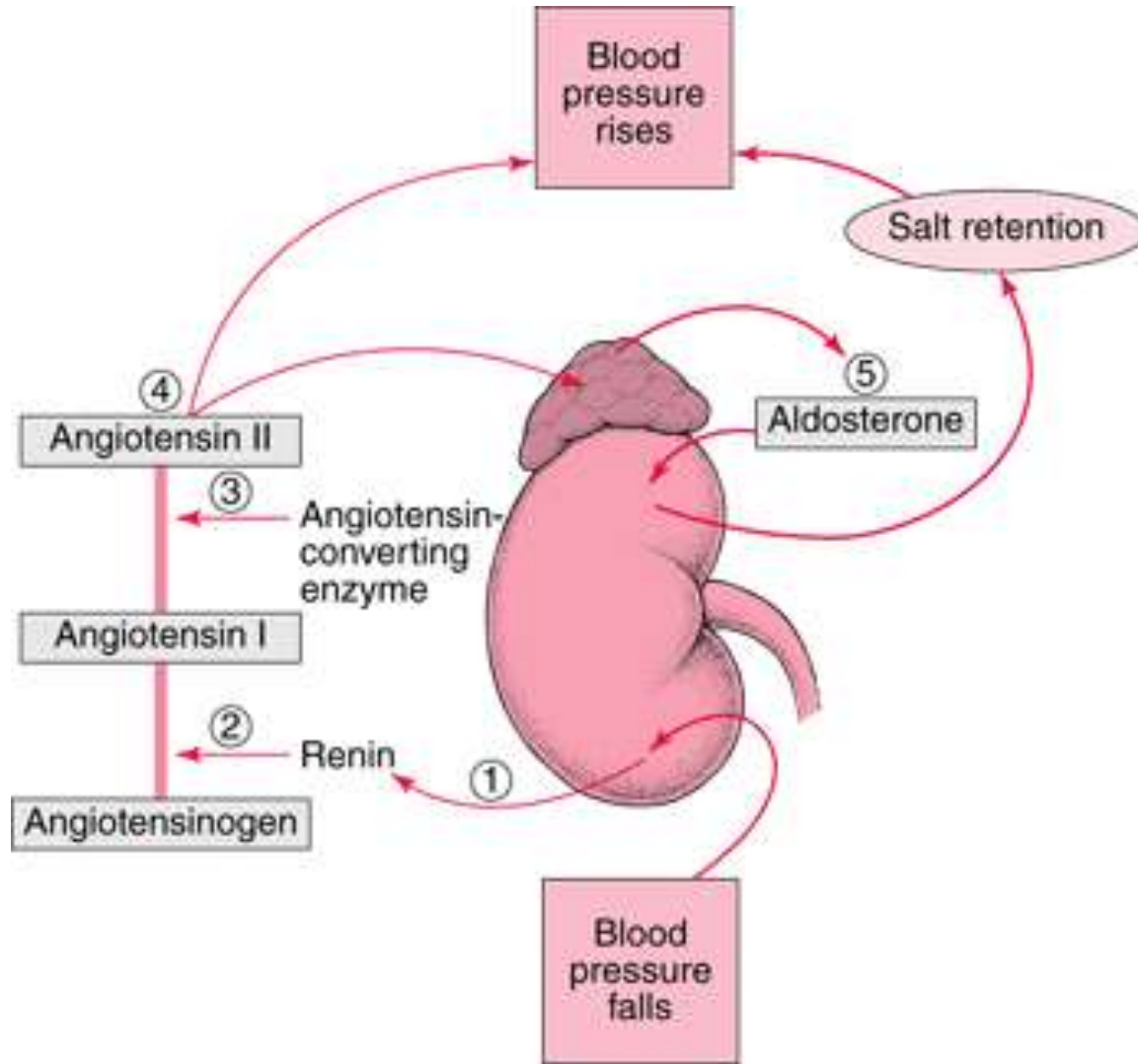
Secondary Hyperaldosteronism is when the excess aldosterone is caused by something outside the adrenal gland and mimics the primary condition.



Causes of Secondary Hyperaldosteronism

- ▶ Increased renin production, commonly caused by the ingestion of oral contraceptives and toxemia from pregnancy.
- ▶ Conditions like congestive heart failure, liver failure, kidney disease, cirrhosis, and dehydration
- ▶ Certain medicines like diuretics and fludrocortisone.
- ▶ Anything that decreases blood flow to the kidneys, lowers blood pressure, or lowers sodium levels.

*Renin – An enzyme secreted by and stored in the kidney area that stimulates aldosterone and therefore, raises blood pressure



Symptoms of Secondary Hypertension

- ▶ Symptoms are similar to those of Primary Hyperaldosteronism
- ▶ Moderate hypertension (high blood pressure)
- ▶ Most individuals have no other specific symptoms. However, some may have:
 - Muscle weakness
 - Fatigue
 - Temporary paralysis
 - Cramping
 - Headaches
 - Low potassium level
 - Tingling
 - Muscle spasms



Diagnosis of Hyperaldosteronism

- ▶ Elevated aldosterone levels can be measured in the blood or urine.
 - In a blood test, PRA (Plasma renin activity), is used to distinguish between primary (low PRA) and secondary Hyperaldosteronism (high PRA).
- ▶ Abdominal CT scans can show adrenal masses
- ▶ Electrocardiograms (ECGs) can show abnormalities in heart rhythm that are often associated with low potassium level.
- ▶ It is likely that many cases of secondary Hyperaldosteronism are never detected.

Treatments for Secondary Hyperaldosteronism

- ▶ Secondary Hyperaldosteronism is treated by treating the underlying cause.
- ▶ Typically, medication and diet (but not surgery) are used
- ▶ When untreated, the disease can lead to uncontrolled hypertension (which can become a risk factor for stroke and heart disease).
- ▶ The outlook for the patient depends on the cause of the condition

Facts!

- ▶ Hyperaldosteronism is relatively uncommon but still accounts for about 0.5% of cases of hypertension in the United States.
- ▶ Secondary Hyperaldosteronism is more common than Primary.
- ▶ Eating large amounts of real black licorice can produce a similar syndrome due to a chemical that acts like aldosterone.



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HYPERALDOSTERONIS M GAME SHOW!!!!



Question 1

What is the main difference between
Primary and Secondary
Hyperaldosteronism?

Answer:

Primary is caused by something directly affecting the adrenal glands within and Secondary is caused by something outside of them.

Question 2

What does the hormone,
Aldosterone, do?

Answer:

It controls sodium and potassium levels in the blood.

Question 3

What is Hypertension?

Answer:

High blood pressure!

Question 4

What age groups is
Hyperaldosteronism most
prevalent in?

Answer:

Adult to elderly (30-50's).

Question 5

What is Hyperplasia?

Answer:

The enlargement of an organ due to increased cellular reproduction.