

## XXIII. Diseases of the Endocrines

**N.B. 3*****Adrenal-cortex is hypertrophied in:***

- Pregnancy.
- Lactation.

***Adrenal-lipoid is increased in:***

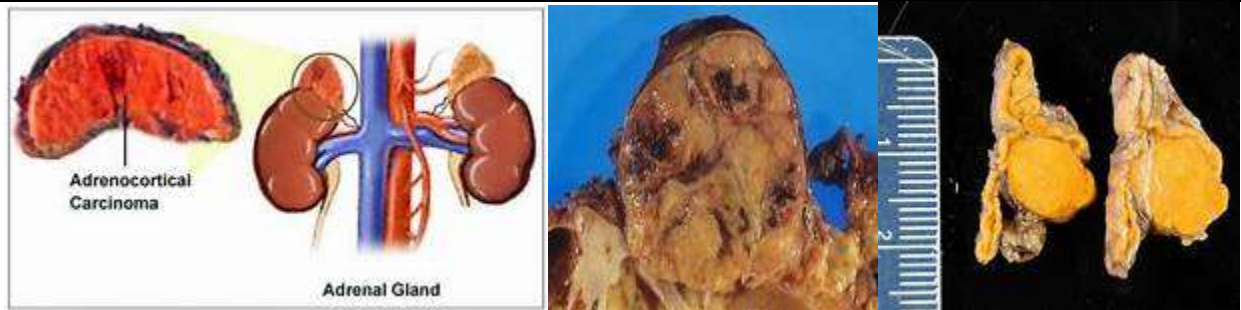
- Arteriosclerosis.
- Chronic cardio-renal disease.

***Adrenal-lipoid is diminished in:***

- Acute infections and intoxications.
- Severe anaemia and haemorrhage.

**N.B. 4*****Degenerative conditions of the adrenal glands.***

1. Post-mortem changes --> softening.
2. Haemorrhage.
3. Increased (or diminished) lipoid content of the cortex.
4. Amyloid disease.

**Carcinoma**

<b><i>Adrenal gland (in situ):</i></b>	• Is enlarged
	<b><i>Cut surface:</i></b> • Shows a tumour
<b><i>The tumour:</i></b>	<ul style="list-style-type: none"> <li>• Lies in the cortex</li> <li>• Infiltrating the adrenal (malignancy)</li> <li>• Is moderately-large</li> <li>• Globular</li> <li>• Lobulated</li> </ul>
	<b><i>Cut surface:</i></b> <ul style="list-style-type: none"> <li>• Yellow</li> <li>• Haemorrhagic-red (in parts)</li> <li>• With dirty pale yellowish foci of necrosis</li> </ul>
	<b><i>Consistence:</i></b> • Soft (in most parts)



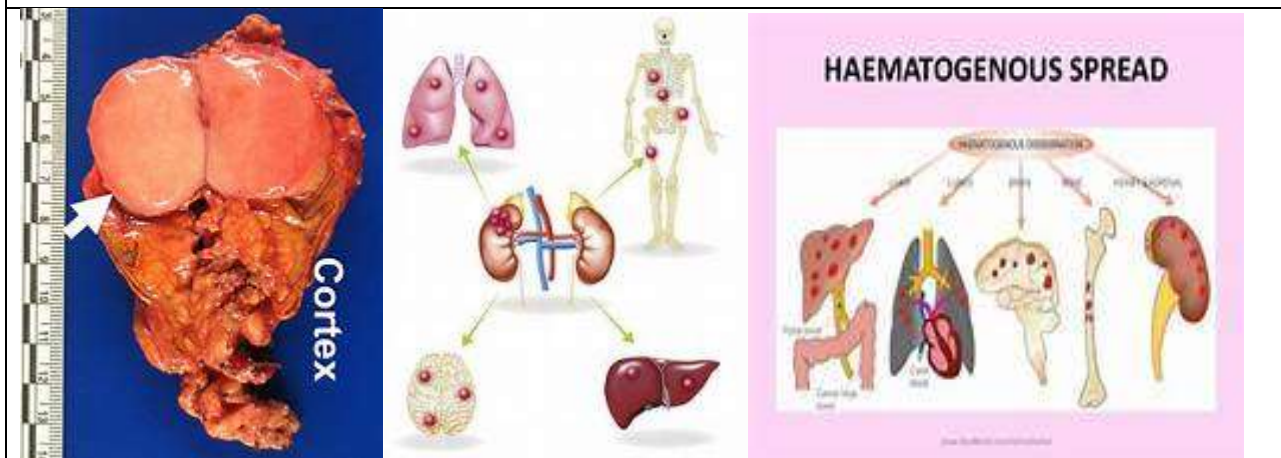
**N.B.:**

Carcinoma of the adrenal gland is an uncommon tumour which is very malignant and with the following:

- Local extension to the kidney.
- Disappearance of adrenal tissue.
- Invasion of adrenal and renal veins.
- Early metastases in the opposite adrenal gland.
- Rapid metastases to distant organs.

**Spread :**

- 1- Local.
- 2- Blood stream and lymphatics to:
  1. Lungs.
  2. Liver.
  3. Brain.
  4. Retroperitoneal and mediastinal lymph nodes.



## **Symptoms of cortical tumours (adenoma or carcinoma) :**

### **I. As Cushing-syndrome:**

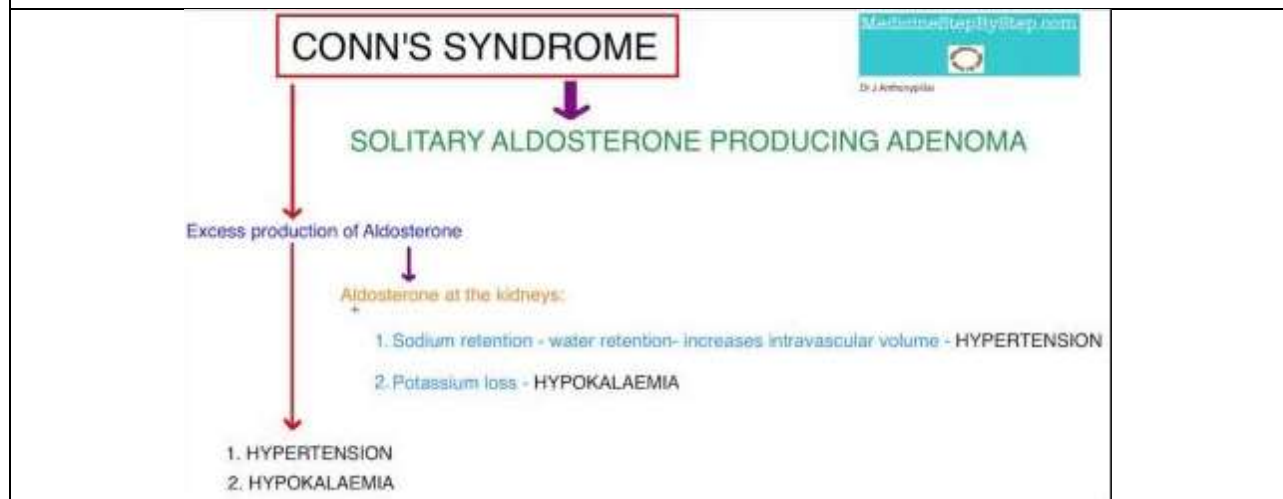
1. Muscle-weakness.
2. Hirsutism.
3. Amenorrhea (or impotence).
4. Atrophy of skin.
5. Osteoporosis.
6. Hypertension.
7. Diabetes mellitus.

### **II. As adrenogenital syndrome:**

- This varies with the age and the sex. ,
- In general there occurs a precocious (early) development of the sexual organs with intensification of maleness (adrenal virilism).

### **III. Primary hyper-aldosteronism:-**

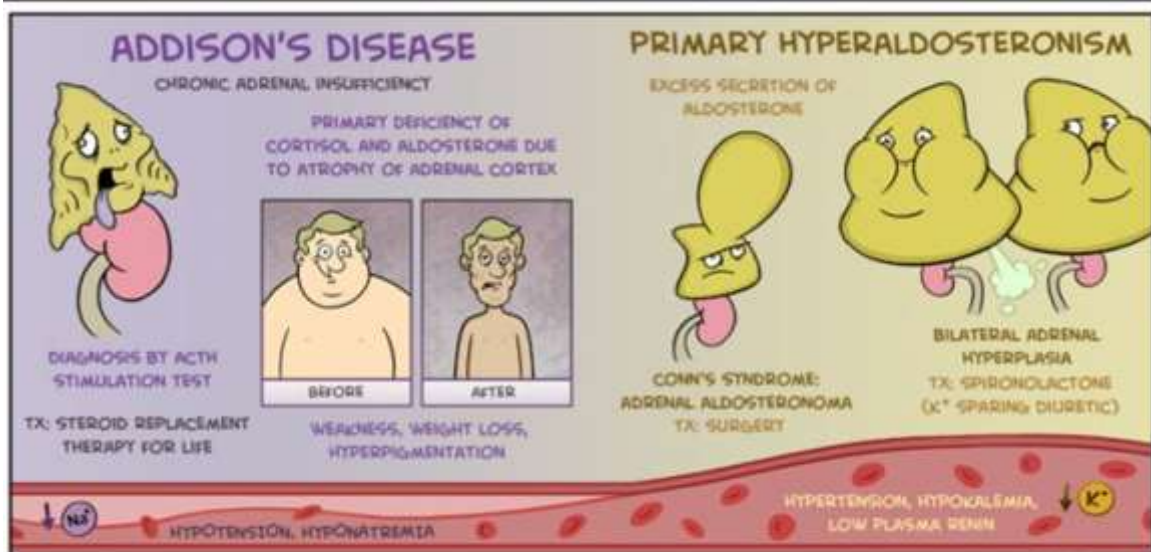
- Over-production of aldosterone by adrenal-zona-glomerulosa.
  - **Conn's syndrome** (hypertension + hypokalaemia + periodic muscular weakness + renal dysfunction).

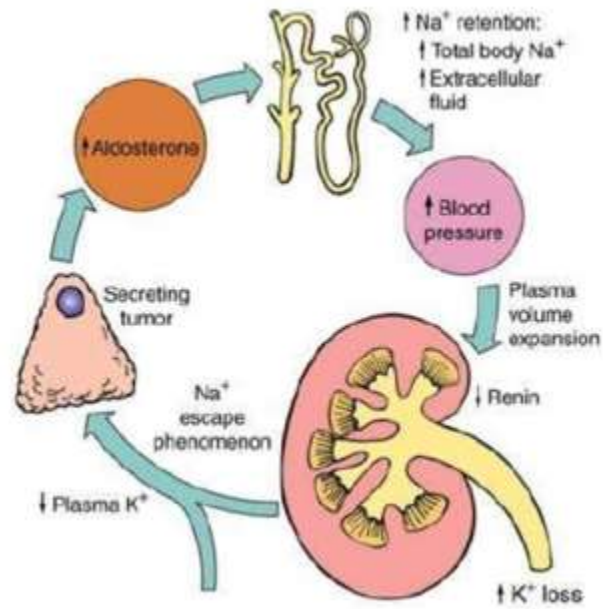


# Conn's syndrome

- **Clinical features:**

- Hypertension : *aldosterone induced Na retention with increase in ECF volume*
- Muscle weakness: *Due to decrease K<sup>+</sup>*
- Muscle paralysis: *severe hypokalaemia*
- Latent tetany and paraesthesiae
- Polydipsia, polyuria and nocturia: *due to hypokalaemic nephropathy*





# Primary Hyperaldosteronism