



Edema and Shock

Second year

Pharm-D students

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ILOS:

- 01 Define edema and shock
- 02 List causes of edema and shock
- 03 Mention symptoms of edema and shock
- 04 List types of shock
- 05 Describe the treatment of edema and shock



Define edema

Edema is swelling caused by excess fluid trapped in your body's tissues. Although edema can affect any part of your body, you may notice it more in your hands, arms, feet, ankles and legs.

Edema can be the result of medication, pregnancy or an underlying disease — often congestive heart failure, kidney disease or cirrhosis of the liver.



Causes of edema

- Mild cases of edema may result from



Eating too much salty food



Side effect of some medications



Sitting or staying in one position for too long



Being pregnant

Symptoms of edema

- Swelling or puffiness of the tissue directly under your skin especially in your legs or arms
- Stretched or shiny skin
- Skin that retains a dimple (pits), after being pressed for several seconds
- Increased abdominal size



Treatment of edema

- ❖ Edema treatment is a treatment that is associated with the edema itself by reducing the amount of salt
- ❖ The drugs that help pass excess fluid from the body in the form of urine (diuretics)



SHOCK



Define of Shock

Shock is a life-threatening condition that occurs when the body is not getting enough blood flow. Lack of blood flow means the cells and organs do not get enough oxygen and nutrients to function properly. Many organs can be damaged as a result. Shock requires immediate treatment and can get worse very rapidly.



Causes of shock

- Heart failure
- Dehydration
- Infection
- Spinal injury
- Heavy internal/external bleeding
- Severe allergy reaction



Symptoms of shock

- Sunken of eye
- Low blood sugar level
- Dry tongue
- Bluish lips and fingernails
- Weak pulse
- Swelling of the face and throat (anaphylactic shock only)



The main types of shock:

- Cardiogenic shock (due to heart problems)
- Hypovolemic shock (caused by too little blood volume)
- Anaphylactic shock (caused by allergic reaction)
- Septic shock (due to infections)
- Neurogenic shock (caused by damage to the nervous system)



Pathophysiology of shock

HYPOVOLAEMIC SHOCK

CARDIOGENIC SHOCK

SHOCK

↓ BLOOD VOLUME

↓ CARDIAC OUTPUT

↓ SUPPLY OF OXYGEN

↓ VENOUS RETURN

↓ BLOOD FLOW

Distributive shock

Treatment of shock

Specific treatment depends on the type of shock:

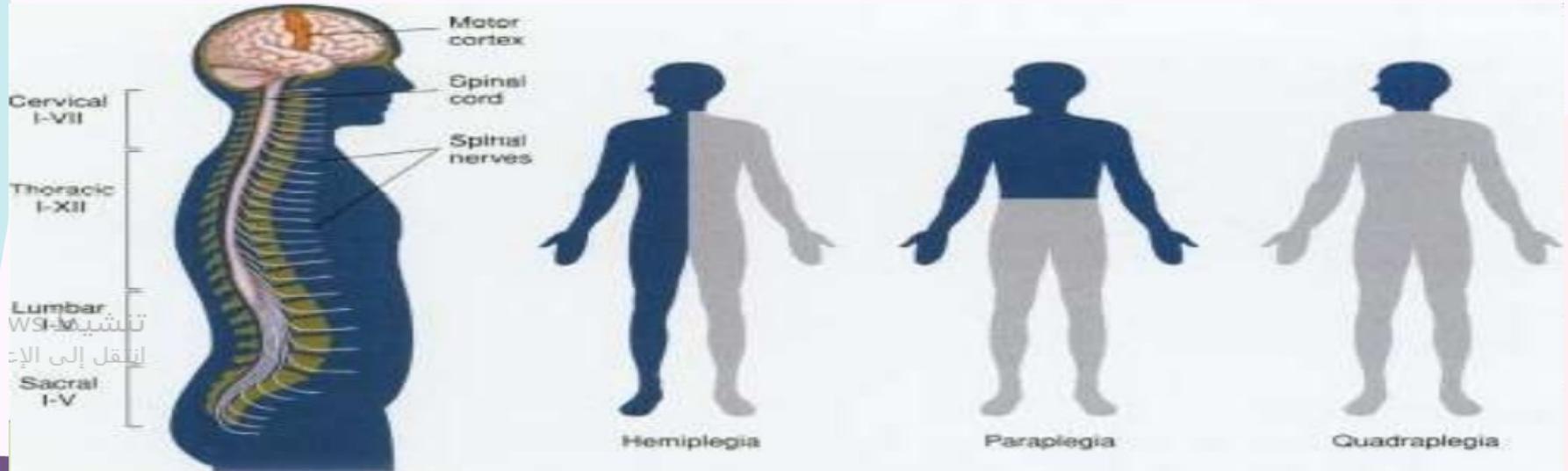
- **Hypovolemic shock** – stopping the bleeding and boosting the person's blood volume with intravenous fluids .In severe cases, the person may need a blood transfusion. Internal or external wounds may need surgery.



- Cardiogenic shock – boosting blood volume with intravenous fluids. Medications to constrict (narrow) the blood vessels will improve the heart's ability to pump. Some people may need heart surgery



- Neurogenic shock – giving intravenous fluids and medications, including corticosteroids



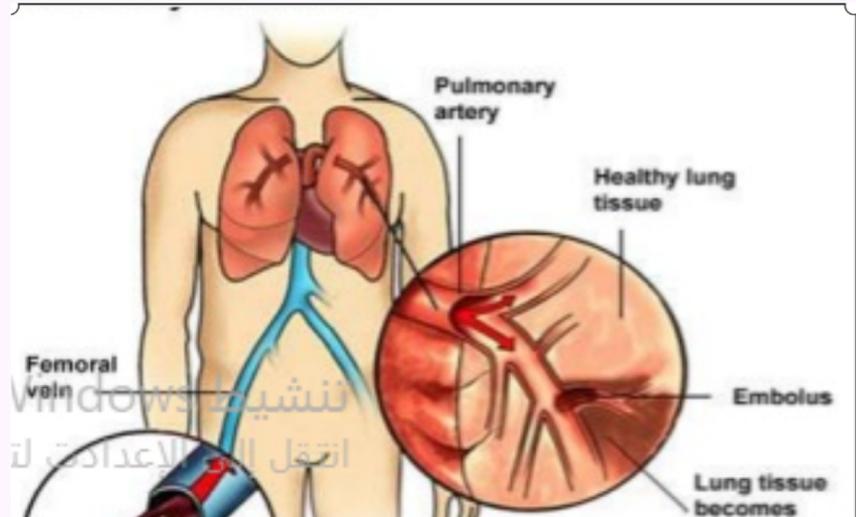
- **Septic shock** – giving antibiotics for the infection. The person may need supportive hospital care, for example, mechanical ventilation to help them breathe.



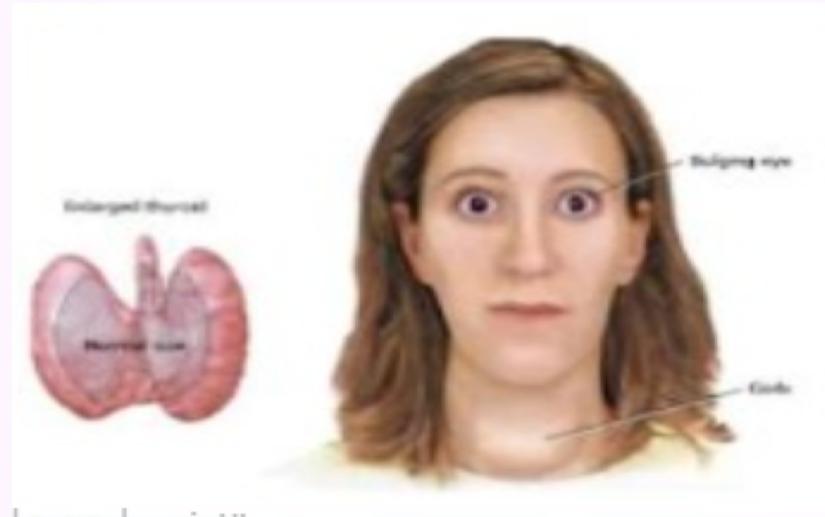
- **Anaphylactic shock** – the person may need medications such as antihistamines, adrenaline or corticosteroids.



- **Obstructive shock** – removing the obstruction, for example, surgery or clot-dissolving medication to remove a blood clot in the pulmonary artery.



- **Endocrine shock** – administering medications to correct the hormonal imbalance, for example, thyroid medication to treat hypothyroidism.



Summary

Edema is the medical term for fluid retention in the body. It occurs when there is a build-up of fluid (mainly water) in the body's tissues, causing swelling to occur in the affected area. As well as swelling or puffiness of the skin, edema can cause: skin discolouration . Shock is physiologic state characterized by systemic reduction in tissue perfusion resulting in decreased tissue oxygen delivery .

Reference

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Thank you