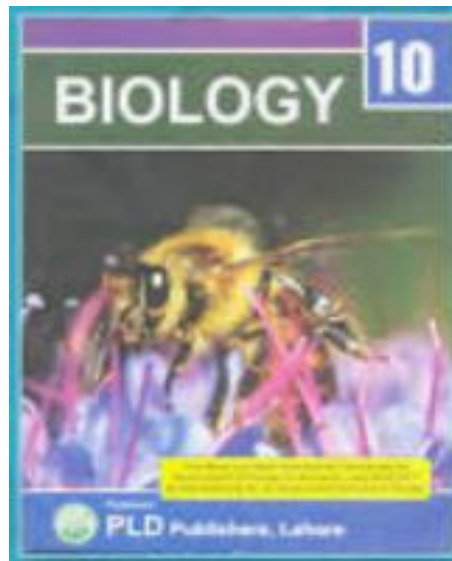




Pakistan School
Kingdom of Bahrain





ENGAGING STARTER



LEARNING OBJECTIVES

At the end of the lesson, students will be able to;

- To describe the symptoms, causes and treatment for Kidney stones, Urinary Tract Infections and renal failure.**

Chapter 11. Homeostasis

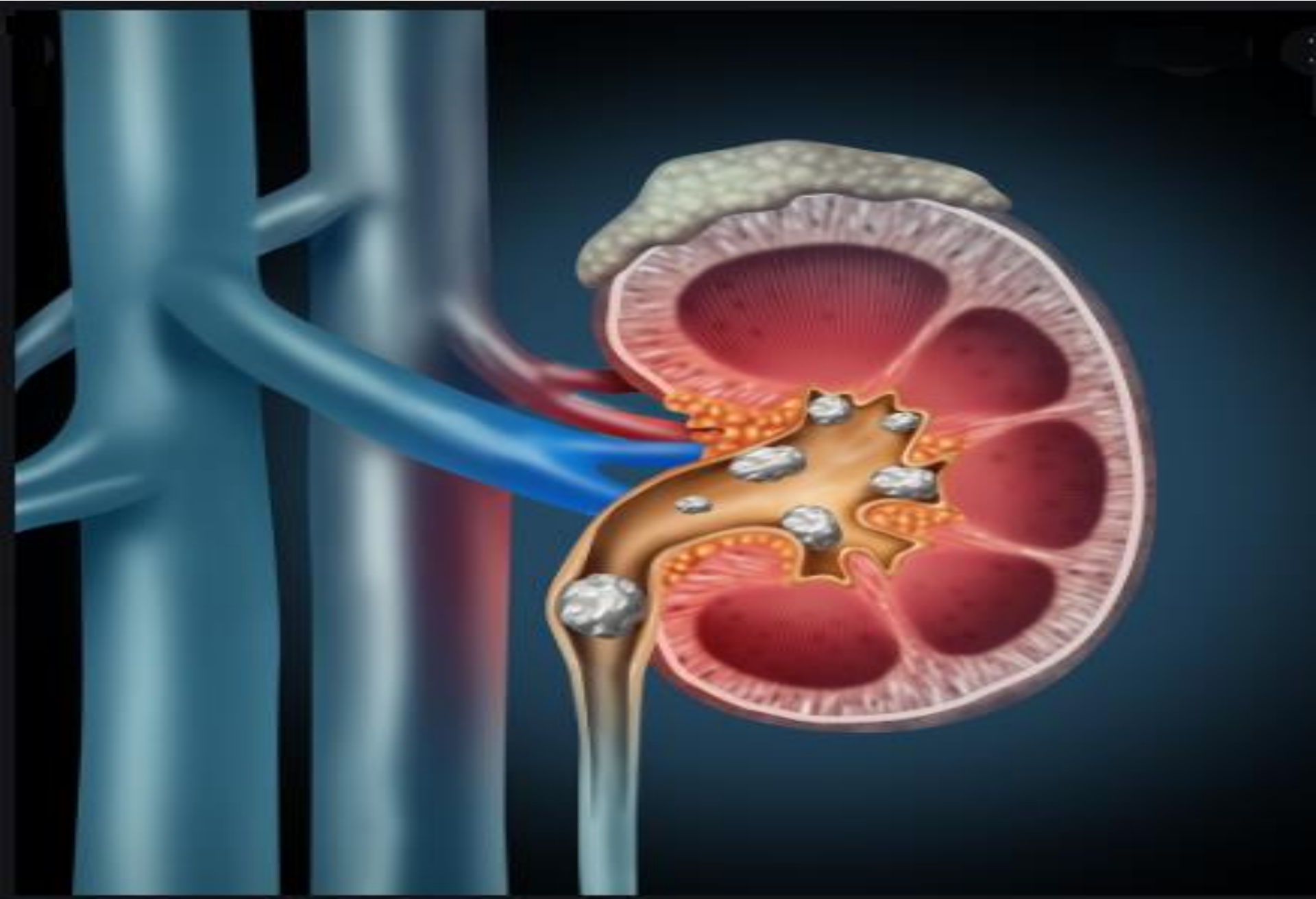
Topic: Disorders of Kidney

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Disorders of the Kidneys and Ureters



KIDNEY STONE



Kidney Stones.

When urine becomes concentrated, and it contains more crystal-forming substances (crystals of many salts) such as calcium oxalate, calcium and ammonium phosphate, uric acid etc. Such large crystals can not pass in urine and form hard deposits called kidney stones. Most stones start in kidney.

Some may travel to ureter or urinary bladder.

Causes : causes of kidney stones are age, diet (containing more green vegetables, salts, vitamin C and D), less intake of water, and alcohol consumption.

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Symptoms. Severe pain in kidney or in lower abdomen, vomiting, frequent urination and foul smelling urine with blood and pus.

Treatment. About 90% of urine infections can pass through the urinary system by drinking plenty of water.

Surgical treatment. In surgical treatment, the affected area is opened and stones are removed.

Lithotripsy. Lithotripsy is another method for the removal of kidney stones.

In this method nonelectrical shock waves from outside are bombarded on the stones in the urinary system. Waves hit the dense stones and break them. Stones become sand like and are passed through urine.

Abu Nasir Al Farabi(872-951)

Was a prominent scientist who wrote many books that contained information about kidney diseases

Abu al Qasim al Zahrawi (known as albucasis (936-1013)

The genius Abu al Qasim is considered to be Islam's greatest surgeon who invented many surgical procedures including the surgical removal of stones from the urinary bladder. His encyclopaedia Al- Tasrif (the method) contained over 200 surgical medical instruments he personally designed.

Kidney Stones: Prevention and treatment of kidney stones

- – Diet containing 800 – 1000 mg of calcium per day is recommended because calcium combines with oxalate in the intestines, reducing its absorption and helping to control hyperoxaluria
- – Moderate protein and sodium restriction advised
- High fluid intakes recommended

Introduction

- **Kidney failure** also known as **renal failure** is the partial or complete impairment of kidney function. It result in an inability to excrete metabolic waste products and water, and it contributes to disturbances of all body system.
- The terms **uremic syndrome** and renal failure are used synonymously. The term uremic syndrome describes a set of manifestations that result from loss of renal function.



Acute Kidney Injury

- Acute kidney failure occurs when your kidneys suddenly become unable to filter waste products from your blood. When your kidneys lose their filtering ability, dangerous levels of wastes may accumulate, and your blood's chemical makeup may get out of balance.



Acute Kidney Injury:
Not Just Acute Renal
Failure Anymore



Acute Kidney Injury

Definition:

Acute kidney injury is a syndrome characterized by:

- Sudden decline in GFR (hours to days)
- Retention of nitrogenous wastes in blood (Azotemia)
- Disturbance in extracellular fluid volume and
- Disturbance in electrolyte and acid base homeostasis



Acute Kidney Injury

Risk Factors:

- Being hospitalized, especially for a serious condition that requires intensive care
- Advanced age
- Blockages in the blood vessels in your arms or legs (peripheral artery disease)
- Diabetes
- High blood pressure
- Heart failure
- Kidney diseases
- Liver diseases

WORKSHEET1

MCQs.

1. When urine becomes concentrated crystals of many salts cannot pass in urine and form hard deposits;
a. Waste in urine b. Kidney stones
2. The major causes of kidney stone;
a. age b. diet c. less intake of water d. all of them
3. The genius Abu al Qasim Al Zahrawi is known as;
a. Albucasis b. Al-Tasrif c. Abu Nasr d. Al Farabi
4. Another method for the removal of kidney stones is
a. Radioscopy b. Lithotripsy
5. The kidney failure is treated with;
a. Dialysis and kidney transplant b. None of them

WORKSHEET- Home work

Answer the Following Questions;

Q1. What are kidney stones?

Q2. What are the causes of kidney stones?

Q3. Describe the symptoms of kidney stones.

Q4. What are the leading causes of kidney failure?

Closure:

1. Today, we have learned about _____
2. _____ and _____ are disorders of kidney.
3. Hard deposits in urine are called _____
4. About _____ of all kidney stones can pass through the urinary system by _____
5. _____ and _____ are the leading causes of kidney failure.

ANY Questions?



Thank You!



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