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ASSIGNMENT : CLINICAL  
MEDICINE I

SUBMITTED TO : MAM-MAHEEN  
GUL

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(1)

## QUESTION NO: 2

What do you know about polycystic kidney disease? Explain in detail.

ANSWER:

### POLYCYSTIC KIDNEY DISEASE

(PKD)<sup>OR</sup>:

#### INTRODUCTION:

- ⇒ PKD is an inherited disorder in which clusters of cysts develop within the kidneys.
- ⇒ Causing the kidney to enlarge and lose function over time.

#### CYSTS:

- ⇒ Cysts are non-cancerous round sacs containing fluid.
- ⇒ The cysts vary in size, and they can grow very large.

#### TYPES OF PKD:

1: AUTOSOMAL DOMINANT  
PKD:

Date \_\_\_\_\_

(2)

- ⇒ It is the most common type of PKD.
- ⇒ About 9 out of every 10<sup>5</sup> people with PKD have the autosomal dominant form.
- ⇒ It is also the most common inherited kidney disease.
- ⇒ Autosomal dominant PKD causes cysts to form only in the kidneys and the symptoms of the disease may not appear until a person is between 30 and 50 years old.

## 2: AUTOSOMAL RECESSIVE PKD:

- ⇒ It is a much less common form of PKD.
- ⇒ ARPKD cysts to form in both the kidneys and the liver.
- ⇒ Symptoms of the disease can begin even before birth and can cause life threatening problems in infants.

## \*SIGN AND SYMPTOMS OF PKD:

- Headaches
- Blood in urine
- Abdominal pain
- Excessive urination
- High Blood Pressure

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Date \_\_\_\_\_

(3)

## OTHER SYMPTOMS INCLUDE:

- Pain in the back
- Cyst formation (renal and other organs).

## DIAGNOSIS OF PKD:

### 1: ULTRASOUND:

⇒ It is the most reliable and inexpensive way to diagnose PKD.

### 2: CT SCAN AND MRI:

⇒ CT scan and MRI may detect smaller cysts that cannot be found by an ultrasound.

⇒ MRI is used to measure and monitor the volume and growth of kidneys and cysts.

## PREVENTION OF PKD:

- Keep a healthy blood pressure.
- Keep a healthy blood sugar level.
- Keep a healthy weight.
- Follow a low salt, low-fat diet.
- Limit alcohol.
- Quit smoking.
- Exercise for at least 30 minutes.

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(4)

## \* COMPLICATIONS OF PKD:

- ⇒ People with ADPKD commonly have kidney pain and high blood pressure.
- ⇒ Other complications may include;
- Kidney failure
  - Kidney stones
  - Liver cysts
  - Heart valves problems
  - Cysts in pancreas.

## \* TREATMENT OF PKD:

- Blood pressure medications.
- Antibiotics to treat UTIs
- A low sodium diet
- Diuretics to help remove excess fluid from the body.
- Pain medication except ibuprofen.

## QUESTION NO: 5

What do you know about urinary tract infection UTI? Explain in detail?

ANSWER:

Date \_\_\_\_\_

(5)

## INTRODUCTION:

⇒ A urinary tract infection (UTI) is an infection in any part of your urinary system your kidneys, ureters bladder and urethra.

⇒ Most infections involve the lower urinary tract the bladder and the urethra.

⇒ Women are at greater risk of developing a UTI than are men.

⇒ Infection limited to your bladder can be painful and annoying.

## SYMPTOMS OF UTI:

- A burning sensation when urinating
- Passing frequent, small amounts of urine.
- Urine that appears cloudy
- Strong-smelling urine
- Pelvic pain in women.

## TYPES OF URINARY TRACT INFECTION:

### PART OF URINARY TRACT AFFECTED

Kidney (acute pyelonephritis)

### SIGN AND SYMPTOMS

Upper back and side pain

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Date \_\_\_\_\_

(6)

Bladder (cystitis)

High fever  
Shaking and chills  
Nausea  
Pelvic pressure  
Lower abdomen  
discomfort  
Frequent, painful  
urination  
Blood in urine

Urethra (urethritis)

Burning with  
urination  
Discharge

## CAUSES OF UTI :

\* Urinary tract infections typically occur when bacteria enter the urinary tract through the urethra and begin to multiply in the bladder.

### 1: INFECTION OF THE BLADDER :

⇒ This type of UTI is usually caused by (*E. coli*) a type of bacteria commonly found in GI tract.

⇒ Sexual intercourse may lead to cystitis, .

⇒ All women are at risk of cystitis because of their anatomy

Date \_\_\_\_\_

(7)

## 2: INFECTION OF THE URETHRA (URETHRITIS):

⇒ This type of bacteria UTI can occur when GI bacteria spread from anus to the urethra.

⇒ Also because of female urethra is close to the vagina, Sexually transmitted infections, such as herpes, gonorrhoea can cause urethritis.

## RISK FACTORS:

- Risk factors specific to women for UTIs include

### FEMALE ANATOMY:

⇒ A female has a shorter urethra than a man does, which shortens the distance that bacteria must travel to reach the bladder.

### SEXUAL ACTIVITY:

⇒ Sexually active women tend to have more UTIs than do women who aren't sexually active.

### BLOCKAGES IN THE URINARY TRACT:

⇒ Kidney stones or an enlarged prostate can trap urine in the bladder and increase the risk of UTIs.



## COMPLICATIONS OF UTI:

- ⇒ Permanent kidney damage from an acute or chronic kidney infection (pyelonephritis) due to an untreated UTI.
- ⇒ Increased risk in pregnant women of delivering low birth weight or premature infants.

## PREVENTION OF UTIs:

DRINK PLENTY OF LIQUIDS, ESPECIALLY WATER.

- ⇒ Drinking water helps dilute your urine and ensures that you will urinate more frequently allowing bacteria to be flushed from your urinary tract therefore an infection can begin.

WIPE FROM FRONT TO BACK:

- ⇒ Doing so after urinating and after a bowel movement helps prevent bacteria in the anal region from spreading to the vagina and urethra.

Date \_\_\_\_\_

(9)

## QUESTION NO: 3

What is lithotripsy?

ANSWER:

### LITHIOTRIPSY:

➤ It is a Greek word "Litho" means "stone" and "Tripsy" means "break".

➤ Lithotripsy is a medical procedure used to treat certain types of kidney stones and stones in the other organs such as gallbladder or liver.

➤ Lithotripsy is the uses of high energy shock waves to break up stones in the kidney.

### USES:

It is used for removing kidney stones without surgery that causes

⇒ pain

⇒ bleeding

⇒ damage to kidney due to blockage

⇒ Urinary tract infections

Date \_\_\_\_\_

## TYPES OF LITHOTRIPSY:

### 1: EXTRACORPEAL SHOCK WAVE (ESWL):

⇒ ESWL is a technique used for treating stones in the kidney and ureter that does not require surgery.

⇒ High energy shock waves are passed through the body and used to break stones into pieces as small as grains of sand.

⇒ Because of their small size these pieces can pass from the body along with the urine.

### 2: LASER LITHOTRIPSY:

⇒ This procedure involves using an endoscope to treat stones in the ureter.

⇒ An endoscope is a flexible tube with a light and camera that helps a doctor see inside an organ or body cavity.

⇒ The doctor can see the stones using the endoscope and uses a laser to break them down.

Is it a therapeutic or diagnostic tool?

**ANSWER:**

Lithotripsy is a therapeutic. Lithotripsy was first used as routine therapy for urinary lithiasis in 1980 and shortly became the main therapeutic option for kidney stones. With no spontaneous passage before introduction of this method, open surgery was the main alternative.

What is general criteria for performing lithotripsy?

## GENERAL CRITERIA FOR PERFORMING LITHOTRIPSY:

- It's important to tell your doctor about any prescription drugs, over-the-counter medications or supplements you take.
- Your doctor will ask to stop taking these medications well before the procedure.

Before the procedure your doctor will explain the procedure to you and

Date \_\_\_\_\_

(11)

you can ask any question about procedure.

- You will be asked to sign a consent form that gives you permission to do the procedure.
- Fasting before the procedure may be indicated, depending on the type of anesthetic or sedation used.
- If you are pregnant or suspect that you may be pregnant you should tell your doctor.
- Tell your doctor if you are sensitive to or allergic to any medications, latex or anesthetic agents (local and general).
- During the procedure you will be asked to remove clothing, jewelry or other objects that may interfere with the procedure.
- An intravenous (IV) line will be inserted in your arm or hand. You may receive a sedative or anesthetic agent to release the pain.
- After the stone has been located with fluoroscopy or ultrasound you will be positioned for the most direct access to the stone.

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(12)

- ⇒ A sequence of shock waves will be created to shatter the kidney stone.
- ⇒ The stones will be monitored by fluoroscopy or ultrasound during the procedure. A stent may be placed in the ureter to help the stone fragments pass.
- ⇒ Once the stone fragments are small enough to pass through the urinary system the procedure will end.

## QUESTION NO: 4

Describe all the terms used in medical dictionary with suffix "otomy".

ANSWER:

### 1: THORACOTOMY:

A thoracotomy is a surgical procedure in which a cut is made between the ribs to see and reach the lungs or other organs in the chest or thorax.

### 2: LAPAROTOMY:

Surgical incision through the abdominal wall especially to investigate the cause of

an abdominal disorder.

### 3: LITHOTOMY:

Surgical removal of a calculus, especially one in the urinary bladder.

### 4: OSTEOTOMY:

The surgical cutting or dividing of bone, usually to correct a deformity.

### 5: NECROTOMY:

Surgical excision of dead tissue from a living organism.

### 6: HYSTEROTOMY:

Surgical incision into the uterus.

### 7: RHIZOTOMY:

Surgical severance of spinal nerve roots to relieve pain.

### 8: CYSTOTOMY:

Surgical incision into the gallbladder or urinary bladder.

### 9: TRACHEOTOMY:

Surgical incision of the trachea through neck as to make an artificial opening

(14)

for breathing.

## 10: EPISIOTOMY:

Surgical incision of the perineum during childbirth to facilitate delivery.

## QUESTION NO: 1

What is the role of Nuclear medicine in diagnosis and treatment of thyroid disease?

**ANSWER:**

### ROLE OF NUCLEAR MEDICINE IN DIAGNOSIS AND TREATMENT OF THYROID DISEASE:

Nuclear medicine is directly involved in both the treatment and diagnosis of thyroid disease, which requires an understanding of the pathophysiology and management of thyroid disorders in addition to expertise in nuclear methodology.

Thyroid uptake and imaging the principal nuclear tests in thyroid disease, may be used as follows:

#### DIAGNOSIS:

Nuclear medicine involves using



Small amounts of radioactive material to diagnose disease.

→ Radioactive iodine is typically used in thyroid tests, including a thyroid scan.

→ The thyroid and most types of thyroid cancer absorb iodine naturally.

→ The radioactive iodine builds up in your thyroid tissue.

→ A gamma camera or scanner detects the radioactive emissions.

→ A thyroid scan can be used to evaluate abnormalities found in physical exam or laboratory test.

→ The images from this test can be used to diagnose.

- ⇒ lumps, nodules or other growths
- ⇒ inflammation or swelling
- ⇒ an hyperthyroidism
- ⇒ hypothyroidism.

## ROLE OF NUCLEAR MEDICINE IN TREATMENT OF THYROID DISEASE:

Radioiodine therapy is a nuclear medicine treatment for an overactive

(16)

thyroid, a condition called hyperthyroidism also may be used for thyroid cancer.

- ⇒ When a small dose of radioactive iodine (I-131 an isotope of iodine that emits radiation) is swallowed, it is absorbed into the bloodstream and concentrated by the thyroid gland, where it begins destroying the gland's cells.
- ⇒ Your doctor will instruct you on how to prepare how to take any necessary radiation safety precautions and when to stop taking anti-thyroid medications.
- ⇒ You should not eat or drink anything after midnight on the day of treatment.

END OF ASSIGNMENT.....!