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Final = Exam

Assignment:

Chinical Medicine

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Mam:

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Question 1:-

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

Polycystic Kidney Disease:-

- Polycystic kidney disease (PKD) is an inherited kidney disorder. It causes fluid filled cysts to form in the kidney. PKD may impair kidney function and eventually causes kidney failure.
- PKD is the fourth leading cause of kidney failure. Wt people with PKD may also develop cysts in the liver and other complications.

Symptoms:-

many people live with PKD

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for years without experiencing symptoms associated with the disease. Cysts typically grow 0.5 inches or larger before a person starts noticing symptoms

- pain or tenderness in abdomen
- blood in the urine
- frequent urination
- pain in the side
- kidney stones
- pale skin color
- joint pain
- nail abnormalities

children with autosomal recessive PKD may have symptoms that include.

- High blood pressure
- UTI
- frequent urination

Causes:-

PKD is generally inherited. less commonly, it develops in people who have other serious kidney problems. There are three types of PKD

① Autosomal Dominant PKD:-

Autosomal dominant PKD is sometimes called adult PKD. According to the National Kidney Foundation, it accounts

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for about 90% of cases. Someone who has a parent with PKD has a 50% chance of developing this condition.
→ Symptoms usually develop later in life, between the ages of 30 & 40. However, some people begin to experience symptoms in childhood.

② Autosomal Recessive PKD:-

Autosomal Recessive PKD is much less common than ADPKD. It's also inherited, but both parents must carry the gene for the disease.

③ Acquired cystic kidney disease:-

Acquired cystic kidney disease isn't inherited, it usually occurs later in life.

ACKD usually develops in people who already have other kidney problems, it's more common in people who have kidney failure or are on dialysis.

Diagnoses in PKD:-

Because ADPKD and ARPKD are inherited, your doctor will review your family history. They may initially order a complete

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blood count to look for anemia or signs of infection and a urinalysis to look for blood, bacteria, or protein in your urine.

→ To Diagnose all three types of PKD, your doctors may use imaging tests to look for cysts of the kidney, liver, and other organs, imaging test used to Diagnose PKD include.

- Abdominal ultrasound
- Abdominal CT Scan
- Abdominal MRI Scan
- Intravenous pyelogram

Complication:-

In addition to the symptoms generally experienced with PKD, there may be complication as cysts on the kidney grow larger,

- weakened area in the wall of arteries, known as aortic or brain aneurysms
- cysts on and in the liver
- cysts in the pancreas and testicles
- liver Disease
- cataracts or blindness
- mitral valve prolapse
- high blood pressure
- liver Failure

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Treatment:-

The goal of PKD treatment is to manage symptoms and avoid complications. Controlling high blood pressure is the most important part of treatment.

- Pain medication, except ibuprofen which isn't recommended since it may worsen kidney disease
- blood pressure medication
- Antibiotics to treat UTIs
- A low-sodium diet
- Surgery to drain cysts and help relieve discomfort.

Question 2:-

what is lithotripsy?
Is it a therapeutic or Diagnostic tools? what is general criteria for performing lithotripsy?

Lithotripsy:-

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

→ Kidney stones occur when mineral and other substance in your urine crystallize in your kidneys, forming solid masses, or stones. These may consist of small, sharp-edged crystals or smoother, heavier formation that resemble polished river rocks. They usually exit your body naturally during urination. However, sometime your body can't pass larger formation through urination. This can lead to kidney damage.

people with kidney stones may experience bleeding, severe pain, or urinary tract infection. when stones begin to cause these types of problems, your doctor may suggest lithotripsy.

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→ Lithotripsy is usually done on an outpatient basis. This means that you go to the hospital or clinic on the day of the procedure and leave the same day.

Before the procedure:-

you change into a hospital gown and lie on an exam table on top of a soft, water-filled cushion. This is where you remain while the procedure is performed. You are then given medicine to sedate you and antibiotics to fight infection.

During lithotripsy, high-energy shock waves will pass through your body until they reach the kidney stones. The waves will break the stones into very small pieces that can easily be passed through your urinary system.

After the procedure:-

you'll spend about two hours in recovery before being sent home. In some cases, you may be hospitalized overnight. plan to spend one to two days resting at home after the procedure. it's also a good idea to drink

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Plenty of water for several weeks after lithotripsy. This will help your kidney flush out any remaining stone fragments.

Risks of Lithotripsy:-

Like most procedures, some risks are involved in lithotripsy.

You may experience internal bleeding and need a blood transfusion. You can develop infection and even kidney damage when a stone fragment blocks the flow of urine out of your kidney. The procedure can damage your kidneys, and they may not work as well after the procedure. Possible serious complications may include high blood pressure or kidney failure.

Generally, lithotripsy follows this process:-

1. You will be asked to remove any clothing, jewelry, or other objects that may interfere with the procedure.
2. If you are asked to remove clothing, you will be given a gown.

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to wear.

3 → An intravenous (IV) line will be inserted in your arm or hand.

4 → You may receive a sedative or anesthetic agent to ensure that you remain still and pain-free during the procedure.

5 → After the sedation has taken effect, you will be positioned on a water-filled cushion or immersed in a water-filled tub.

6 → After the stones have been located with fluoroscopy or ultrasound, you will be positioned for the most direct access to the stone.

7 → If you are awake during the procedure, you may experience a light tapping feeling on your skin.

Question 3:-

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

- 1:- Amniotomy:- An incision created to accelerate labor.
- 2:- Androtomy:- Dissection of the human body.
- 3:- Bilateral cingulotomy:- psychosurgery, treatment for depression and addiction.
- 4:- Bronchotomy:- A procedure that ensures there is an open airway between a patient's (lung) and the outside world.
- 5:- Clitoridotomy:- plastic surgery of the clitoral hood.
- 6:- Coeliotomy:- A large incision through the abdominal wall to gain access into the abdominal cavity.
- 7:- Colpotomy:- Extraction of fluid from the

pouch of Douglas (a Rectouterine pouch) posterior to the vagina) through a Needle

8:- Cordotomy:-

procedure that Disables selected pain-conducting tracts in the Spinal cord, in order to achieve loss of pain and temperature perception

9:- Craniotomy:-

A bone flap is temporarily removed from the skull to access the brain.

10:- Cricothyrotomy:-

An incision made through the skin and cricothyroid membrane to establish a patent airway during certain life-threatening

11:- Escharotomy:-

procedure used to treat full-thickness (third-degree) circumferential burns

12:- Episiotomy:-

Surgical incision of the perineum and the posterior vaginal wall.

13:- Fasciotomy:-

Surgical procedure where the Fascia is cut to Relieve tension

or pressure commonly to treat the
Resulting loss of circulation to an
area of tissue or muscle

14. Heller myotomy:-

Muscles of the Cardia
(lower oesophageal sphincter or
LOS) are cut, allowing food
and liquids to pass into the
Stomach.

15. Hymenotomy:-

Surgical Removal or opening
of the hymen

16. Hysterotomy:-

incision in the uterus, and
is performed during a
Caesarean Section

17. Laminotomy:-

The partial Removal (or by
making a larger opening) of
the laminae.

18. Laparotomy:-

Large incision through the
abdominal wall to gain access
into the abdominal cavity.

19. Lithotomy position:-

Medical terms Referring
to a Common position for Surgical
procedure and medical examination
involving the pelvis and lower
abdomen.

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Lobotomy:-

Cutting or Scraping away most of the connection to and from the prefrontal cortex.

Question 4:-

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

Urinary Tract infection UTI:-

Urinary tract infection in humans, inflammation of the Renal System characterized by frequent and painful urination and caused by the invasion of microorganisms, usually bacteria, into the urethra and bladder, infection of the urinary tract can result in either minor or major illness.

For examples,

an attack of cystitis - inflammation of the bladder - may cause only a small amount of pain and discomfort, whereas infection that spreads into the upper urinary tract may lead to acute complications, such as

obstruction of the ureter and kidney Failure, or to chronic conditions, such as incontinence or kidney scarring that gradually progresses to kidney Failure. Severe or recurrent UTI can result in lifelong Discomfort and Decrease in quality of life.

Risk Factors:-

UTI as are very common and can occur in people of all ages, However, women are affected about 30 times more often than men, roughly one in five women experience a UTI in her lifetime. Girls and women are at high risk of infection, because of the short female urethra. In addition, sexual intercourse, especially when a diaphragm is used for contraception, and pregnancy, when there may be partial stagnation of the urine from pressure on the urinary tract, other population at risk of infection include men over age 50, in whom onset of prostatic Disease may lead to urinary infection. People affected by kidney stones,

Diabetes, disorder of the immune system, and abnormalities of the Renal system are at increased risk of infection. In some patients, the introduction of a catheter into the bladder may be necessary to relieve urethral obstruction. However, this procedure increases risk of UTI.

Causes:

The most common cause of UTI is infection with *Escherichia coli*, a type of bacterium that normally inhabits the bowel, where it is relatively harmless. The second most common bacterial cause of UTI is *Staphylococcus saprophyticus*, which normally occurs on the skin of some humans.

Symptoms and Diagnosis:

In all forms of urinary infection the urine may be cloudy and may contain more ammonia than usual. Urination tends to be painful if the urethra is inflamed. If the bladder is inflamed, urination is both painful and

Frequent, bladder infection may cause fever, dull pain in the lower part of the abdomen, and vomiting. If the infection reaches the kidney symptoms are more severe, with pain in the loins, on one or both sides, and fever.

→ UTI is usually diagnosed based on symptoms, physical examination, and laboratory examination of the urine. In men, physical examination is important for detecting possible infection of the genitals and enlargement of the prostate gland.

→ In severe infection, laboratory culture of urine is required to identify the organism involved. Infection that extends into the kidney may require examination using ultrasound or other visualization techniques such as x-rays or computerized axial tomography (CAT).

Treatment:-

UTI is usually treated with sulfonamides or other antibiotics such as amoxicillin, ciprofloxacin, ampicillin, or Nitrofurantoin. In addition, an analgesic (pain relieving) agent such as pyridium

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is typically prescribed to Reduce Pain during urination. Recurrent infection often Require long-term antibiotic therapy, in acute case involving as obstruction of the ureter, infection cannot be successfully eradicated by antibiotics until the obstruction is Removed. In some Cause, women with Recurrent UTI may be given an antibiotic to take immediately Following Sexual intercourse in order to prevent infection. postmenopausal women who experience frequent UTIs may benefit from the use of a vaginal estrogen cream that prevents thinning of the vaginal epithelium.

Question 5:-

what is the Role of Nuclear medicine in Diagnosis and treatment of thyroid Disease?

→ Nuclear medicine is directly involved in both the diagnosis and treatment of benign 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,

1) Differential Diagnosis of hyperthyroidism
A very low thyroid uptake suggests destructive, (subacute) thyroiditis, a self-limited disorder, whereas a normal or elevated uptake is consistent with toxic nodular goiter and graves Disease

2) Function of thyroid Nodules:
Fine-Needle aspiration biopsy with cytological examination is used routinely to assess for malignancy in thyroid Nodules.

3) Differential Diagnosis of congenital

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hypothyroidism: Scintigraphy Combined with ultrasound examination may be used to identify such condition as thyroid agenesis, dysmorphogenesis and incomplete thyroid descent.
Treatment of graves, diseases and toxic nodular diseases,

The following aspects of treatment are particularly important.

- 1) Risk: Radioiodine treatment may occasionally aggravate hyperthyroidism, Graves ophthalmopathy, and airway obstruction caused by large nodular or goiters.
- 2) Radioiodine dose: Cure of hyperthyroidism with a single treatment is desirable, though not always possible. Such factor as a large goiter, severe hyperthyroidism and prior prophylactic therapy, may contribute to treatment failure.
- 3) Informed Consent: A detailed discussion with the patient regarding the clinical risks, outcomes, and side effect of a critical component of successful management.

⇒ Two major causes of thyroid disorder are Nutrient deficiency

and autoimmune disease, iodine is a crucial Nutrient for thyroid Function. Thyroid hormones is Rich in iodine, and deficiency of iodine, can cause both hypothyroidism and goiter (a swelling a thyroid gland).

when to see a Doctor:-

Diagnosis:-

Nuclear medicine imaging procedures are Noninvasive. with the exception of intravenous injection, they are usually Painless. These tests used Radioactive materials called Radio-pharmaceuticals or Radiotracers to help Doctors Diagnose and evaluate medical Condition.

→ Radiotracers are molecules. linked to, or "labeled" with a small amount of Radioactive materials that can be detected on the PET Scan.

Radiotracers inflammation, They can also bind to specific protein in the body. The most commonly used molecule similar to glucose. Cancer cells are more metabolically active and may absorb glucose at a higher Rate. This higher Rate can be

Seen on PET Scans. This allows your Doctor to identify Disease before it may be seen on other imaging test. FDG is just one of many treatments for other Cancers and medical conditions.

* Blood Test:-

Your Doctor can Diagnose hyperthyroidism and hypothyroidism by testing the level of thyroid hormones in your blood. The test measure hormones from the thyroid itself, as well as thyroid-stimulating hormone (TSH), a chemical released by the pituitary gland that triggers your thyroid.

Treatment:-

The most common treatment is levothyroxine, Synthroid, Tirosint, Unithroid, Unithroid, a man-made version of the thyroid hormone thyroxine (T₄). It acts just like the hormone your thyroid gland normally makes, The Right Dose can make you feel a lot better.