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4th Semester
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Q1:- What is the role of nuclear medicine in diagnosis & treatment of thyroid disease?

→ In thyroid disease the most common reason for scintigraphy which can be performed with either

- ^{99m}Tc -Pertechnetate
- Iodine - 123

is to determine which nodules require needle biopsy

→ Functional nodules are unlikely to be malignant, whereas "cold" nodules either solitary nodules or those that are a dominant part of a multinodular goitre require biopsy.

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→ Thyroid scintigraphy is also used to differentiate b/w

- graves disease
- Plummer disease

to investigate patients with suspected thyroiditis.

→ Scintigraphy is used for the differential diagnosis of anterior neck masses.

→ Scintigraphy is helpful to localise residual hyperparathyroid tissue before surgery for current or persistent hyperparathyroidism.

→ **Treatment:**

Radionuclide therapy works on the principle of internal targeting & is used most often to treat thyrotoxicosis. It has become the treatment of choice for hyperthyroidism.

Q2: - What do you know about poly cystic kidney? Explain.

→ Poly-cystic kidney disease:-

Poly-cystic kidney disease is a genetic disease. This means that it is caused by a problem with your genes. PKD causes cysts to grow inside the kidneys. These cysts make the kidneys much larger than they should be and damage the tissue that the kidney are made

→ of PKD causes chronic kidney disease, which can lead to kidney failure or end stage renal disease.

→ Types of PKD:-

→ Autosomal dominant PKD

→ Autosomal recessive PKD

→ Autosomal dominant PKD:-

causes cysts only in the kidney.

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It is often called "adult PKD" because people with this type of PKD might not notice any symptoms until they are b/w 30 & 50 years.

→ Autosomal recessive PKD:-

causes cysts to grow in both the kidneys and the liver.

Autosomal recessive PKD is often called infantile PKD because babies can show signs of the disease in their first few months of life or even before they are born.

→ Treatment :-

- Dialysis
- Kidney transplant
- Blood pressure medicine
- Antibiotics
- Growth hormones
- combined liver & kidney transplant.

Q3: What is lithotripsy? Is it a therapeutic or diagnostic tool? What is general criteria for performing lithotripsy?

→ **Lithotripsy :-**

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

→ **Lithotripsy work :-**

It uses sound waves to breakup large kidney stone in to small pieces.

→ These sound waves are also called high energy shock waves.

→ The most common form of lithotripsy is extracorporeal shock wave lithotripsy (ESWL).

→ Extracorporeal means outside the body, it refers to the source of the shock waves. During ESWL a special machine called a lithotripter generates the shock waves.

- The waves travel in to body & break apart the stones.
- ESWL is a noninvasive procedure which means it doesn't require surgery.
- After procedure stone debris is removed from your kidney or ureter through urination.
- **Performing criteria :-**
 - your doctor will explain the procedure to you.
 - you will be asked to sign a consent form that gives your permission to do the procedure.
 - you may undergo blood test or other diagnostic tests.
 - Fasting before the procedure maybe indicated, depending on the type of anesthetic or sedation used.
 - Notify your doctor about medication you take.
 - Remove jewelry, nothing wear gown.
 - An IV line will be pass for anesthetic.

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Q4:- Describe all the terms used in medical dictionary with suffix "otomy".

Answer:-

→ The suffix otomy refers to the act of cutting or making an incision as in a medical operation or procedure.

→ Anatomy:-

The study of the physical structure of living organisms by dissection etc.

→ craniotomy:-

surgical cutting of the skull.

→ Episiotomy:-

surgical cut made in to the area between the vagina & anus to prevent tearing during the child birth.

→ Gastrotomy:-

surgical incision made into the stomach

→ Hysterotomy:-

surgical incision made in to the uterus.

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→ Phlebotomy :-

incision or puncture made in vein.

→ Laparotomy :-

incision made in to the abdominal wall.

→ Lobotomy :-

incision made in to a lobe of a gland or of organ.

→ Rhizotomy :-

surgical severing of a cranial nerve root or spinal nerve root in order to relieve back pain.

→ Tenotomy :-

incision made in to the tendons in order to correct a muscle deformity

→ Tracheostomy :-

incision made in to the trachea for the purpose of inserting a tube to allow air to flow the lungs.

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Q:5 What do you know about urinary tract infection UTI? Explain.

→ Urinary tract infection :-

UTI is an infection from microbes. These are organisms that are too small to be seen without a microscope.

→ A UTI can happen anywhere in your urinary tract.

→ UTIs involve the ureters & kidneys in the upper tract.

→ Although upper tract UTIs are more rare than lower tract UTIs they are also usually more severe.

→ Symptoms :-

- Burning with urination
- Increased frequency of urination without passing much urine
- Increased urgency of urination
- bloody urine
- cloudy urine
- urine that has a strong odor.

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- Pelvic pain in women
- Rectal pain in men.
- fever
- chills

→ Treatment :-

Treatment of UTIs depends on the cause. A doctor will be able to determine which organism is causing the infection.

- In most cases, the cause is bacteria. UTI caused by bacteria are treated with antibiotics.

→ Diagnosis :-

To confirm a diagnosis of a UTI you need to test your urine for microbes.

- urine culture is done for confirming bacteria or fungi infections
- ultrasound.
- intravenous pyelogram
- cystoscopy
- CT

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→ Causes & risk factors :-

- Older adults are more likely to get UTIs.
- reduced mobility after surgery or prolonged bed rest.
- kidney stones.
- urinary tract obstructions or blockage
- Prolonged use of urinary catheters.
- Diabetes if poorly controlled
- pregnancy
- a weakened immune system.

→ Prevention :-

- Drink six to eight glasses of water daily
- Don't hold urine for long periods of time
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The End.