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Final term exam INU

Q1

Ans

Hydronephrosis :-

Hydronephrosis is the swelling of a kidney due to a build up of urine. It happens when urine cannot drain out from the kidney to the bladder from a blockage or obstruction. Hydronephrosis can occur in one or both kidney. usually due to partial obstruction to the outflow of urine.

pathology :-

Dilation of renal pelvis and calyces.

### Type of hydronephrosis.

- pelvic type.
- Renal type.

### pelvorenal type

most common type  
both the pelvis and calyces  
are equally dilated.

### Causes:

Normally urine passes from the kidney through a tube called a ureter that drains into the bladder and then out of the body. But sometime urine backs up or remains inside the kidney or in ureter. That's when hydronephrosis can develop.

The most common cause for this blockage is a kidney stone but scarring and blood clots can also cause acute unilateral obstructive uropathy.

## Diagnosis:-

- symptoms and signs.
- ultrasound.
- IVP.
- Cystourethrogram.
- Cystoscopy.
- RCGP.
- Delayed empty.
- Isotope venography.
- urine culture.

## Treatment:-

Depend on the cause site duration and degree of kidney damage.

- U-T.I Antibiotic therapy.
- prompt drainage.
- corrected to the cause.
- Relief of lower tract obstruction.  
catheter drainage urinary diversion.
- Nephrectomy (tumor or non-function kidney)

Q2

Ans

**TB:-**

Tuberculosis is an infectious disease caused by bacterium called mycobacterium tuberculosis.

**Type of TB:****pulmonary TB:-**

pulmonary TB It means when the bacterium mycobacterium tuberculosis infection involve the lungs.

pulmonary TB occur by breathing in air droplet from a cough or sneeze of an infected person.

**Extrapulmonary TB:-**

TB lymphadenitis.

TB lymphadenitis is the most common type of extra pulmonary TB. and involves the lymph nodes. It tend to effect the cervical lymph nodes which are the lymph nodes in your neck. but any lymph node can be effected.

**Genitourinary:**

Genitourinary TB is the second most common type of extrapulmonary TB.

In your thyroid through your blood where it destroys the excess tissue.

### Home Care

Depending on your type of goiter you may need to increase or decrease your iodine intake at home.

If a goiter is small and doesn't cause any problems, you may require not treatment at all.

Q 3

Ans Renal stone:

Nephrolithiasis is a condition in which hard masses (kidney stone) form within the urinary tract.

### Formation of kidney stone

The urinary concentration of crystal forming substance (e.g. calcium oxalate, uric acid, etc.)

The urinary concentration of substances that inhibit stone formation e.g. citrate is low.

for men and 7 percent for women.

Among adult with kidney stone is approximately 80 percent consist predominantly of calcium oxalate or calcium phosphate ~~group~~ stone.

### Types of renal stone:

#### Calcium oxalate stone

The most common type of kidney stone is calcium oxalate stone. These result when the urine contains low level of citrate and high level of calcium and either oxalate or uric acid calcium oxalate stone are linked with food high in oxalate.

#### Calcium phosphate stone

Calcium phosphate kidney stones are caused by abnormalities in the way the urinary system function. Your doctor may order a series of blood and urine test to determine whether urinary or kidney problems could be causing the type of stone.

### Struvite stone

More common in women  
 Struvite stone form as a result of certain type of urinary tract infection. These stone tend to grow quickly and become large. They can cause frequent and sometime severe urinary tract infection and loss of kidney function.

### Uric acid stone

More common in men  
 Uric acid tend to occur in people who don't drink enough water or have a diet high in animal protein. Family history of this type of kidney stone or in those who had chemotherapy.

### Cystine stone

Cystine stone are caused by a hereditary genetic disorder called cystinuria that can lead to excessive amount of amino acid cystine collecting in the urine.

## Diagnosis of kidney stone

### CT-Scan

Your doctor may use a CT-scan to look for stone in the kidney ureters and bladders to determine their size and exact location. To evaluate the anatomy of urinary tract.

### Ultrasound :-

Your doctor may recommend an ultrasound scan to evaluate your kidney bladder and ureter which are the tube that carry urine from kidney to the bladder. This help your doctor to check for stone the haven't passed, to monitor the growth of stone and to screen for recurrence. The abdomen and used to produced sound wave that create image of the pelvic organ.

- Intravenous pyelogram
- Retrograde pyelogram
- kidney ureter bladder x-ray:-



it can affect any part of the genitals or urinary tract but the kidney are the most common sites. It usually spread to the area from the lung through the blood or lymph nodes.

### Abdominal TB:

It is a type of TB affect the gut the peritonium abdominal lymph nodes and move variety the solid organs in the abdomen liver pancreas and spleen.

### TB can be categorized into:

Active TB.

Latent TB.

Miliary TB.

### Active TB

Active TB is a illness in which the TB bacteria are rapidly multiplying and invading different organs of the body.

A person with active pulmonary TB disease may spread to other by airborne transmission of infectious particle caused into the air.

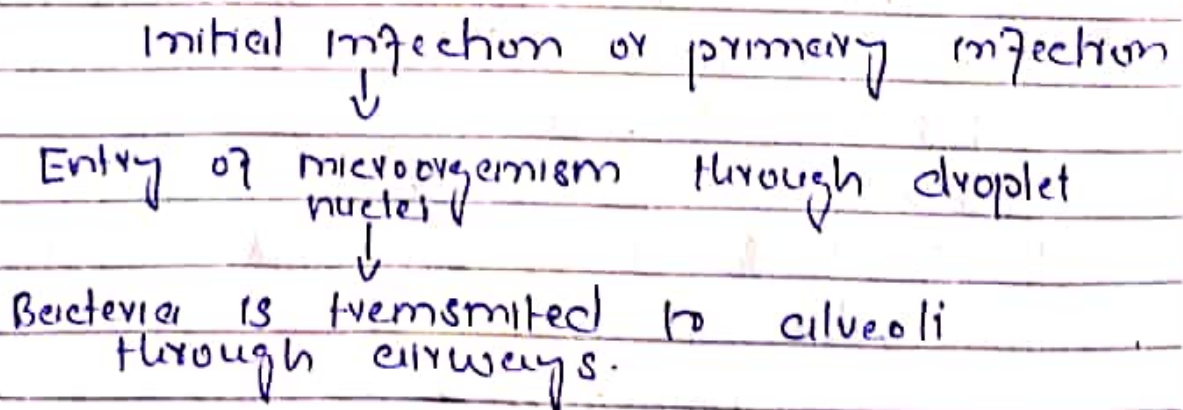
## Latent TB:-

Latent TB occur when a person has TB bacteria within their body but the bacteria are present in very small no and don't develop disease. They are kept under control by the body immune system. Latent TB does not cause symptoms and isn't contagious.

## Miliary TB:-

Miliary TB is a rare form of chronic disease that occurs when TB bacteria are present in very small numbers. They get into the blood stream. In this form the bacteria quickly spread all over the body in tiny nodules and affect multiple organs at once.

## Pathophysiology



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↓  
Deposition and multiplication of bacteria.

↓  
Bacilli are also transported to other part of the body via blood stream and phagocytosis by neutrophils and macrophages.

## Pathophysiology

Mycobacterium

↓  
pulmonary alveoli

↓  
Immune system has lodged in (Alveolar macrophages)

↓  
Detects presence of pathogen and engulfs the bacteria

↓  
Mycobacterium bacteria inhibit the macrophages (phagosome + lysosome) to form phagolysosome and remain protected inside the macrophages.

## Pathophysiology

sterile replication inside macrophages

↓  
primary infection occur.

↓  
cell mediated immunity gets activated surround the cell to form Granuloma (Zwecker)

Leads to necrosis of tissue at  
infection site. (Terminus Case Focus)

involve nearby lymph nodes  
(Case Complex)

calcification of case complex  
(Latent TB)

Q4

Ans

GOITER:-

Introduction:

Thyroid is a gland found  
in neck just below your  
Adams Apple.

It secretes hormone that helps  
regulate bodily function.  
including metabolism the process  
that turn food into energy  
it regulates heart rate  
respiration digestion and mood.

A condition that increases the  
size of thyroid is called  
Goiter.

## Types of Goiter

Goiters have many causes. As a result there are different types. These include:

### Colloid Goiter

A colloid goiter develops from the lack of iodine, a mineral essential to the production of thyroid hormone. People who get this type of goiter usually live in areas where iodine is scarce.

### Non-toxic

The cause of non-toxic goiter is usually unknown. Though it may be caused by medication like lithium is used to treat mood disorders such as bipolar disorder. Non-toxic goiters don't affect the production of thyroid function is healthy. They are also benign.

### Toxic Nodular

This type of goiter form one or more small nodules as it enlarges. The nodule produces their own thyroid hormone causes hyperthyroidism.

Causes:

Iodine deficiency is the main cause of goiter. Iodine is essential to helping your thyroid produce thyroid hormone. When you don't have enough iodine the thyroid work extra hard to make thyroid hormone causing the gland to grow larger.

Graves disease

Graves disease occur when your thyroid produce more thyroid hormone than normal which is known as hyperthyroidism. The excessive production of hormone make the thyroid increase in size.

Inflammation:

Some people develop thyroiditis an inflammation of the thyroid that can cause a Croiter

Nodules

Solid or fluid containing cysts may appear on the thyroid and cause it to swell. These nodule or often noncancerous.

## Thyroid cancer

Cancer may affect the thyroid which causes swelling on one side of the gland. Thyroid cancer is not as common as the formation of benign tumor nodule.

## Diagnosis

Your doctor will check for neck of swelling. They will also order a no of diagnostic test that include these below

## Blood Test:-

Blood test can detect changes in hormone levels and an increase production of anti-bodies which are produce in response to an infection or injury.

## Thyroid Scan:-

Your doctor may order scan for your thyroid. These scans show the size and condition of your goiter.

## Ultrasound:-

produce image of your neck. The size of your goiter

and whether there are  
nodes over time and  
ultrasound can show changes  
and those nodes and  
the Goiter.

### Treatment

your doctor will decide  
on a course of treatment  
base on the size and  
condition of your Goiter.

### Medication:

if you have hypothyroidism  
medication to treat these  
conditions may be enough to  
shrink a goiter.  
Medication to reduce your  
inflammation may be used if  
you have thyroiditis.

### Surgeries:

surgical removal of your  
thyroid known as thyroidectomy  
is an option if your goiter  
is too large doesn't respond to  
medication therapy.

### Radio active iodine

In people with toxic  
multinodular goiter. RAI may be  
necessary. The RAI is ingested  
orally and then travels.



A kidney - ureter bladder  
 or IUB x-ray of the  
 abdomen and pelvis can  
 help doctor to determine  
 whether a kidney stone  
 is grow passed or returned

### MRI scan

In which magnetic  
 waves are used to create  
 computerized two or three  
 dimensional image or not  
 typically used to evaluate  
 kidney stone.  
 our urologist have experience  
 managing kidney stone  
 during pregnancy and  
 world closely with NFO  
 Bangalore obstruction to do so.

Q5

### Ans Atelectasis:

- partial or complete collapse  
 of lung is called atelectasis.
- May involve entire lungs  
 or lobe or segment.
- There are 5 mechanisms  
 of atelectasis.
- 1. Obstructive
- 2. Non obstructive. → Typically due to  
 loss of contact b/w peripheral

and visceral pleura.

### Risk Factor:

Anesthesia foreign bodies  
in the air way lungs  
disease mucus plugging of  
the airway pressure caused  
by mass fluid prolong  
lead rest.

### Symptoms:

Trouble breathing.  
pleurisy (chest pain with  
inspiration)  
cough fever.

### obstructive Atelectasis

- Most common type
- Result from blockage of airway.
- Resorption atelectasis occur when obstruction prevent air from reaching distal airway.
- Mucus plugging foreign bodies neoplasm or inflammatory debris

### Non obstructive atelectasis

- 1 passive
- 2 compressive
- 3 catarrhal
- 4 adhesive

In these form of atelectasis secretion are able drain up the bronchial tree.

## pneumonia:

pneumonia is inflammation of the lungs parenchyma (Alveoli rather than bronchi) it is the most common infectious cause of death. It is usually characterized by consolidation.

## Classification

### Type 1 Morphological classification

1. Lobar pneumonia
- Broncho pneumonia

### Type 2 (clinically classification)

- community acquired pneumonia (CAP)
- hospital acquired pneumonia (HAP)

The organisms which cause lobar pneumonia are streptococcus aureus Gram negative bacteria such as H-influenza

## Morphological stages:

There are four morphological stages in pneumonia

- (1) Congestion
- (2) Red hepatization
- (3) Grey hepatization
- (4) Resolution.

### Bronchiectasis :-

Abnormal and permanent dilation of bronchi and bronchioles due to destruction of the muscle and elastic supporting tissue resulting from or associated with chronic necrotizing infection. Bronchiectasis is a secondary disease due to persistent infection or obstruction.

clinical consequences of chronic and recurrent infection and pooling of secretion in dilated airways

Bronchiectasis is the permanent dilation of bronchi and bronchioles due to destruction of the muscle and elastic supporting tissue resulting from or associated with chronic necrotizing infection. Bronchiectasis is a secondary disease due to persistent infection or obstruction.

### Etiology :-

Bronchiectasis is the result of chronic infection with resulting peribronchovascular destruction and fibrosis and abnormal permanent dilation of damaged bronchi. The following conditions may lead to bronchiectasis.