

NAME : IHSAN ULLAH

I.D : 15193

PAPER : CLINICAL MEDICINE

Q 1

HYDRONEPHROSIS : Hydronephrosis is swelling of one or both kidney. Kidney swelling happens when urine can't drain from a kidney and build up in kidney as a result. The can occur from blockage in the tube and drain urine from the kidney (ureters) or from anatomical defect that doesn't allow to drain properly.

Hydronephrosis can happen at any age.

Hydronephrosis doesn't always cause symptoms.

\* Pain in the side and back that may travel to the lower abdomen or groin.

\* Urinary problem, such as pain with urination or feeling an urgent or frequent need to urinate.

- \* Nausea and Vomiting.
- \* Fever.
- \* Failure to thrive, in infants.

## 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 some time urine back up or remains inside the kidney, ureter, that when cause hydronephrosis. can develop.

Some causes of hydronephrosis include.

- \* Partial blockage in the urinary tract. Urinary tract blockage often form where the kidney meets the ureter. less commonly, blockage may occur where the ureter meets the bladder.

- \* ~~the~~ Vesicoureteral reflux :- Vesicoureteral

reflex happen when urine follow backward through the ureter from the bladder up into the kidney. Normally urine follow only one way ureter, urine following the

Wrong way makes a defunct for the kidney empty properly and causes the kidney to swell.

Less commonly causes of hydronephrosis include kidney stone, tumor, in the abdomen or pelvis and problems with nerves that lead the bladder.

### Pathophysiology of hydronephrosis

Hydronephrosis is caused by obstruction of urinary before the renal pelvis. The obstruction causes dilatation of the nephron tubes and filling of lining of tubes with kidney which in turn causes swelling of renal caliculi.

Hydronephrosis can either be acute or chronic. The acute hydronephrosis can be recovered full of kidney function is seen.

Chronic hydronephrosis permanent loss of kidney function is seen even once obstruction is removed.

Obstruction that occurs anywhere along the upper urinary tract will lead to increase the

The pressure within structure in kidney due to the inability to pass urine from the kidney to the bladder. Commonly cause upper tract include obstructive stones (upj) ureter pelvic junction.

The lower urinary tract also cause increase pressure through reflux urine into the kidney.

Commonly cause include bladder dysfunction (Neurogenic bladder) and urethral obstruction.

Diagnosis : \* A blood test evaluate kidney function.

\* A urinary test to check sign of infection or urinary stones that could cause blockage.

\* An ultrasound imaging exam. during doctor can view the kidney bladder and other urinary structure.

\* An specialized x-ray of urinary tract. that uses a special dye to outline kidney, ureter, bladder and urethra. Capturing images before and during urination.

Treatment & the treatment of hydro Nephrosis depend on the underlying causes. Although surgery is sometimes needed, hydro Nephrosis often resolve on its own.

\* Mild to moderate hydro Nephrosis:

Your doctor may option for a wait and see approach to see if you get better in your own. Even so your doctor may recommend preventive antibiotic therapy to lower risk of urinary tract infection.

\* Severe Hydro Nephrosis: When hydro Nephrosis make a hard of kidney to function - case happens more severe hydro Nephrosis that involve reflux surgery may be recommended to fix blockage or correct reflux.

Q 2

T.B (Tuberculosis) is an infection disease caused by a bacteria called mycobacterium. Tuberculosis it often affects the lung, however it may involve any organ and may infect any one at any age.

T.B is a contagious/infectious disease which means that it is spread from person to person usually through a public person with active disease coughs and sprays the bacteria into the air.

Tuberculosis is a public health problem world wide including in the united states particularly among immune compromised patients.

pulmonary T.B and this type

it means when the bacterium mycobacterium tuberculosis infection involves the lungs. pulmonary TB occurs by breathing in air droplets from cough or sneeze of an infected person.

Extra pulmonary T.B

T.B lymphadenitis: T.B lymphadenitis is the most common extra pulmonary T.B and involves the lymph nodes, it ~~does~~ tend to affect the cervical lymph nodes, which you neck, but any lymph nodes can be effected.

Genitourinary T.B: Genitourinary T.B is the second most common type of extra pulmonary T.B at can effected any parts of the genitals or urinary tract but the kidney are the most common site. usually spread the area of lungs through the lymph nodes.

Abdominal T.B: it is the type of T.B that effect gut the peritoneum abdominal lymph nodes and more readily the solid organ the abdomen (liver, pancreas, and spleen)

Tubercular meningitis: when the membrane surrounding the brain spinal cord are infected by bacteria.

Skeletal T.B :- Skeletal T.B are bone T.B that separate to your bones from your lung are lymph nodes it can effect any of your bones including your spine and joints.

### Category of T.B

- ⇒ Active T.B
- ⇒ Latent T.B
- ⇒ Miliary T.B

ACTIVE T.B :- Active T.B is in illness which the T.B bacteria are rapidly multiplying and invading different organs of the body.

A person with active pulmonary TB disease may be spread TB to other by air borne transmission of infectious particles coughed in the air.

Active T.B contagious and causes symptoms.

The most common form of active T.B is lung disease, but may invade other organ so called extra pulmonary T.B.



LATENT T.B : Latent T.B occurs when a person has the T.B bacteria with in body, but the bacteria are present in very small number, and do not develop disease. It is under control by the body immune system.

Latent T.B doesn't cause symptoms is not contagious.

People with latent T.B have a normal chest X-ray and a negative sputum test. Often only know someone latent T.B because they have had T.B Test such as T.B skin Test.

Miliary T.B : Miliary T.B is rare form of active disease that occurs when T.B bacteria find into the blood stream in the form of bacteria quickly spread all over body into the nodules and affect multiple organ at once.

Miliary T.B causes general Active T.B symptoms addition to other symptoms depending on the body part involved. e.g. your bone marrow is affected may have low red blood cell count or a rash.

its names comes seen Radiograph  
of many tiny spots through out lungs

this form of T.B be rapidly fatal

Pathophysiology :

Mycobacterium



pulmonary Alveoli



immune system has lodged in Alveolar  
macrophages



Detect presence of pathogen and  
engulf the bacteria



Mycobacterium inhabits the macrophage  
(phagosome + lysosome) to form

phagosomes and remains protected  
inside the macrophage.

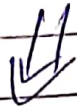
Start replication inside macrophage



Primary infection occurs.



Cell mediated immunity gets activated  
surround the cell to form  
granuloma. (3 weeks)



Lead to necrosis of tissue at infection  
site Terminus gone focus.



involve nearby lymph node (Gone complex)



Classification of Gone complex  
(Latent T.B)

Pathogenesis of T.B how  
T.B develop?

\* initial infection or primary infection.



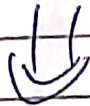
\* Entry of micro organism through  
droplet nuclei.



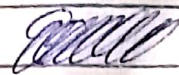
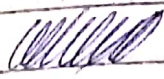
\* Bacteria is transmitted alvoli  
through air way.



\* Deposition and multiplication  
of bacteria.



\* Bacilli are also transported to  
other parts of the body via  
blood stream and phagocytosis  
by neutrophils and macrophages



Q # 4

GOITER :- Thyroid is a gland found in the

neck just below your Adam's apple. It is source of hormones that help regulate bodily functions including metabolism, the process that turns food into energy.

It also regulates heart rate, respiration, digestion and mood.

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

A goiter may develop in any one but is more common in ~~men~~ women. Some times it affects why the thyroid functions.

### Types of Goiter

Colloid Goiter (Endemic) :- A colloid goiter develops from the lack of iodine, a mineral essential to the production of thyroid hormones. People who get this type of goiter usually live in iodine deficient areas.

Non toxic i.e. (sporadic) The cause is usually unknown though it may be caused by medication like Lithium it used to treat mood disorder such as bipolar disorder. Antitonic goiter doesn't affect the production of thyroid hormones and thyroid function is healthy.

Toxic Nodular or Multinodular Goiter :

this type of goiter from one or more small nodules as it enlarges the nodules produce their own thyroid hormones, causing "Hyperthyroidism" it generally form as an extension of a simple goiter.

Cause of Goiter :-

iodine deficiency is the main cause of goiter.

iodine help thyroid produce thyroid hormones.

Graves Disease :- Occurs when your thyroid produces more thyroid hormones than normal which is known as hyperthyroidism. The excessive production of hormones makes the thyroid increase in size.

Hashimoto's Disease :- When you have Hashimoto's disease the thyroid doesn't produce enough thyroid hormone, causing hypothyroidism. The low

thyroid hormones cause the pituitary gland to make more thyroid stimulating hormones (TSH) which causes the thyroid to swell.

Inflammation :- Some people develop thyroiditis an inflammation of the thyroid that can cause a goiter.

Nodules :- Solid or fluid containing cysts may appear on the thyroid and cause it to swell. These nodules are often noncancerous.

Thyroid cancer is cancer may effect the thyroid which cause swelling on one side of the ~~thyroid~~ gland.

thyroid cancer is not as common as the formation of benign nodules.

### Diagnosis :

your doctor check for neck are swelling, they will order number of diagnostic test.

⇒ Blood Tests. To check blood tests change hormones, infection, or injury.

⇒ Thyroid Scan: the scan show size of goiter.

⇒ Ultrasound: produce images your neck.

⇒ Biopsy: is a procedure involve a small sample of thyroid tissue.



# Treatment

Medication: you have hypothyroidism medication to treat conditions may be enough to shrink goiter

Surgeries: Surgical removal of your thyroid known as thyroidectomy is an option if your goiter grows to large medication therapy.

Radioactive iodine is in a people with toxic multinodular goiters RAI increase and then travel to your thyroid through your blood.

Home Care: Depending on your goiter may need to increase or decrease your iodine intake at home.

The goiter are small doesn't cause problems, you may require treatment all.



CO # 5

## ATELEC ATELECTESIS:

- \* Partial or complete collapse of lung is called atelectasis.
- \* May involve entire lung a lobe, A segment or be subsegment.
- \* There are five (5) mechanism of atelectasis

(1) obstructive @

(2) Non obstructive - typically due to loss of contact between ~~parietal~~ parietal visceral pleura.

### RISK factor

Anesthesia, foreign bodies in the air way lung disease, mucus plugging of the air way pressure caused by mass or fluid per lung by bed rest

### Symptom:

- \* Trouble breathing
- \* Pleurisa (chest pain with inspiration)
- \* Cough \* Fever.

Obstractive:

- \* Most common type
- \* Result from blockage of air way.
- \* Resorption atelectasis occurs when an obstruction prevents air from reaching distal airway
- \* Mucous plugging, foreign bodies, neoplasm or inflammatory debris, bronchiogenic carcinoma
- \* it is the consequence of complete obstruction of air way.

Non obstructive

- \* Passive                      \* Compressive
- \* Cataction                 \* Adhesive

Branchial tree. Because there is no obstruction Bronchoscopy is not Therapeutic

passive (Resorption) Atelectasis:

- \* and most common form of atelectasis
- \* contact b/w parietal and visceral pleura lost due to pleura effusion or ~~pleura~~ pneumothorax
- \* leads to generalized collapse.

## Compressive Atelectasis

- \* Due to external compression of lung
- \* May be caused by localized collection of pleural fluid or chest wall.
- \* Similar to relaxation atelectasis but collapse is local rather than generalized.

## Adhesive Atelectasis

- \* Caused by adherence of ~~alveolar~~ alveolar wall surface in setting surfactant ~~deficiency~~ deficiency (eg hyaline membrane disease)
- \* Surfactant has phospholipid, dipalmitoyl phosphatidyl choline. which prevent lungs collapse reducing surface tension alveoli.
- \* Lack of surfactant or inactive cause alveolar instability and collapse.

## Cicatriziation Atelectasis

- \* Secondary to fibrosis (scarring) lung parenchyma with ~~to~~ subsegment. Lack of expansion.
- \* Etiologies include granulomatous disease, sarcoid, fungal, and chronic T.B

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

### Etiology

- \* long lasting bronchial abscess due to bronchial tumors or foreign body.
- \* Congenital or hereditary condition
- \* Cystic fibrosis infection due to abnormally thick mucus plugs smaller bronchi.

### Clinical Manifestation:

- \* persistent or recurrent cough with purulent sputum.
- \* Hemoptysis
- \* Dyspnea.
- \* episodic fever
- \* upper respiratory infections may develop.

22

## Diagnosis

\* clinical

\* Radiology Chest XR : May be non-specific mild disease.

\* CT-scan bronchial, thickening.

\* Sputum culture.

(pseudomonas, aeruginosa, H influenza)

\* Lung infection : Air flow obstructive.

\* Sweat test : increase sodium chloride

\* Bronchoscopy : Abstruction body, tumor

\* Immunoglobulin.

## Treatment

\* Eliminate cause.

\* improve trachio bronchial clearance

\* Control infection.

\* Reverse air flow obstructive.

\*

\* Chest physical therapy

\* Bronchodilators.

\* Antibiotics.

## Pneumonia

Pneumonia is an inflammation of the lung parenchyma (ie. alveoli) rather than the bronchi of infective organ.

- \* It is most common infection cause of death.
- \* It is usually ~~characterized~~ characterized by consolidation

### Classification:

#### ① Morphological classification

- \* Lobar pneumonia.
- \* Bronchopneumonia.

#### ② Type 2 (Clinical classification)

- \* Community - Acquired pneumonia (CAP)
- \* Hospital - acquired pneumonia (HAP)

### Morphological stage

- \* Congestion
- \* Red hepatization
- \* Grey hepatization
- \* Resolution.

## Bronchopneumonia :

Bronchopneumonia is an infection of terminal bronchioles that extend into the surrounding alveoli resulting in patchy consolidation of the lung.

### Clinical diagnosis

- \* History
- \* Sign & Symptoms
- \* Chest x-ray
- \* CT.

### Etiology diagnosis

- \* Gram's stain and culture of sputum
- \* Blood culture.
- \* Polymerase chain reaction.
- \* Serology.
- \* Bronchoalveolar lavage.
- \* Bronchoscopy.

### Complication

- \* Acute Respiratory distress Syndrome (ARDS)
- \* Fluid around the lung.
- \* lung abscesses.
- \* Respiratory failure.
- \* sepsis.



## Q # 3

Nephro lithiasis is a condition which has ~~masses~~ masses (kidney stone) with in the urinary tract.

Formation of kidney stone may occur when.

\* the urinary concentration of crystal forming substance (e.g calcium, oxalate, uric acid) is high.

\* the urinary concentration of substance that inhibit stone formation e.g citrate is low.

The life time of kidney stones is approximately 13 percent for men and 7 percent for woman.

Among adult with kidney stones.

approximately 80 percent predominantly of calcium oxalate and or calcium phosphate stones.

### Type of Renal Stone

(1) Calcium oxalate stones: the most common type of kidney stone is a

Calcium oxalate stone, the result when the urine contain low level of citrate and high level of calcium. and other oxalate or uric acid. Calcium oxalate stones linked with food in oxalate. it include, beets, black tea, chocolate, nuts, potatoes, and spinach.

Calcium phosphate stone. Calcium phosphate kidney stone are caused abnormalities the urinary system function. the doctor order series blood and urine tests determine urinary or kidney problems could be causing type of stone.

Struvite stone is more common in woman struvite form as resulting of certain types of urinary tract infection. the stone tend to grow quickly and ~~become~~ become large. left untreated they can cause some times severe urinary tract infection and ~~loss~~ kidney function.

Uric Acid stone is more common in men. uric acid stone tend occur in people who don't drink enough water. or have diet animal protein. family history of this type kidney stone, those have chemotherapy.

Cystine Stones :- Cystine stones are caused hereditary genetic disorder called cystinuria. can lead excessive amount of amino acid Cystine collecting in the urine. formation of stone in the kidney bladder and ureters. which transport urine from the kidney to the bladder.

### Symptoms

- \* Abdominal and flank pain
- \* Nausea and vomiting.
- \* Urinary tract obstructive.
- \* Infection.

### Diagnosis Radiological procedure

- \* Intravenous urogram [IVU]
- \* ~~Retra~~ Retrograde pyelogram
- \* X ray (KUB) kidney, ureter, bladder.
- \* CT - scan
- \* Ultra sound.