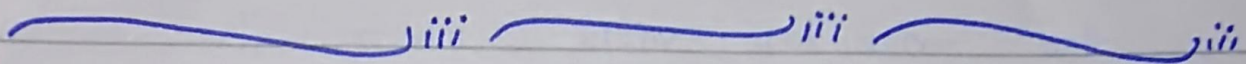


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Paper Clinical medicine (Final exam)
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Q-1:- What is hydronephrosis? write in detail its Causes, Pathophysiology, diagnosis & treatment.

Ans:- "Hydronephrosis is a condition that puts pressure on the kidneys and can lead to them becoming damaged. Often, sometime inside or outside of the urinary tract that block the urine flow out of the kidneys causes hydronephrosis."

The bladder, kidneys, and linking tubes are known as the urinary system.

* Causes:~

one of two main problems
causes hydronephrosis.

One of these is called
vesicoureteral reflux - In this condition
the muscular valve where the
urethra connects to the bladder
does not work correctly - This
forces urine to reflux or flow
backward into the kidney.

In adults, many things can cause
an obstruction but is usually due to
an underlying medical condition
such as:-

- Pregnancy cause the womb to push
against and block the tubes connecting
the bladder & kidneys - Hydronephrosis
during pregnancy is not unusual.
- Kidney stones moving out of the
kidney where they first formed.
If a stone moves into a tube
in the urinary system - It
can cause a blockage.

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→ An enlarged prostate Gland wrapping around the Urethra B/w the bladder and penis, which can happen as a person ages. This can compress and obstruct the Urethra.

→ Nerve around the bladder being damaged which can affect how well this organ work.

In babies the obstruction is usually created when a part of the urinary system develops incorrectly before birth.

* Pathophysiology:~

Hydronephrosis can result from anatomic or functional processes interrupting the flow of urine. The interruption can occur anywhere along the urinary tract from the kidneys to the urethral meatus. The rise in ureteral pressures leads to marked changes in glomerular filtration, tubular function, and renal blood flow.

Diagnosis: -

Getting a diagnosis as early as possible is extremely important - Your kidneys could be permanently damaged if your condition is left untreated for too long.

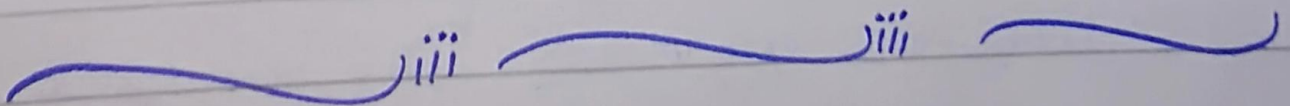
- ↳ Your doctor may use a catheter to drain some of the urine from your bladder.
- ↳ If they are unable to release a large amount of urine this way, it could mean that your obstruction is in your bladder or your urethra.
- ↳ The urethra is a tube that carries urine from your bladder to the outside of your body.
- ↳ Your doctor may also want to perform a renal ultrasound or CT Scan to get a closer look at the extent of the swelling and to possibly locate the area of the blockage.
- ↳ Both of these procedures let your doctor view an image of the inside of your body but the renal ultrasound is generally considered the gold standard for the diagnosis of hydronephrosis. It allows your doctor to get a closer look at your kidney.

* Treatment: ~

Treatment for hydronephrosis primarily focuses on getting rid of whatever is blocking the flow of urine - The treatment option your doctor choose for you will depend on the cause of your obstruction.

If a blocked ureter is causing your condition, your doctor might need to do any of the following.

- ↳ insert a Ureteral Stent, which is a tube that allow the ureter to drain into the bladder.
- ↳ Insert a nephrostomy tube, which allows the blocked urine to drain through the back.
- ↳ Prescribe antibiotics to control infection.



Q-2 Explain in detail the types/categories & pathophysiology of tuberculosis?

Ans:- Tuberculosis is an infectious disease usually caused by mycobacterium tuberculosis bacteria. Tuberculosis generally affects the lungs, but can also affect other parts of the body. Most infections show no symptoms, in which case it is known as latent tuberculosis.

Tuberculosis is spread from one person to the next through the air when people who have active TB in their lungs cough spit speak or sneeze - Active infections occurs more often in people with HIV/AIDS and in those who smoke.

Diagnosis of active TB is based on chest x-rays as well as microscopic examination and culture of the body fluid.

Diagnosis of latent TB relies on the tuberculin skin test (TST) or blood test.

* Types/Categories: -

Tuberculosis may be regarded in two categories :- active disease or latent infection. The most common form of active TB is other organs, so called "extra pulmonary TB"

*1 Active TB Disease:~

Active TB is an illness in which the TB Bacteria are rapidly multiplying and invading different organs of the body. The typical symptoms of active TB variably include cough, Phlegm, chest pain, weakness, weight loss, fever, chills and sweating at night. A person with active pulmonary TB to other by airborne transmission of infectious particles coughed into the air

Miliary TB: -

is a rare form of active diseases that occur when TB bacteria find their way into the bloodstream. In this form the bacteria quickly spread all over the body in the tiny nodules and effect

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multiple organs at once. This form of TB can be rapidly fatal.

2*:- Latent TB infection:~

Many of those who are infected with TB do not developed overt disease - They have no symptoms and their chest x-ray may be normal. The only manifestation of this encounter may be reaction to the tuberculin skin test (TST) or interferon-gamma release assay (IGRA) - However there is an ongoing risk that the latent infection may escalate to active disease - The risk is increased by other ~~is~~ illnesses such as HIV or medications which compromise the immune system - To protect against this, the United States employs a strategy of preventive therapy or treatment of latent TB infections -

* Pathophysiology:~

Infections occur when a person inhales droplet nuclei containing tubercle bacilli that reach the alveoli of the lungs.

Person with LTBI, have M. tuberculosis in their bodies, but do not have TB disease and cannot

spread the infection to other people - A person with LTBI

is not regarded as having a case of TB.

Inhalation of mycobacterium tuberculosis leads to one of four possible outcomes:

↳ Immediate clearance of the organism.

↳ Latent infections.

↳ The onset of active disease (primary disease)

↳ Active disease many years later (reactivation disease)

Q:3:- How are renal stones formed
 & what are different types of renal stones?
 which radiological procedure is most
 suitable for diagnosing renal stones?

Ans:- Kidney stones form when your urine
 contains more crystal forming
 substances— such as calcium,
 oxalate and uric acid -
 than the fluid in your urine
 can dilute - At the same time,
 your urine may lack substances
 that prevent crystals from
 sticking together, creating an
 ideal environment for kidney
 stone to form -

* Types:-

→ Calcium oxalate stones:-

The most
 common type of kidney stones
 is a calcium oxalate stone.

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→ Calcium Phosphate stones:

Calcium phosphate kidney stones are caused by abnormalities in the way the urinary system functions.

→ Struvite stones:

More common in women,
Struvite stones form as a result of certain types of urinary tract infection.

→ Uric Acid stones:-

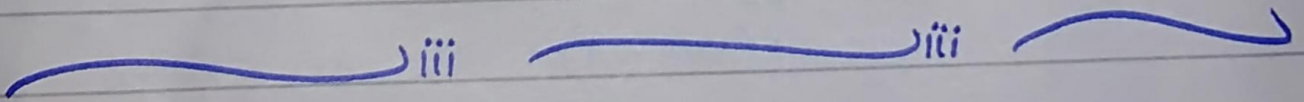
More common in men,
Uric acid stones tend to occur in people who don't drink enough water or have a diet high in animal protein.

→ Cystine stones:-

Cystine stones are caused by hereditary genetic disorders called cystinuria that can lead to excessive amounts of the amino acid cystine collecting in the urine.

Radiological procedure:-

Diagnosis of kidney stones is best accomplished using an ultrasound intravenous pyelography (IVP) or a CT Scan. Most kidney stones will pass through the ureter to the bladder on their own with time - treatment includes pain-control medications, and in some cases, medication to facilitate the passage of urine.



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Q=4 Briefly Describe the types, Causes, diagnosis, and treatment of goiter?

Ans:- GOITER:-

Disease of the thyroid gland, characterized by an enlargement of the gland. visible externally as a swelling on the front of the neck - In simple goiter the basal metabolic rate (the least amount energy necessary to maintain the vital involuntary activities) is somewhat lowered and in toxic goiter it is elevated.

Types:-

There are two main types of goiter.

1:- Diffuse Goiter:-

Where the entire thyroid gland swells and feels smooth to the touch.

2:- Nodular Goiter:-

Where solid or fluid-filled

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Lumps called nodules develop within the thyroid and make the thyroid gland feel lumpy to touch: the nodules can be single or multiple and may contain fluid.

* Causes: -

The most common cause of goiter worldwide is a lack of iodine in the diet. In the United States - where the use of iodized salt is common - a goiter is more often due to the over- or underproduction of thyroid hormones or to nodules in the gland itself.

* Diagnose: -

The doctor may discover an enlarged thyroid gland simply by feeling your neck and having you swallow during a routine physical

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exam. In some cases, your doctor may also be able to feel the presence of nodules. Diagnosing a Goiter may also involve a hormone test.

* Treatment: -

Surgery removing all or part of your thyroid gland. (total or partial thyroidectomy) is an option if you have a larger goiter that is uncomfortable or causes difficult breathing or swallowing, or in some cases, if you have a nodular goiter causing hyperthyroidism. Surgery is also the treatment for thyroid cancer.

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Q=5:- write a detail note on Atelectasis, bronchiectasis, and pneumonia?

Ans:- Atelectasis:-

(at-uh-LEK-tuh-sis)

is a complete or partial collapse of the entire lungs or area (lobe) of the lung. It occurs when the tiny air sacs (alveoli) within the lung become deflated or possibly filled with alveolar fluid.

Atelectasis is one of the most common breathing (respiratory) complications

after surgery - it's also a possible complication of

other respiratory problems - including cystic fibrosis, lung

tumor, chest injuries, fluid in the lungs and respiratory weakness.

You may develop atelectasis if you breathe in a foreign object.

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Atelectasis can make breathing difficult particularly if you already have lung disease. Treatment depends on the cause and severity of the collapse.

Symptoms:-

- Difficult breathing
- Rapid, shallow breathing
- Wheezing
- Cough.

Q:- Bronchiectasis:-

* is a disease in which there is permanent enlargement of parts of the airway of the lungs. Symptoms typically include a chronic cough with mucus production other symptoms include shortness of breath coughing up blood and chest pain, wheezing and nail clubbing may also occur. Those with the disease often get frequent lung infections. Bronchiectasis may result from a number of infectious

and acquired causes, including pneumonia; tuberculosis, immune system problems, as well as the genetic disorder cystic fibrosis - Cystic fibrosis is eventually results in severe bronchiectasis in nearly all cases.

Signs & Symptoms:-

Symptoms of bronchiectasis commonly include a cough productive of frequent green or yellow sputum lasting months to years. Other common symptoms include difficulty breathing wheezing (a whistling sound when you breathe) and chest pain.

Bronchiectasis may also present with coughing up blood in the absence of sputum. which has been called dry bronchiectasis.

3:- Pneumonia:-

Pneumonia is a bacterial or viral infections of the lungs.

Symptoms can include fever, chills, shortness of breath, coughing that produce phlegm, and chest pain. Pneumonia

can usually be treated at home with antibiotics but some cases may require time in hospital and can result in death.

Vaccines are available against some of the more common infectious agents that cause pneumonia.

Causes:- Pneumonia is an infection of the air sacs in the lungs and is caused by bacteria, viruses or rarely fungi. Most cases of pneumonia are caused by bacteria, usually *Streptococcus pneumoniae* (pneumococcal disease) but viral pneumonia is more common in children.

Symptoms: - If pneumonia develops symptoms commonly include -

- 1:- Fever
- 2:- Chills
- 3:- Shortness of breath
- 4:- Rapid breathing
- 5:- A worsening cough that may produce yellow/green or bloody mucus (phlegm)
- 6:- Chest pain when breathing or coughing - Caused by inflammation of the membrane that lines the lungs.

* Diagnose: -

If pneumonia is suspected it is important to seek medical attention promptly so that an accurate diagnosis can be made and appropriate treatment given. The doctor will take the medical history and will conduct a physical examination. The doctor will listen to the chest with a stethoscope. Coarse breathing, crackling sound, wheezing and reduced breath sound. A chest x-ray is usually taken to confirm the diagnosis.

* Treatment:-

Most case of pneumonia can be treated at home, However babies children and people with severe pneumonia may need to be admitted to hospital for treatment.

* Home & Hospital treatment.

➔ Home:-

- ➔ Antibiotic:- Given by mouth as tablet
- ➔ Pain relieving medication
- ➔ Paracetamol to reduce fever
- ➔ Drinking plenty of fluid.
- ➔ Rest.

➔ Hospital

- ➔ Antibiotic given intravenously
- ➔ Oxygen therapy
- ➔ Intravenous fluid
- ➔ Physiotherapy.

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The End.