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Paper Clinical Medicine
(Final exam)

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Q.NO.1:→ What is hydronephrosis? write in detail its Causes, Pathophysiology, diagnosis and treatment.

Ans:→ "Hydronephrosis is a condition that puts pressure on the kidneys damaged often. Sometime inside or outside of the urinary tract that block the urine flow out of the kidney causes hydronephrosis.

The bladder, kidney, 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 causes the womb to push against and block the tubes connecting the bladder and 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.
- An enlarged prostate gland wrapping around the urethra

(3)

between 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 works.

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 kidney to the urethral meatus. The rise in ureteral pressure 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 kidney 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 your bladder or your urethra.

→ 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 the 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.

* 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 causes 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 allows the ureter to drain into the bladder.

↳ Insert a ~~of~~ 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 infection 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 occur 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.

* 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 includes 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 infection particle coughed into the air.

Miliary TB :- is a rare form of active diseases that occurs when TB bacteria find

their way into the blood stream. In this form the bacteria quickly spread all over the body in the tiny nodules and affect 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 develop overt diseases. 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 infect may escalate to active disease. The United States employs a strategy of preventive therapy or treatment of latent TB infection.

* Pathophysiology :-

Infection occur when a person inhales droplet nuclei containing tubercle bacilli that 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 organisms.
- Latent infection.
- The onset of active disease (primary disease).
- Active disease many year later (reactivation disease).

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

Ans- Kidney stones form when your urine contain more crystal forming substance - such as calcium, oxalate and uric acid than the fluid in your urine can dilute. At the same time, your urine may lack substance 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.

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

→ Struvite stones :-

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

→ Uric Acid stones :-

Most 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 disorder called cystinuria that can lead to excessive amount 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 to facilitate the passage of urine.

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 lumps called nodular 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 world wide is a lack of iodine

in the diet. In the united state, where the uses of iodized salt is common a goiter is more often due to the over- or under production of thyroid hormones or to nodules in the gland itself.

* Diagnosis :-

The doctor may discover an enlarged thyroid gland simply by feeling your neck and having you swallow during a routine physical 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 cause difficult breathing
or Swallowing, or in some cases.
if you have a nodular
goiter causing hyperthyroidism.
Surgery is also the treatment
for thyroid cancer.

Q. 5:- Write a detail note on
atelectasis, bronchiectasis and
pneumonia?

Ans:-

Atelectasis :-

(at - uh - LĒK - 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 in the lung become
deflated or possibly filled
with alveolar fluid
atelectasis is one of
the most common
breathing (respiratory) complication
after surgery, its also a
possible complication of

other respiratory problem including Cystic Fibrosis, lung tumor, chest injuries, fluid in the lungs and respiratory weakness you may developed atelectasis if you breath in a foreign object. Atelectasis can make breathing different 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.

2) Bronchiectasis :-

is a disease in which there is permanent enlargement of parts of the airway of the lungs. Symptoms typically includes 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 infection. Bronchiectasis may result from a number of infections, and acquired causes, including pneumonia, tuberculosis, immune system problem as well as the genetic disorder cystic fibrosis. Cystic fibrosis eventually results in severe bronchiectasis in nearly all cases.

* Signs and Symptoms of bronchiectasis commonly includes 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 infection of the lungs. Symptom can include fever, chills, shortness of breath, coughing that produce phlegm, and chest pain. Pneumonia can usually be treated but some cases may require time in hospital and can result in death.

Vaccine are available against some of the more common infection agent that cause pneumonia.

* Causes:-

Pneumonia is an infection of the air sac 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 :-

At pneumonia develops symptoms commonly includes.

i) Fever

ii) Chills

iii) Shortness of breath.

iv) Rapid breathing.

v) A worsening cough that may produce yellow/green or bloody mucus (phlegm).

vi) Chest pain when breathing or coughing - Caused by inflammation of the membrane that lines the lungs.

* Diagnosis :-

At pneumonia is suspected it is important to seek medical attention promptly so that an

diagnosis can be made and appropriate treatment given. A chest x-ray is usually taken to confirm the diagnosis.

* Treatments

Most cases 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 and Hospital Treatments

* Home

- ⇒ Antibiotics 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.
- ⇒ Physio therapy.

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END