

SHAMBHUNATH INSTITUTE OF PHARMACY

Subject Code: BP-204T

Subject: Pathophysiology (Theory)

B.Pharm.2nd SEMESTER

FIRST SESSIONAL EXAMINATION (2019-20)

Time –1hr 30 min

Maximum Marks – 30

SECTION – A

Attempt All questions in brief.

- a. Define Hypertension.
When blood pressure goes above normal i.e. more than 120/80mm Hg.
- b. Define Drug.
Natural constituent used for the treatment of diseases.
- c. State the Causes of Atherosclerosis.
LDL and cholesterol
- d. Write the treatment of Asthma.
bronchodilators
- e. Define gout.
Deposition of sodium urate crystals in joints.

SECTION - B

2. Attempt any TWO of the following. (2*5 = 10)

- a. Explain Inflammatory bowel diseases.

Inflammatory bowel disease (IBD) is a term for two conditions (Crohn's disease and ulcerative colitis) that are characterized by chronic inflammation of the gastrointestinal (GI) tract. Prolonged inflammation results in damage to the GI tract. Some of the differences between Crohn's disease and ulcerative colitis.

Some common symptoms are:

Persistent diarrhea

Abdominal pain

Rectal bleeding/bloody stools

Weight loss

Fatigue

Many diseases are included in this IBD umbrella term. The two most common diseases are ulcerative colitis and Crohn's disease.

Crohn's disease can cause inflammation in any part of the digestive tract. However, it mostly affects the tail end of the small intestine.

Ulcerative colitis involves inflammation of the large intestine.

To diagnose IBD, your doctor will first ask you questions about your family's medical history and your bowel movements.

A physical exam may then be followed by one or more diagnostic tests.

Stool sample and blood test

These tests can be used to look for infections and other diseases.

Blood tests can also sometimes be used to distinguish between Crohn's disease and ulcerative colitis. However, blood tests alone can't be used to diagnose IBD.

Barium enema

A barium enema is an X-ray exam of the colon and small intestine. In the past, this type of test was often used, but now other tests have largely replaced it.

Flexible sigmoidoscopy and colonoscopy

These procedures use a camera on the end of a thin, flexible probe to look at the colon.

The camera is inserted through the anus. It allows your doctor to look for ulcers, fistulas, and other damage in the rectum and colon.

A colonoscopy can examine the entire length of the large intestine. A sigmoidoscopy examines only the last 20 inches of the large intestine — the sigmoid colon.

During these procedures, a small sample of the bowel wall will sometimes be taken. This is called a biopsy. Examining this biopsy under the microscope can be used to diagnose IBD.

Capsule endoscopy

This test inspects the small intestine, which is much harder to examine than the large intestine. For the test, you swallow a small capsule containing a camera.

As it moves through your small intestine, it takes pictures. Once you've passed the camera in your stool, the pictures can be seen on a computer.

This test is only used when other tests have failed to find the cause of Crohn's disease symptoms.

Plain film or X-ray

A plain abdominal X-ray is used in emergency situations where intestine rupture is suspected.

Computer tomography (CT) and magnetic resonance imaging (MRI)

CT scans are basically computerized X-rays. They create a more detailed image than a standard X-ray. This makes them useful for examining the small intestine. They can also detect complications of IBD.

MRIs use magnetic fields to form images of the body. They're safer than X-rays. MRIs are especially helpful in examining soft tissues and detecting fistulas.

Both MRIs and CT scans can be used to determine how much of the intestine is affected by IBD.

How is inflammatory bowel disease treated?

There are a number of different treatments for IBD.

Medications

Anti-inflammatory drugs are the first step in IBD treatment. These drugs decrease inflammation of the digestive tract. However, they have many side effects.

Anti-inflammatory drugs used for IBD include standard-dose mesalamine, sulfasalazine and its byproducts, and corticosteroids.

Immune suppressants (or immunomodulators) prevent the immune system from attacking the bowel and causing inflammation.

This group includes drugs that block TNF. TNF is a chemical produced by the immune system that causes inflammation. Excess TNF in the blood is normally blocked, but in people with IBD, higher levels of TNF can lead to more inflammation.

Another medication, tofacitinib (Xeljanz), is a newer option that works in a unique way to reduce inflammation.

Immune suppressants can have many side effects, including rashes and infections.

Antibiotics are used to kill bacteria that may trigger or aggravate IBD symptoms.

Antidiarrheal drugs and laxatives can also be used to treat IBD symptoms.

Buy laxatives now.

Lifestyle choices

Lifestyle choices are important when you have IBD.

Drinking plenty of fluids helps to compensate for those lost in your stool. Avoiding dairy products and stressful situations also improves symptoms.

Exercising and quitting smoking can further improve your health.

Supplements

Vitamin and mineral supplements can help with nutritional deficiencies. For example, iron supplements can treat anemia.

Talk to your doctor before adding any new supplements to your diet. Get iron supplements online.

Surgery

Surgery can sometimes be necessary for people with IBD. Some IBD surgeries include:

closure or removal of fistulas

removal of affected portions of the intestines, for people with Crohn's disease

removal of the entire colon and rectum, for severe cases of ulcerative colitis

Routine colonoscopy is used to monitor for colon cancer, since those with IBD are at a higher risk for developing it.

b. Write a note on Rheumatoid Arthritis.

Arthritis means joint inflammation, but the term is used to describe around 200 conditions that affect joints, the tissues that surround the joint, and other connective tissue. It is a rheumatic condition. The most common form of arthritis is osteoarthritis.

Types:

- ❖ psoriatic arthritis,
- ❖ ankylosing spondylitis, and
- ❖ reactive arthritis.
- ❖ Types of infectious arthritis include septic arthritis and Lyme arthritis.

Symptoms:

Stiffness of the joint can lead to poor function.

Tenderness of the inflamed joint can be present with or without pain.

When large joints are involved, such as the knee, there can be loss of cartilage with limitation of motion from the joint damage.

When arthritis affects the small joints in fingers, there can be bone growth and loss of hand grip and grip strength of the hand associated with stiffness.

Arthritis of weight-bearing joints can lead to difficulty walking from poor joint function and arthritis pain.

- ❖ fever,

- ❖ gland swelling (swollen lymph nodes),
- ❖ weight loss,
- ❖ fatigue,
- ❖ feeling unwell, and
- ❖ even symptoms from abnormalities of organs such as the lungs, heart, or kidneys.

c. Write a note on Syphilis.

Syphilis is a bacterial infection usually spread by sexual contact. The disease starts as a painless sore — typically on your genitals, rectum or mouth. Syphilis spreads from person to person via skin or mucous membrane contact with these sores.

Stages of syphilis infection

The four stages of syphilis are:

- ❖ primary
- ❖ secondary
- ❖ latent
- ❖ tertiary

Syphilis is most infectious in the first two stages.

When syphilis is in the hidden, or latent, stage, the disease remains active but often with no symptoms. Tertiary syphilis is the most destructive to health.

Primary syphilis

The primary stage of syphilis occurs about three to four weeks after a person contracts the bacteria. It begins with a small, round sore called a chancre. A chancre is painless, but it's highly infectious. This sore may appear wherever the bacteria entered the body, such as on or inside the mouth, genitals, or rectum.

On average, the sore shows up around three weeks after infection, but it can take between 10 and 90 days to appear. The sore remains for anywhere between two to six weeks.

Syphilis is transmitted by direct contact with a sore. This usually occurs during sexual activity, including oral sex.

Secondary syphilis

Skin rashes and a sore throat may develop during the second stage of syphilis. The rash won't itch and is usually found on the palms and soles, but it may occur anywhere on the body. Some people don't notice the rash before it goes away.

Other symptoms of secondary syphilis may include:

- ❖ headaches

- ❖ swollen lymph nodes
- ❖ fatigue
- ❖ fever
- ❖ weight loss
- ❖ hair loss
- ❖ aching joints

These symptoms will go away whether or not treatment is received. However, without treatment, a person still has syphilis.

Secondary syphilis is often mistaken for another condition.

Latent syphilis

The third stage of syphilis is the latent, or hidden, stage. The primary and secondary symptoms disappear, and there won't be any noticeable symptoms at this stage. However, the bacteria remain in the body. This stage could last for years before progressing to tertiary syphilis.

Tertiary syphilis

The last stage of infection is tertiary syphilis. According to the Mayo Clinic, approximately 15 to 30 percent of people who don't receive treatment for syphilis will enter this stage. Tertiary syphilis can occur years or decades after the initial infection. Tertiary syphilis can be life-threatening. Some other potential outcomes of tertiary syphilis include:

- ❖ blindness
- ❖ deafness
- ❖ mental illness
- ❖ memory loss
- ❖ destruction of soft tissue and bone
- ❖ neurological disorders, such as stroke or meningitis
- ❖ heart disease
- ❖ neurosyphilis, which is an infection of the brain or spinal cord

Treating and curing syphilis

Primary and secondary syphilis are easy to treat with a penicillin injection. Penicillin is one of the most widely used antibiotics and is usually effective in treating syphilis. People who are allergic to penicillin will likely be treated with a different antibiotic, such as:

- ❖ doxycycline
- ❖ azithromycin
- ❖ ceftriaxone

If Patient have neurosyphilis, you'll get daily doses of penicillin intravenously. This will often require a brief hospital stay. Unfortunately, the damage caused by late syphilis can't be reversed. The bacteria can be killed, but treatment will most likely focus on easing pain and discomfort.

During treatment, make sure to avoid sexual contact until all sores on your body are healed and your doctor tells you it's safe to resume sex.

If you're sexually active, your partner should be treated as well. Don't resume sexual activity until you and your partner have completed treatment.

d. State the Pathophysiology of Tuberculosis.

Tuberculosis (TB) is an infectious disease usually caused by **Mycobacterium tuberculosis (MTB)** bacteria. Tuberculosis generally affects the lungs, but can also affect other parts of the body. Most infections do not have symptoms, in which case it is known as latent tuberculosis.

Sign and Symptoms:

A cough that lasts more than 3 weeks

- ❖ Chest pain
- ❖ Coughing up blood
- ❖ Feeling tired all the time
- ❖ Night sweats
- ❖ Chills
- ❖ Fever
- ❖ Loss of appetite
- ❖ Weight loss

Diagnosis

There are two common tests for tuberculosis, but they don't tell you whether you have latent or active TB:

Skin test. This is also known as the Mantoux tuberculin skin test. A health care worker injects a small amount of fluid into the skin of your lower arm. After 2 or 3 days, they'll check for swelling in your arm to determine your results. If your results are positive, you probably have been infected with TB bacteria. But the results can be false positive. If you've gotten a tuberculosis vaccine called bacillus Calmette-Guerin (BCG), the test could say you have TB when you really don't. The results can also be false negative, saying that you don't have TB when you really do, if your infection is recent. You might get this test more than once.

Blood test. These tests, also called interferon-gamma release assays or IGRAs, measure the response when TB proteins are mixed with a small amount of your blood.

Treatment

Your treatment will depend on whether you have latent TB or active TB.

If you have latent TB, your doctor will probably give you medications to kill the bacteria so you don't develop active TB. If you start to see any of the symptoms of active TB, call your doctor right away.

Your doctor will treat active TB with a combination of medications. You'll take them for 6 to 12 months.

Whether you have latent or active TB, it's important to finish taking all of your medications, even if you feel better after starting them.

SECTION - C

3. Attempt any ONE part of the following: (1*5 = 5)

a. Explain Congestive heart failure.

Congestive heart failure (CHF) is a chronic progressive condition that affects the pumping power of your heart muscles. While often referred to simply as "heart failure," CHF specifically refers to the stage in which fluid builds up around the heart and causes it to pump inefficiently. You have four heart chambers.

Causes:

Coronary artery disease. Coronary artery disease (CAD), a disease of the arteries that supply blood and oxygen to the heart, causes decreased blood flow to the heart muscle. If the arteries become blocked or severely narrowed, the heart becomes starved for oxygen and nutrients.

Heart attack. A heart attack occurs when a coronary artery becomes suddenly blocked, stopping the flow of blood to the heart muscle. A heart attack damages the heart muscle, resulting in a scarred area that does not function properly.

Cardiomyopathy. Damage to the heart muscle from causes other than artery or blood flow problems, such as from infections or alcohol or drug abuse.

Conditions that overwork the heart. Conditions including high blood pressure, valve disease, thyroid disease, kidney disease, diabetes, or heart defects present at birth can all cause heart failure. In addition, heart failure can occur when several diseases or conditions are present at once

Symptoms

Heart failure **signs and symptoms** may include:

- ❖ Shortness of breath (dyspnea) when you exert yourself or when you lie down
- ❖ Fatigue and weakness
- ❖ Swelling (edema) in your legs, ankles and feet
- ❖ Rapid or irregular heartbeat
- ❖ Reduced ability to exercise
- ❖ Persistent cough or wheezing with white or pink blood-tinged phlegm
- ❖ Increased need to urinate at night
- ❖ Swelling of your abdomen (ascites)
- ❖ Very rapid weight gain from fluid retention
- ❖ Lack of appetite and nausea
- ❖ Difficulty concentrating or decreased alertness
- ❖ Sudden, severe shortness of breath and coughing up pink, foamy mucus
- ❖ Chest pain if your heart failure is caused by a heart attack

Prevention

The key to preventing heart failure is to reduce your risk factors. You can control or eliminate many of the risk factors for heart disease — high blood pressure and coronary artery disease, for example — by making lifestyle changes along with the help of any needed medications.

Lifestyle changes you can make to help prevent heart failure include:

- ❖ Not smoking
- ❖ Controlling certain conditions, such as high blood pressure and diabetes
- ❖ Staying physically active
- ❖ Eating healthy foods
- ❖ Maintaining a healthy weight
- ❖ Reducing and managing stress

Diagnosis:

- ❖ Blood tests.
- ❖ Chest X-ray
- ❖ Electrocardiogram (ECG).
- ❖ Echocardiogram.
- ❖ Stress test.
- ❖ Cardiac computerized tomography (CT) scan
- ❖ Magnetic resonance imaging (MRI).
- ❖ Coronary angiogram.
- ❖ Myocardial biopsy.

Treatment

Medications

Angiotensin-converting enzyme (ACE) inhibitors. These drugs help people with systolic heart failure live longer and feel better. ACE inhibitors are a type of vasodilator, a drug that widens blood vessels to lower blood pressure, improve blood flow and decrease the workload on the heart. Examples include enalapril (Vasotec), lisinopril (Zestril) and captopril (Capoten).

Angiotensin II receptor blockers. These drugs, which include losartan (Cozaar) and valsartan (Diovan), have many of the same benefits as ACE inhibitors. They may be an alternative for people who can't tolerate ACE inhibitors.

Beta blockers. This class of drugs not only slows your heart rate and reduces blood pressure but also limits or reverses some of the damage to your heart if you have systolic heart failure. Examples include carvedilol (Coreg), metoprolol (Lopressor) and bisoprolol (Zebeta).

These medicines reduce the risk of some abnormal heart rhythms and lessen your chance of dying unexpectedly. Beta blockers may reduce signs and symptoms of heart failure, improve heart function, and help you live longer.

Diuretics. Often called water pills, diuretics make you urinate more frequently and keep fluid from collecting in your body. Diuretics, such as furosemide (Lasix), also decrease fluid in your lungs so you can breathe more easily.

Aldosterone antagonists. These drugs include spironolactone (Aldactone) and eplerenone (Inspra). These are potassium-sparing diuretics, which also have additional properties that may help people with severe systolic heart failure live longer.

Digoxin (Lanoxin). This drug, also referred to as digitalis, increases the strength of your heart muscle contractions. It also tends to slow the heartbeat. Digoxin reduces heart failure symptoms in systolic heart failure. It may be more likely to be given to someone with a heart rhythm problem, such as atrial fibrillation.

b. Give the Pathophysiology of **Hypertension**.

High blood pressure is a common condition in which the long-term force of the blood against your artery walls is high enough that it may eventually cause health problems, such as heart disease.

Symptoms

Most people with high blood pressure have **no signs or symptoms**, even if blood pressure readings reach dangerously high levels.

A few people with high blood pressure may have **headaches, shortness of breath** or nosebleeds, but these signs and symptoms aren't specific and usually don't occur until high blood pressure has reached a severe or life-threatening stage.

Causes

There are two types of high blood pressure.

1.Primary (essential) hypertension

For most adults, there's no identifiable cause of high blood pressure. This type of high blood pressure, called primary (essential) hypertension, tends to develop gradually over many years.

2.Secondary hypertension

Some people have high blood pressure caused by an underlying condition. This type of high blood pressure, called secondary hypertension, tends to appear suddenly and cause higher blood pressure than does primary hypertension. Various conditions and medications can lead to secondary hypertension, including:

- ❖ Obstructive sleep apnea
- ❖ Kidney problems
- ❖ Adrenal gland tumors
- ❖ Thyroid problems
- ❖ Certain defects you're born with (congenital) in blood vessels
- ❖ Certain medications, such as birth control pills, cold remedies, decongestants, over-the-counter pain relievers and some prescription drugs

Illegal drugs, such as cocaine and amphetamines

Treatment

Changing your lifestyle can go a long way toward controlling high blood pressure. Your doctor may recommend you make lifestyle changes including:

- ❖ Eating a heart-healthy diet with less salt
- ❖ Getting regular physical activity
- ❖ Maintaining a healthy weight or losing weight if you're overweight or obese
- ❖ Limiting the amount of alcohol, you drink

But sometimes lifestyle changes aren't enough. In addition to diet and exercise, your doctor may recommend medication to lower your blood pressure.

Your blood pressure treatment goal depends on how healthy you are.

Your blood pressure treatment goal should be less than 130/80 mm Hg if:

You're a healthy adult age 65 or older

You're a healthy adult younger than age 65 with a 10 percent or higher risk of developing cardiovascular disease in the next 10 years

You have chronic kidney disease, diabetes or coronary artery disease

4. Attempt any ONE part of the following: (1*5 = 5)

a. Explain Urinary Tract Infection.

A urinary tract infection (UTI) is an infection from microbes. These are organisms that are too small to be seen without a microscope. Most UTIs are caused by bacteria, but some are caused by fungi and in rare cases by viruses. UTIs are among the most common infections in humans.

A UTI can happen anywhere in your urinary tract. Your urinary tract is made up of your kidneys, ureters, bladder, and urethra. Most UTIs only involve the urethra and bladder, in the lower tract. However, UTIs can involve the ureters and kidneys, in the upper tract. Although upper tract UTIs are rarer than lower tract UTIs, they're also usually more severe.

UTI symptoms

Symptoms of a UTI depend on what part of the urinary tract is infected.

Lower tract UTIs affect the urethra and bladder. Symptoms of a lower tract UTI include:

burning with urination

increased frequency of urination without passing much urine

increased urgency of urination

bloody urine

cloudy urine

urine that looks like cola or tea

urine that has a strong odor

pelvic pain in women

rectal pain in men

UTI treatment

Treatment of UTIs depends on the cause. Your doctor will be able to determine which organism is causing the infection from the test results used to confirm the diagnosis.

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

In some cases, viruses or fungi are the causes. Viral UTIs are treated with medications called antivirals. Often, the antiviral cidofovir is the choice to treat viral UTIs. Fungal UTIs are treated with medications called antifungals.

b. Explain Cancer & COPD.

Cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. These contrast with benign tumors, which do not spread.

Cancer is the uncontrolled growth of abnormal cells anywhere in a body. These abnormal cells are termed cancer cells, malignant cells, or tumor cells. These cells can infiltrate normal body tissues. Many cancers and the abnormal cells that compose the cancer tissue are further identified by the name of the tissue that the abnormal cells originated from (for example, breast cancer, lung cancer, colorectal cancer). Cancer is not confined to humans; animals and other living organisms can get cancer. Below is a schematic that shows normal cell division and how when a cell is damaged or altered without repair to its system, the cell usually dies. Also shown is what occurs when such damaged or unrepaired cells do not die and become cancer cells and show uncontrolled division and growth -- a mass of cancer cells develop. Frequently, cancer cells can break away from this original mass of cells, travel through the blood and lymph systems, and lodge in other organs where they can again repeat the uncontrolled growth cycle. This process of cancer cells leaving an area and growing in another body area is termed metastatic spread or metastasis. For example, if breast cancer cells spread to a bone, it means that the individual has

metastatic breast cancer to bone. This is not the same as "bone cancer," which would mean the cancer had started in the bone.

Chronic obstructive pulmonary disease (COPD) is a common lung disease. Having COPD makes it hard to breathe. There are two main forms of COPD: Chronic bronchitis, which involves a long-term cough with mucus. Emphysema, which involves damage to the lungs over time.

Chronic obstructive pulmonary disease, commonly referred to as COPD, is a group of progressive lung diseases. The most common are emphysema and chronic bronchitis. Many people with COPD have both of these conditions.

Emphysema slowly destroys air sacs in your lungs, which interferes with outward air flow. Bronchitis causes inflammation and narrowing of the bronchial tubes, which allows mucus to build up.

The top cause of COPD is tobacco smoking. Long-term exposure to chemical irritants can also lead to COPD. It's a disease that usually takes a long time to develop.

Diagnosis usually involves imaging tests, blood tests, and lung function tests.

There's no cure for COPD, but treatment can help ease symptoms, lower the chance of complications, and generally improve quality of life. Medications, supplemental oxygen therapy, and surgery are some forms of treatment.

Untreated, COPD can lead to a faster progression of disease, heart problems, and worsening respiratory infections.

It's estimated that about 30 million people in the United States have COPD. As many as half are unaware that they have it.

5. Attempt any ONE part of the following:

(1*5 = 5)

a. Explain Angina Pectoris.

Angina pectoris is the medical term for chest pain or discomfort due to coronary heart disease. It occurs when the heart muscle doesn't get as much blood as it needs. This usually happens because one or more of the heart's arteries is narrowed or blocked, also called ischemia

Angina is a type of chest pain caused by reduced blood flow to the heart. Angina (an-JIE-nuh or AN-juh-nuh) is a symptom of coronary artery disease.

Angina, which may also be called angina pectoris, is often described as squeezing, pressure, heaviness, tightness or pain in your chest. Some people with angina symptoms describe angina as feeling like a vise is squeezing their chest or feeling like a heavy weight has been placed on their

chest. Angina may be a new pain that needs evaluation by a doctor, or recurring pain that goes away with treatment.

Angina symptoms include:

- ❖ Chest pain or discomfort, possibly described as pressure, squeezing, burning or fullness
- ❖ Pain in your arms, neck, jaw, shoulder or back accompanying chest pain
- ❖ Nausea
- ❖ Fatigue
- ❖ Shortness of breath
- ❖ Sweating
- ❖ Dizziness

Characteristics of stable angina

Develops when your heart works harder, such as when you exercise or climb stairs

Can usually be predicted and the pain is usually similar to previous types of chest pain you've had

Lasts a short time, perhaps five minutes or less

Disappears sooner if you rest or use your angina medication

The severity, duration and type of angina can vary. New or different symptoms may signal a more dangerous form of angina (unstable angina) or a heart attack.

Characteristics of unstable angina (a medical emergency)

Occurs even at rest

Is a change in your usual pattern of angina

Is unexpected

Is usually more severe and lasts longer than stable angina, maybe 30 minutes or longer

May not disappear with rest or use of angina medication

Might signal a heart attack

Treatment

There are many options for angina treatment, including lifestyle changes, medications, angioplasty and stenting, or coronary bypass surgery. The goals of treatment are to reduce the frequency and severity of your symptoms and to lower your risk of a heart attack and death.

However, if you have unstable angina or angina pain that's different from what you usually have, such as occurring when you're at rest, you need immediate treatment in a hospital.

Lifestyle changes

If your angina is mild, lifestyle changes may be all you need. Even if your angina is severe, making lifestyle changes can still help. Changes include:

If you smoke, stop smoking. Avoid exposure to secondhand smoke.

If you're overweight, talk to your doctor about weight-loss options.

Eat a healthy diet with limited amounts of saturated fat, lots of whole grains, and many fruits and vegetables.

Talk to your doctor about starting a safe exercise plan.

Because angina is often brought on by exertion, it's helpful to pace yourself and take rest breaks.

Treat diseases or conditions that can increase your risk of angina, such as diabetes, high blood pressure and high blood cholesterol.

Avoid large meals that make you feel overly full.

Avoiding stress is easier said than done, but try to find ways to relax. Talk with your doctor about stress-reduction techniques.

Limit alcohol consumption to two drinks or fewer a day for men, and one drink a day or less for women.

Medications

If lifestyle changes alone don't help your angina, you may need to take medications. These may include:

Nitrates. Nitrates are often used to treat angina. Nitrates relax and widen your blood vessels, allowing more blood to flow to your heart muscle.

You might take a nitrate when you have angina-related chest discomfort, before doing something that normally triggers angina (such as physical exertion) or on a long-term preventive basis. The most common form of nitrate used to treat angina is with nitroglycerin tablets put under your tongue.

Aspirin. Aspirin reduces the ability of your blood to clot, making it easier for blood to flow through narrowed heart arteries. Preventing blood clots can also reduce your risk of a heart attack. But don't start taking a daily aspirin without talking to your doctor first.

Clot-preventing drugs. Certain medications such as clopidogrel (Plavix), prasugrel (Effient) and ticagrelor (Brilinta) can help prevent blood clots from forming by making your blood platelets less likely to stick together. One of these medications may be recommended if you can't take aspirin.

Beta blockers. Beta blockers work by blocking the effects of the hormone epinephrine, also known as adrenaline. As a result, the heart beats more slowly and with less force, thereby

reducing blood pressure. Beta blockers also help blood vessels relax and open up to improve blood flow, thus reducing or preventing angina.

Statins. Statins are drugs used to lower blood cholesterol. They work by blocking a substance your body needs to make cholesterol.

They may also help your body reabsorb cholesterol that has accumulated in plaques in your artery walls, helping prevent further blockage in your blood vessels. Statins also have many other beneficial effects on your heart arteries.

Calcium channel blockers. Calcium channel blockers, also called calcium antagonists, relax and widen blood vessels by affecting the muscle cells in the arterial walls. This increases blood flow in your heart, reducing or preventing angina.

Blood pressure-lowering medications. If you have high blood pressure, diabetes, signs of heart failure or chronic kidney disease, your doctor will likely prescribe a medication to bring your blood pressure down. There are two main classes of drugs to treat blood pressure: angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs).

Ranolazine (Ranexa). Ranexa can be used alone or with other angina medications, such as calcium channel blockers, beta blockers or nitroglycerin.

b. Write a note on Jaundice

Jaundice is a condition in which the skin, whites of the eyes and mucous membranes turn yellow because of a high level of bilirubin, a yellow-orange bile pigment. Jaundice has many causes, including hepatitis, gallstones and tumors. In adults, jaundice usually does not need to be treated.

Treatment will depend on the underlying cause.

Jaundice treatment targets the cause rather than the jaundice symptoms.

The following treatments are used:

Anemia-induced jaundice may be treated by boosting the amount of iron in the blood by either taking iron supplements or eating more iron-rich foods. Iron supplements are available for purchase online.

Hepatitis-induced jaundice requires antiviral or steroid medications.

Doctors can treat obstruction-induced jaundice by surgically removing the obstruction.

If the jaundice has been caused by use of a medication, treatment for involves changing to an alternative medication.

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Prevention

Jaundice is related to liver function. It is essential that people maintain the health of this vital organ by eating a balanced diet, exercising regularly, and not consuming more than the recommended amounts of alcohol.