18/MHS07/044

ANA 202

Assignment:

1. You will be provided with a video, watch it and use it to describe the heart and its functions

**2. Write on five (5) different congenital anomalies of the heart**

ANSWER

1. The heart is a muscle about the size of ones fist. it lies behind the sternum. the heart pumps blood for vessels, arteries and veins to all parts of the body. the inside of the heart is divided into four chambers. The top two chambers are called the ATRIA, they are responsible for collecting blood while the bottom chambers are called the VENTRICLES and are responsible for receiving blood from the atria and pump it into the lungs and the body. the chambers are separated by valves that control the direction of blood flow. there are four types of valves; tricuspid, pulmonary, aortic, mitral. Circulation begins from the right part of the heart where blood goes to the right atrium, the blood then goes to the right ventricles where it is pumped to the lungs to receive oxygen. the oxygen then flows to the left atrium before the left ventricle where it is pumped to the rest of the body. On the right side of the heart, the tricuspid valve separates the right atrium and the right ventricle, stopping blood from flowing back to the atrium. On the left side of the heart, the mitral valve separates the atrium and the ventricles. Blood flows from the left ventricle to the aorta through the aortic valve and to the rest of the body. Arteries carry oxygenated blood to the body while veins carry deoxygenated blood back to the heart then is pumped to the lungs to be oxygenated. the culinary artery provides oxygen and nutrient to the heart muscle. The right culinary arteries supplies blood to the back and bottom of the heart while the left culinary artery splits into two vessels; one branch supplies blood to the front of the heart and the other branch supplies blood to the left side of the heart. An electric system transmits signals throughout the heart to control its pump. it Starts in the SA node and passes down to the AV node. In ventricles, pathways carry signals throughout the muscle so they contract at the same time to pump blood to the lungs and the blood.
2. **Congenital anomalities.**
3. **Atrial septal defect (ASD)** is a hole in the wall (septum) between the two upper chambers of your heart (atria). The condition is present at birth (congenital).

Small defects might be found by chance and never cause a problem. Some small atrial septal defects close during infancy or early childhood.

The hole increases the amount of blood that flows through the lungs. A large, long-standing atrial septal defect can damage your heart and lungs. Surgery or device closure might be necessary to repair atrial septal defects to prevent complications.

Symptoms

Many babies born with atrial septal defects have no signs or symptoms. Signs or symptoms can begin in adulthood.

Atrial septal defect signs and symptoms can include:

• Shortness of breath, especially when exercising

• Fatigue

• Swelling of legs, feet or abdomen

• Heart palpitations or skipped beats

• Stroke

• Heart murmur, a whooshing sound that can be heard through a stethoscope

There are several types of atrial septal defects, including:

• Secundum. This is the most common type of ASD and occurs in the middle of the wall between the atria (atrial septum).

• Primum. This defect occurs in the lower part of the atrial septum and might occur with other congenital heart problems.

• Sinus venosus. This rare defect usually occurs in the upper part of the atrial septum and is often associated with other congenital heart problems.

• Coronary sinus. In this rare defect, part of the wall between the coronary sinus — which is part of the vein system of the heart — and the left atrium is missing.

B. **Coarctation of the aorta** Coarctation of the aorta — or aortic coarctation — is a narrowing of the aorta, the large blood vessel that branches off your heart and delivers oxygen-rich blood to your body. When this occurs, your heart must pump harder to force blood through the narrowed part of your aorta.

Coarctation of the aorta is generally present at birth (congenital). The condition can range from mild to severe, and might not be detected until adulthood, depending on how much the aorta is narrowed.

Coarctation of the aorta often occurs along with other heart defects. While treatment is usually successful, the condition requires careful lifelong follow-up.

Symptoms

Coarctation of the aorta symptoms depend on the severity of the condition. Most people don't have symptoms. Children with serious aortic narrowing may show signs and symptoms earlier in life, but mild cases with no symptoms might not be diagnosed until adulthood. People may also have signs or symptoms of other heart defects that they have along with coarctation of the aorta.

Babies with severe coarctation of the aorta may begin having signs and symptoms shortly after birth. These include:

• Pale skin

• Irritability

• Heavy sweating

• Difficulty breathing

• Difficulty feeding

Left untreated, aortic coarctation in babies might lead to heart failure or death.

C. **Atrioventricular canal defect** is a combination of heart problems resulting in a defect in the center of the heart. The condition occurs when there's a hole between the heart's chambers and problems with the valves that regulate blood flow in the heart.

Sometimes called endocardial cushion defect or atrioventricular septal defect, atrioventricular canal defect is present at birth (congenital). The condition is often associated with Down syndrome.

Atrioventricular canal defect allows extra blood to flow to the lungs. The extra blood forces the heart to overwork, causing the heart muscle to enlarge.

Untreated, atrioventricular canal defect can cause heart failure and high blood pressure in the lungs. Doctors generally recommend surgery during the first year of life to close the hole in the heart and to reconstruct the valves.

Symptoms

Atrioventricular canal defect can involve only the two upper chambers of the heart (partial) or all four chambers (complete). In either type, extra blood circulates in the lungs.

**Complete atrioventricular canal defect**

Signs and symptoms usually develop in the first several weeks of life. These signs and symptoms are generally similar to those associated with heart failure and might include:

• Difficulty breathing or rapid breathing

• Wheezing

• Fatigue

• Lack of appetite

• Poor weight gain

• Pale skin color

• Bluish discoloration of the lips and skin

• Excessive sweating

• Irregular or rapid heartbeat

• Swelling in the legs, ankles and feet (edema)

**Partial atrioventricular canal defect**

Signs and symptoms might not appear until early adulthood and might be related to complications that develop as a result of the defect. These signs and symptoms can include:

• Abnormal heartbeat (arrhythmia)

• Shortness of breath

• High blood pressure in the lungs (pulmonary hypertension)

• Heart valve problems

• Heart failure

D. **Ebstein anomaly** is a rare heart defect that's present at birth (congenital). In this condition, your tricuspid valve is in the wrong position and the valve's flaps (leaflets) are the incorrect shape. As a result, the valve does not work properly.

Blood might leak back through the valve, making your heart work less efficiently. Ebstein anomaly can also lead to enlargement of the heart and heart failure.

If you have no signs or symptoms associated with Ebstein anomaly, regular monitoring of your heart might be all you need. You might need treatment if signs and symptoms bother you or if your heart is enlarging or weakening. Treatment options include medications and surgery.

Symptoms

Mild forms of Ebstein anomaly might not cause symptoms until later in adulthood. Signs and symptoms might include:

• Shortness of breath, especially with exertion

• Fatigue

• Heart palpitations or abnormal heart rhythms (arrhythmias)

• A bluish discoloration of the lips and skin caused by low oxygen (cyanosis)

E. **Pulmonary valve stenosis** is a condition in which a deformity on or near your pulmonary valve narrows the pulmonary valve opening and slows the blood flow. The pulmonary valve is located between the lower right heart chamber (right ventricle) and the pulmonary arteries. Adults occasionally have pulmonary valve stenosis as a complication of another illness, but mostly, pulmonary valve stenosis develops before birth as a congenital heart defect.

Pulmonary valve stenosis ranges from mild and without symptoms to severe. Mild pulmonary stenosis doesn't usually worsen over time, but moderate and severe cases may worsen and require surgery. Fortunately, treatment is generally highly successful, and most people with pulmonary valve stenosis can expect to lead normal lives.

Symptoms

Pulmonary valve stenosis signs and symptoms vary, depending on the extent of the obstruction. People with mild pulmonary stenosis usually don't have symptoms. Those with more significant stenosis often may first notice symptoms while exercising.

Pulmonary valve stenosis signs and symptoms may include:

• Heart murmur — an abnormal whooshing sound heard using a stethoscope, caused by turbulent blood flow

• Fatigue

• Shortness of breath, especially during exertion

• Chest pain

• Loss of consciousness (fainting)