My assignment

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Questions

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

Answers

1. The heart

The heart is a muscle, located behind the left side of the breast and the sternum. An average size of the human heart is the size of the fist. The heart is divided into four chambers,

a. The left ventricle,
b. The right ventricles,
c. The left atrium,
d. The right atrium.

The atrium of the heart serves as the collection area of blood in the body, while the ventricles are the ones that receives blood from the atrium then pumps it round the body

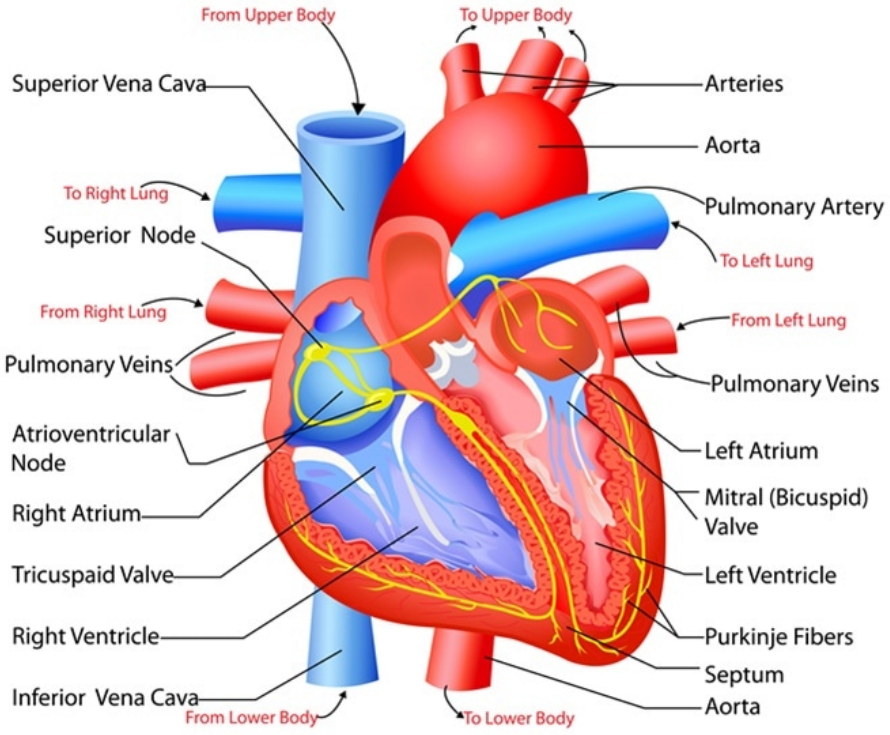
These heart chambers are separated by structures called “valves”
Valves are put in place to prevent back flow of blood from one chamber to the other.
There are also four valves present , they are;

A. Tricuspid valve,
b. Pulmonic valve,
c. Mitral valve,
d. Aortic valve.

Each of these valves serve the same function according to their region.

The tricuspid valve: this valve is located at the right, and separates the right ventricle from the right atrium. The valve allows blood flow into the ventricles but not allowing the back flow of blood into the atrium.

The pulmonic valve: this valve allows the flow of blood into the lungs



The mitral valve: this valve separates the left atrium and left ventricles, then blood flows from the left ventricle to the aorta.

The aortic valve; allows the flow of blood from the left ventricles into the aorta then round the body

Circulation of the blood round the heart starts from the right, where the blood from the body goes to the right atrium, then passes to the right ventricles where it is pumped to the lungs to receive oxygen. When the oxygen is received from the lungs, it then flows to the left atrium and then to the left ventricles, then from there it is pumped to the aorta by passing the aortic valve direction into the rest of the body.

Arteries of the heart

The arteries of the heart carry oxygenated blood and other nutrients throughout the body. There are two parts of the arteries that supply the heart with blood, these arteries are known as " coronary arteries". These arteries provide nutrients and oxygen to the heart muscle. There are two parts of the coronary artery

a. The right coronary arteries- they supply blood to the bottom and back of the heart.
b. The left coronary arteries- these arteries splits into two vessels, one branch supplies the front of the heart and the other branch supplies the left side of the heart.

Veins of the heart

The veins of the heart take blood back to the heart which then pumps into the lungs to be oxygenated.

The nerve tissue of the heart

The pumping of the heart is controlled by “electric signals” these electric signals start from the right which is known as the “sinoatrial nodes or S.A nodes” . The S.A nodes are known as the pacemakers of the heart . These electric signals then run down to the atrioventricular nodes , which controls the signals causing the atrium to contract before the ventricles . In the ventricles pathway signals are carried throughout the muscle so that they contract at the same time to pump blood to the lungs and through the body.

Function of the Heart

The heart is the main organ in the circulatory system, the structure primarily responsible for delivering the circulation of blood and transportation of nutrients in all parts of the body. This continuous task uplifts the role of the heart as a vital organ whose normal operation is constantly required.

2. Congenital anomalities of the heart

A. Hole in the Heart (Septal Defect)

This means you’re born with a hole in the wall, or septum, that separates the left and right sides of your heart. The hole lets blood from the two sides mix.

B. Atrial Septal Defect (ASD)

An ASD is a hole in the wall between the upper chambers, or the right and left atria, of your heart. A hole here lets blood from the left atrium mix with blood in the right atrium.

C.Complete Atrioventricular Canal Defect (CAVC)

This is the most serious septal defect. It’s when you have a hole in your heart that affects all four chambers.

A CAVC prevents oxygen-rich blood from going to the right places in your body. Your doctor can repair it with patches. But some people need more than one surgery to treat it.

D.Ventricular Septal Defect (VSD)

A VSD is a hole in the part of your septum that separates your heart’s lower chambers, or ventricles. If you have a VSD, blood gets pumped back to your lungs instead of to your body. A small VSD may also close on its own. But if yours is larger, you may need surgery to repair it.

E. Valve defects

Valves control the flow of blood through your heart’s ventricles and arteries. And some minor heart defects can involve the valves, including:

Stenosis- When your valves become narrow or stiff, and won’t open or allow blood to pass easily.

Regurgitation- Your valves don’t close tightly, which lets your blood leak backward through them.
Atresia- This happens when your valve isn't formed right or has no opening to let your blood pass through. It causes more complicated heart problems.
Ebstein’s anomaly- This is a defect in another heart valve, the tricuspid valve, which may keep it from closing tightly. Babies who have Ebstein’s also often have an atrial septal defect (ASD).
Pulmonary valve stenosis. This is the most common valve defect in newborns. Babies with severe cases often have strained right ventricles. Your doctor can usually treat it with a catheter procedure. She will use a catheter, or thin tube, with a balloon on the end to inflate and stretch open the strained valve.

References
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