

What is Coarctation of the Aorta?

Coarctation of the aorta is a condition where there is a narrowing of the aorta (the large artery that comes out of the heart and supplies blood to all the parts of the body) behind the heart. It can sometimes be seen with other defects of the heart such as Aortic Stenosis, a Ventricular Septal Defect or an abnormal Mitral valve.

About one third of all cases are discovered in the newborn period. Oftentimes these babies are quite sick with rapid breathing and poor color. They can sometimes stop breathing and sometimes die or become brain damaged if not recognized early. These babies require surgery right away in order to allow blood to flow beyond the area of blockage. Usually in young infants we can use a medication called prostaglandin to temporarily keep the coarctation open until the surgery can be done. About one third of the cases are found in babies one month to twelve months of age. These babies will sometimes look quite healthy, but the pediatrician will notice either a murmur or a lack of pulses in the groin (femoral pulse). These children should be repaired at the time of diagnosis, as there is no advantage to waiting. In general the younger a patient is when the coarctation is repaired the more likely they would need to have a repeat procedure done later on. The remaining third of coarctation patients with relatively mild coarctation will be picked up in childhood because of either a murmur or high blood pressure. Sometimes they may complain of pain in their legs when they exercise because not enough blood is flowing to their legs. This is why it is important that the blood pressure in all children be monitored as they grow up. In most cases these children should be repaired at the time of diagnosis.

We are not sure what causes Coarctation of the Aorta. It is known that the entire aorta tends to be a little small in general with these children and this is possibly due to a diminished amount of blood flow through the aorta while it is developing. Coarctation almost always occurs where the ductus arteriosus enters the aorta. In fact, these children will usually remain totally asymptomatic as long as the ductus is open. Coarctation is usually not associated with any other birth defects but can sometimes be seen with Turner's Syndrome. Also it can be seen in some babies with single ventricles.

Right now the most accepted therapy for fixing Coarctation of the Aorta is surgical. There are various types of repairs depending on how narrowed the coarctation is, where it is, and the age of the patient. Many times this can be repaired without the need for a patch. With recent developments in balloon catheters some cardiologists are now using balloons to open up the narrowed area. This has proven most useful with children who have had a recurrence of the narrowing. It is still very controversial in the newborn period. The obvious advantage of this approach is that it avoids the need for surgery. The disadvantage is that this procedure works by actually tearing the wall of the aorta. Another approach has been the use of stents in the older patients and teenagers. If Coarctation is left untreated there is a higher risk of early death from severe hypertension, heart attack and stroke as a young adult. Patients who have Coarctation of the Aorta or who have had it repaired are at a slightly increased risk for infection of the heart and should take antibiotics before dental procedures and other surgeries.

If you have any questions, please ask one of the doctors.

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