

What is Congestive Heart Failure?

Congestive heart failure (CHF) is a term that is used to describe a condition of the heart. In general it means that the heart is not able to pump all of the blood that comes back to it from the body. This causes the heart to enlarge. It does not mean that the heart stops. It does not necessarily mean that the heart is weak, although that is usually the case.

Congestive heart failure can be caused by several things. Most commonly in children CHF is caused by there being an abnormal connection between the right and left side of the heart. This can be from a Ventricular septal defect or a hole between the two ventricles, an ASD or a hole between the artia (two upper chambers of the heart), a Patent Ductus Arteriosus, an AV Canal defect, or Truncus Arteriosus. All of these defects allow an extra amount of blood to flow to the lungs. This condition causes the heart to have to pump an extra volume of blood and if it is enough it can overwhelm the ability of the heart to pump blood. Along the same lines if the Aortic or Mitral valve leak a lot this can cause CHF because the heart cannot pump efficiently. If the valves of the heart are very tight and do not open adequately this can cause the heart to fail because it has to generate very high pressure in order to pump blood. It becomes stopped up.

The next most common cause of CHF is what is called Congestive Cardiomyopathy. This is a condition of the heart where the heart muscle itself does not function properly and cannot squeeze a normal amount of blood out to the body. In pediatrics the most common cause of this is a viral or bacterial infection of the heart muscle itself that causes it to become weak. Sometimes this is a temporary problem. Unfortunately sometimes this can be permanent and progressive and can eventually require a heart transplant for survival. The heart muscle can become weakened for other reasons as well. Some drugs used to treat cancers and leukemia can permanently damage the heart muscle (doxorubicin and its relatives). Rarely, the heart muscle itself can be structurally abnormal as an inherited condition. These tend to be progressive as well.

On occasion the heart muscle can not function well because the coronary artery supply is not adequate. This can be because of an abnormal connection that the child was born with, a blockage due to a clot (like from Kawasaki disease) or rarely as a result of surgical repair of the heart. Vary rarely CHF can be caused by rhythm problems of the heart (too fast or slow) or abnormal connections of the arteries and veins called fistula.

Treatment depends on the cause. If there is a structural problem that can be fixed, then this is the first approach. Medical treatment includes the use of the following medications. 1. Digoxin - is the first approach. This helps to make the heart beat more efficiently (more miles per gallon in terms of energy), 2. Lasix - this is a diuretic (helps remove excess fluid). This helps the heart size to become small and lessens the work needed to pump blood. 3. ACE Inhibitors (Captopril, Vasotec, etc.) - These drugs work to reduce the pressure that the heart has to pump against and allows the heart to squeeze more effectively. 4. Beta Blockers (Tenormin, Carvedilol) - These help to lower the blood pressure and make the heart work less in a similar fashion to ACE Inhibitors. There are some experimental mechanical assist devices available at this time.

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