HEART DISEASE & PREGNANCY

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TRANSPOSITION OF THE GREAT ARTERIES WITH ARTERIAL SWITCH OPERATION

What is it?

Unlike the normal heart (see The Normal Heart), in transposition of the great arteries, the large blood vessels that normally deliver blood to the body (aorta) and lungs (pulmonary artery) are connected to the opposite pumping chamber (ventricle) of the heart. This means that oxygen-rich blood does not get delivered to the body. Without surgery, survival is not possible.

In the early years of heart surgery, this heart condition was corrected with the Mustard or Senning operation. More recently, this condition is corrected using the "Arterial Switch Operation", also known as the Jatene operation. In the arterial switch operation, the two large blood vessels are removed from the heart and reconnected in the correct position.

Because this is a relatively new operation, women with this type of heart repair are only now old enough to start having children.

How safe is it for me to become pregnant?

Pregnancy does require your heart to work harder and pump more fluid (see Cardiovascular Changes During Pregnancy). In women with arterial switch operations, the ability to tolerate these changes primarily depends on the blood supply to the heart muscle, the strength of the heart muscle, the function of the heart valves, and the size of the blood vessel that delivers blood to the body (aorta). Women may be at risk for heart rhythm problems (medical term: arrhythmias), heart failure, or enlargement of the aorta.

Experience with pregnancies in women with transposition of the great arteries who have had arterial switch operation is limited and therefore, close monitoring during pregnancy is recommended.

Every pregnancy carries some risk for complications and this risk may be increased by heart disease. All women have to consider the safety of a pregnancy with their heart disease. Every person's heart condition is different and therefore the safety of pregnancy differs too. Before trying to have a baby, you should discuss your situation with a heart specialist who knows about caring for women with heart disease in pregnancy.

Issues for the mother

Which forms of birth control are safe?

Birth control (medical term: contraceptives) should be discussed with your physician. Estrogen-containing birth control pills and patches are associated with the formation of blood clots. If you have abnormal heart rhythms (medical term: arrhythmias) or artificial heart valves, this form of contraception may not be good for you. There are other types of birth control pills that do not contain estrogen, which may be safer to use. (See Birth Control).

What are my risks if I become pregnant?

In order to determine your risk during pregnancy, you should see your heart specialist before getting pregnant. You may be required to have additional heart tests such as an ultrasound of your heart (medical term: echocardiogram), an exercise test, or a magnetic resonance imaging scan (MRI scan) to better determine the risks of pregnancy.

If you have good heart muscle strength, no valve problems, and a normal-sized aorta (main blood vessel), then you have a good chance of having an uncomplicated pregnancy. Women with weakened heart muscle, artificial heart valves, or a history of heart rhythm problems (medical term: arrhythmias) are at higher risk for developing complications during pregnancy. There are other cardiac issues that can also have an impact on pregnancy risks (see General Considerations). It is very important to see a congenital heart specialist before pregnancy to discuss your risks. If you have not seen a congenital heart specialist before getting pregnant, you should see one as soon as you find out you are pregnant.

Some medications are not safe in pregnancy. Do not stop medications without first checking with your doctor. The best plan is to talk to your doctor about the safety of your medications in pregnancy before you are pregnant. Often, a safer medicine can be used during your pregnancy. If you become pregnant before talking with your doctor, you should contact your doctor as soon as you know you are pregnant. The MOTHERISK website is an excellent resource. (http://www.motherisk.org)

Issues for the baby

Experience with pregnancies in women having a transposition of the great arteries with an arterial switch operation is limited and outcomes for the baby are not well studied.

In the general population, the risk of having a baby with congenital heart disease is about 1%. If a parent has transposition, this risk increases to about 5%. Women with transposition will be offered ultrasound screening of the baby's heart (medical term: fetal echocardiogram) at the end of the fifth month (20 weeks gestation) of pregnancy. The ultrasound can detect most major cardiac defects in the developing baby. Minor defects may not be detected until after birth.

Medical care during pregnancy and delivery

Where should I be followed?

Once pregnant, you should be followed at a center that specializes in high-risk pregnancy. Your specialists will determine how often you need to be seen through your pregnancy.

What can I do and expect during pregnancy?

Your heart specialist will arrange for check up visits during your pregnancy. In addition to your clinic visits, your doctors will likely arrange ultrasounds of your heart (medical term: echocardiograms) to help determine how your heart is doing with pregnancy.

You need to pay attention to symptoms related to your heart. Notify your doctor if you develop symptoms such as shortness of breath, swelling of the legs and/or heart palpitations.

If your symptoms are worrying and you cannot get in touch with your doctor, go to your nearest emergency department. It is helpful to keep a letter from your doctor explaining your condition so that other health care professionals can better help you in an emergency situation.

Labour and delivery should be planned carefully with a team including a specialist in congenital heart disease, an anesthetist, and a high-risk obstetrician. A vaginal delivery is usually recommended. Good pain management is important.