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Hold your hearts, Mums-to-be!

Pregnancy in heart disease is a rare condition but can carry with it significant risks to the mother and fetus.

The prevalence of this condition is found in approximately one to five percent of pregnant women. The most common cardiac conditions range from congenital heart defects like mitral valve prolapse (a disorder in which the heart's mitral valve billows out and does not close properly) to rheumatic heart disease.

With advances in surgical techniques for congenital heart defects correction as well as the common heart valve replacement procedures, more females survive their condition. Increasingly, the incidences of women of childbearing age with cardiac concerns are on the rise. Problems like pulmonary hypertension, Marfan syndrome (an inheritable disorder of connective tissue affecting the cardiovascular system) and cyanotic congenital heart disease (congenital heart defects resulting in low oxygen levels in the blood) form the highest risk group.

Due to the low prevalence and complicated nature of their cardiac conditions, it is therefore necessary that these patients receive specialised care in pregnancy.

Cardiac Defects in Pregnancy

In pregnancy, there are increased demands created by the fetus as well as the hormonal changes brought about by the pregnancy. This causes a significant increase in the amount of blood pumped out of the heart (cardiac output). At rest, cardiac output will increase by 50% from 4 L/minute to 6 L /minute in early pregnancy. During labour, the cardiac output may rise further due to pain and exertion and decreases by within two weeks after delivery. As such, problems like palpitations (sensation of fast beating heart) and high blood pressure are common during pregnancy. These problems, if untreated, may lead to maternal and fetal complications. Up to eight percent of normal gestations may be affected by hypertensive disorders in pregnancy. Some patients with congenital heart defects may be diagnosed for the first time due to the hemo-dynamic stresses of pregnancy.

Monitoring the Heart Condition

Pregnant women may be at increased risk of thromboembolism (complications caused by the formation of blood clots) due to hormonal effects, enlarging uterus and reduced mobility. Thus, the issues of anticoagulation for pregnant women with mechanical heart valves are of a concern to the cardiologist. The drugs used for thinning of the blood must be carefully selected and kept at optimal levels during pregnancy, as different drugs carry different risks. Other issues like abnormal heart rhythms or high risks of having infection in the heart (endocarditis) need to be watched closely as well.

Female patients with a congenital heart defect carry a 2.5% to 18% risk of having a child with congenital heart disease, ranging from a simple lesion to a very complicated heart abnormality. Some rare genetic abnormalities have a 50% risk of transmission to the next generation (Marfan Syndrome and the 22Q11 deletion syndrome - a syndrome that affects the heart as well as other bodily systems). Thus genetic counselling of the patient and spouse should take place before conception.

Specialised Care for Individual Patients

Most doctors are not familiar with the changes that a patient undergoes during pregnancy and the drug therapies that can be employed. Even fewer are familiar with congenital heart disease. Many patients may have been falsely led to believe that they should never conceive due to risk to their and their offsprings' well-being. The care and management of each patient is catered according to the condition of the patient and will differ from patient to patient.

In conclusion, pregnancy in heart disease is rare and needs special attention when it occurs. It needs to be managed by a team of dedicated specialists, consisting of the obstetricians, cardiologist, anaesthetist as well as the neonatologist, who are familiar with its care.



Who should seek advice

1. All women with pre-existing cardiac conditions or congenital heart disease. (Male spouses with congenital heart defects can be referred for genetic counselling)
2. Women with cardiac symptoms during pregnancy (like palpitations, chest pain, breathlessness)
3. Women with hypertension during pregnancy

Our team of doctors trained in specialised care for pregnancy in heart disease includes:

Specialty	Our Doctors	Contact Details
Cardiology	Dr James Yip Consultant Cardiologist	Tel: 6772 2092/6 (appointment line)
Obstetrics & Gynaecology	A/Prof Arijit Biswas Senior Consultant Obstetrician and Gynaecologist	Tel: 6772 2255/2277 (appointment line)
	A/Prof Mary Rauff Senior Consultant Obstetrician and Gynaecologist	
	A/Prof YC Wong Senior Consultant Obstetrician and Gynaecologist	
	Dr Mahesh Choolani Senior Consultant Obstetrician and Gynaecologist	

For more information, please call our Cardiac Care nurses, Margaret Choong (6772 4081) or Michelle Koh (6772 2053).