Magnetic Resonance Imaging (MRI) during Pregnancy

What will the study involve?

This study involves three MRI scans during pregnancy, which will not use contrast agents. At the time of each scan, samples of blood and urine will be taken.

What will each scan involve?

You will lie on a narrow padded bed inside the magnet bore, which is open at each end. You will be asked to lie still and for short periods you may be asked to hold your breath if possible (to prevent movement of your abdomen as the images are being taken). You will be in the scanner for approximately one hour. Images of the distribution of blood flow to your placenta will be gathered during the scan.

Is MRI safe for me during pregnancy?

Safety issues for you are the same as non-pregnant women. The MRI instrument uses a powerful magnet. There are no known risks from the magnet itself to you. However, the magnet can cause metal to move, so you may not be eligible for this study if you have metal in your body (for example: shrapnel, plates, dental metal implants, knee or hip replacements, certain pacemakers). Some people may feel claustrophobic or be bothered by the loud “knocking” noises made by the scanner during its normal operation. You will have the option to lie in a “mock” scanner to determine if you will be comfortable in the magnet. You will also be offered protective earplugs to wear for each scan. If you desire any other accommodations in order to increase your comfort level during the scan, please ask study personnel.

Is MRI safe for my baby during pregnancy?

Thousands of pregnant women have undergone MRI over the past 30 years for clinical care. None of these MRIs indicated that the babies showed any stress during the scan or that the scan affected how they grew and developed after they were born. Although there has been concern that the acoustic noise produced by the scanner may contribute to hearing problems in the baby, many studies have demonstrated that there is no increased risk for hearing impairment as a result of MRI scans during pregnancy. Following recent review of all available human and animal model data, the American College of Obstetricians and Gynecologists’ Committee on Obstetric Practice (Feb 2016) concluded that “there exists no evidence of actual harm” to the fetus following MRI use during pregnancy. Another area of concern for the baby is the use of contrast agents (that help to visualize blood flow) during MRI. Please note that this study does NOT use contrast agents. In fact, one of the key objectives is to validate an MRI protocol that provides an alternative to contrast agent use.

What are the benefits from my participation?

Your participation has the potential to benefit future pregnancies. Our goal is to develop a protocol that can be routinely used to predict adverse outcomes in high-risk pregnancies, allowing doctors to intervene and work towards improving pregnancy outcomes.

For more information on MRI Safety during Pregnancy:

https://www.acog.org/-/media/Committee-Opinions/Committee-on-Obstetric-Practice/co723.pdf?dmc=1&ts=20170921T2137048185