

Hilla university collage

special procedures of GIT

Second stage

By:

Layth Kareem

Ms.c Degree in MRI applications

MR-Gadolinium (Gd)





is a chemical element with the symbol Gd and atomic number 64. Gadolinium is a silvery-white metal when oxidation is removed

The contrast material used in MR called gadolinium is less likely to produce an allergic reaction than the iodine-based materials used for x-rays and CT scanning. Very rarely, patients are allergic to gadolinium-based contrast materials and experience hives anditchy eyes.

Reactions usually are mild and easily controlled by medication. Severe reactions are rare. Nephrogenic systemic fibrosis (NSF), a thickening of the skin, organs and other tissues, is a rare complication in patients with kidney disease that undergo an MRwith contrast material.

Gadolinium-based contrast material may be withheld in some patients with severe kidney disease. There is evidence that tiny traces of gadolinium may be retained in different organs of the body, including the brain, after contrast-enhanced MRI.

While there are no known negative effects from this, your doctor may take gadolinium retention into account when selecting a contrast agent. There are several different gadolinium-based contrast agents available, each with its own safety profile. Decisions on which material to use may be affected by the part of the body being imaged,
the cost of the material and other factors. These decisions are especially important in patients likely to undergo multiple MRI scans with gadolinium-based contrast material, such as pediatric patients, cancer patients and people with multiple sclerosis.

Pregnancy and contrast materials.
Prior to any imaging exam, women should always inform their physician or x-ray technologist if there is any possibility that they are pregnant. Many imaging tests and contrast material administrations are avoided during pregnancy to minimize risk to the baby. For CT imaging, if a pregnant woman must undergo imaging with an iodine-based contrast material
patient should have a discussion with her referring physician and radiologist to understand the potential risks and benefits of the contrast-enhanced scan. For MR imaging, gadolinium contrast material administration is usually avoided due to unknown risk to the baby but may be used when critical information must be obtained that is only available with the use of gadolinium-based contrast material.

when is gadolinium used in MRI?

Gadolinium MRI contrast injections improve diagnostic accuracy in some conditions, such as

inflammatory and infectious diseases of the brain, spine, soft tissues and bones, by making images clearer so that the radiologist can better see what and where the problem is