

患者氏名 :

患者 ID :

Information about Magnetic Resonance Imaging (MRI) Scans with a Contrast Medium

1. Adverse reactions caused by a contrast-enhanced MRI scan

Most contrast media used for MRI scans are gadolinium-containing contrast media. Iron-containing media may be used to examine the liver, depending on the purpose. A contrast examination is not always necessary. The necessity varies depending on the type of disease. Gadolinium-containing contrast media are known to have few adverse effects; however, they may very rarely cause severe adverse reactions. Please understand that a contrast medium is contraindicated for any of the following patients and it could cause any of the following adverse reactions:

(1) Contraindications of the use of contrast media

(cases in which a contrast medium must not be used)

- A patient with hypersensitivity to gadolinium-containing contrast media

(2) Relative contraindications of the use of contrast medium

(cases in which a contrast medium is, in principle, not used; however, it can be used very carefully if necessary)

- Patients with asthma
- Patients with severe hepatopathy or nephropathy
- Patients in very poor general condition

(3) Administration of contrast media with caution: A contrast medium must be administered carefully in any of the following cases:

- Patients with an allergic constitution that causes allergic rhinitis, rashes, and hives, etc.

- Patients who has parents or siblings with any of the following diseases:

(allergies, such as asthma, allergic rhinitis, rashes, or hives)

- Patients with a history of drug hypersensitivity
- Patients with a history or constitution of seizures or epilepsy
- An elderly person, an infant, or a child

(4) Adverse reactions to contrast media

- Mild adverse reactions

【Nausea, palpitations, headaches, itchiness, rashes, etc.】 These do not require treatment in most cases.

- Severe adverse reactions

【Difficulty breathing, loss of consciousness, hypotension, etc.】 These require treatment and their after-effects may remain.

*In some cases, hospitalization or surgery may be required.

*Very rarely, patients may die.

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2. Contrast medium

(1) What is a gadolinium-containing contrast medium?

For an MRI scan, in general, we first take images without a contrast medium (a plain MRI scan). Then we take images after an injection of a contrast medium into a vein (a contrast-enhanced MRI scan). The contrast medium is distributed to blood-rich tissues. The patterns of distribution can be used to diagnose diseases.

*The components of contrast media for MRI scans are totally different than those for CT scans.

Most of the contrast medium is excreted in the urine through the kidneys within one day. Therefore, if your renal function is impaired, it may worsen, in addition to causing a slower excretion of the contrast medium. More attention is needed if your renal function is impaired.

(2) Advantages of contrast-enhanced MRI scans

The combination of a contrast-enhanced MRI scan with a plain MRI scan provides various advantages as described below, and it enables us to diagnose diseases more accurately from the images that are taken. Therefore, even when adverse reactions to contrast medium are more likely to occur, your doctor may recommend a contrast examination if it is necessary for a diagnosis.

- A) Detailed information about blood vessels can be obtained, e.g. to diagnose occlusion, stenosis, vascular malformation, or dissociation, etc., and to understand the relationship between the locations of tumors and blood vessels. (A contrast medium is rarely used for MR angiography (MRA) of the head or neck.)
- B) Information about blood flow in every organ can be obtained, e.g. diagnosis of infarction in a kidney or the spleen.
- C) Mass-forming diseases (e.g. tumors or abscesses) can be easily detected, e.g. detection of tumors in the liver or a kidney.
- D) It is useful to diagnose the characteristics of lesions, e.g. differential diagnosis between a benign and malignant liver tumor, or among a malignant tumor, an angioma, and a cyst.
- E) There are other advantages depending on which type of disease is being examined.

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(3) The MRI scan procedure and precautions for the injection of the contrast medium

During a contrast examination, a radiologist, a radiographer, and a nurse always observe your condition so that they can respond in case something unusual occurs. We will give you a buzzer so that you can let us know immediately if something unusual occurs.

Because the contrast medium is injected with some force, it may leak outside the blood vessel. Please keep your arm still for as long as possible during the scan. Even if the contrast medium leaks out, it will be absorbed over time, and treatment is usually not required. If the leakage is massive, however, treatment may be required, but this happens very rarely.

***By signing below, I confirm that I have read and understood the information provided above.**

Date (YYYY/MM/DD): _____ / _____ / _____

Patient's signature: _____