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Abbreviated Reports

Pruritus and Paresthesia After IV Administration of Gd-DTPA

Since the introduction of gadolinium-DTPA (gadopentate dimeglumine, Magnevist*) for contrast enhancement of MR imaging, no reports of minor or major adverse reactions to this new IV contrast agent have been published. We describe one episode of pruritus and paresthesia that occurred after IV administration of this paramagnetic agent in a patient who was one in a series of 73 patients between July 1988 and October 1988.

Case Report

A 30-year-old woman with a history of occipital headache who previously had had abnormal contrast-enhanced head CT scans underwent MR for further evaluation of a lesion in the temporal lobe. This patient had a history of hay fever, contact allergy to nonprecious metals, and she had had pruritus and throat tightness after IV injection of iodinated contrast material for her head CT examination. She took no medications on a routine basis. The patient tolerated the unenhanced MR study well. Immediately after IV administration of 15 ml (0.1 mmol/kg) of Gd-DTPA, she complained of diffuse pruritus and paresthesia characterized by a burning sensation throughout her body. This lasted approximately 2 hr. At first, the patient did not realize that this episode was related to the contrast material.

A follow-up MR study was requested by the referring physician to determine interval change in the lesion in the temporal lobe, which could only be visualized on contrast-enhanced head CT and MR. On recalling the events after the first MR study, the patient questioned whether her symptoms might be related to the administration of contrast material. After discussions with the referring physician and the patient, we decided to use premedication as a precautionary measure. The patient was given 50 mg of Deltasone (prednisone) at 6 p.m., 9 p.m., and midnight the night before the examination and another 50 mg the morning of the study (total, 200 mg). She also took 300 mg of Tagamet (cimetidine) three times the day before the study and once on the day of the examination (total, 1.2 g) and 50 mg of Benadryl (diphenhydramine) just before the examination.

The patient tolerated the unenhanced part of the second MR study well, and again 15 ml of Gd-DTPA was administered. Subsequently, she had diffuse pruritus and paresthesia but with some delay in their initial onset and with less intensity. The study was completed, and the patient was given 50 mg of Benadryl intramuscularly and then physiologic saline via an IV line after 100 mg of Solu-Cortef (hydrocortisone) by IV push. The symptoms were gone in about 45 min.

* Berlex Laboratories, Wayne, NJ.

Discussion

Gd-DTPA is gaining wide acceptance as a paramagnetic enhancement agent for MR, but because of only recent introduction and approval by the Food and Drug Administration, experience with this agent is still limited. In clinical trials with 410 patients, the most common reported adverse reaction was headache (9.8%); next in order were nausea (4.1%) and vomiting (2%). Pruritus and paresthesias were noted in only 1% of these patients [1]. No significant adverse or toxic reactions have been reported [2–5].

It has been theorized that activation of the complement system by contrast media has been the cause of the anaphylactoid response [6]. Gd-DTPA is a poor activator of the complement system, and this may account for the lack of significant adverse reactions [7].

Our one case of a moderate adverse reaction to Gd-DTPA in a series of 73 patients correlates with the reported prevalence. However, these reactions or more severe reactions may be seen more often as use of Gd-DTPA increases, and radiologists should remain alert to these possibilities.

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