Japan Council for Quality Health Care

Project to Collect Medical Near-Miss/ Adverse Event Information

Medical Safety Information

No. 10, September 2007

Magnetic material (e.g. metal products) taken in the MRI room

Two accidents involving magnetic materials (e.g. metal products) taken in the MRI room have been reported (information collection period, from October 1, 2004 to March 31, 2007; the information is partly included in "Medical Adverse Event Information to Be Shared" in the 9th Quarterly Report).

Ensuring a thorough system to prevent patients and healthcare providers from taking magnetic materials (e.g. metal products) into the MRI room is necessary.

Magnetic materials (e.g. metal products) taken into the MRI room which caused accidents
Oxygen tank
Enamel* tray

* Enamel products are made of metal and glass and therefore magnetic (attracted by magnetic substances).

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Case 1

A patient on oxygen was taken into the MRI room on a gurney from the emergency room. The patient was searched for any metal products upon entering the MRI room, and the patient's dentures and underwear were removed. A clinical radiologist thought the gurney and the oxygen tank were for exclusive use in the MRI room and did not check their identification. When the gurney was moved close to the MRI device in order to move the patient to the platform, the oxygen tank flew out and stuck to the MRI gantry.

Case 2

A nurse prepared a sedative for a child undergoing MRI. The nurse put the sedative into an enamel tray and left it in the anteroom adjacent to the MRI room. A clinical radiologist searched an attending physician and the child for any metal products upon entering the MRI room and found none. The physician took the tray from the anteroom into the MRI room, put it on the platform near the child's feet, and started the sedation procedure. When the child was asleep, the platform was moved to the head of the MRI device to start scanning. The enameled tray placed close to the child's feet was pulled towards the MRI gantry, the used articles in the tray flew out, and some of the articles hit the child which caused a laceration in the child's mouth.

Preventive measures taken at the above institutions

Ensure a thorough checking system to prevent magnetic materials (e.g. metal products) from entering the MRI room.

* As part of the Project to Collect Medical Near-Miss/Adverse Event Information (a Ministry of Health, Labour and Welfare grant project), this medical safety information was prepared based on the cases collected in the Project as well as on expert opinions to prevent occurrence and recurrence of medical near-miss/adverse events. See quarterly reports and annual reports posted on the Japan Council for Quality Health Care website for details of the Project. http://jcqhc.or.jp/html/accident.htm#med-safe
* Accuracy of information was ensured at the time of preparation but can not be guaranteed in the future.
* This safety information is not for limiting the discretion of healthcare providers or for placing certain obligations or responsibilities on them.

Division of Adverse Event Prevention
Japan Council for Quality Health Care
1-4-17 Misakicho, chiyoda-ku, Tokyo 101-0061 JAPAN
Tel:+81-3-5217-0252 Fax:+81-3-5217-0253
http://www.med-safe.jp/