

LETTER TO THE EDITOR

BURNING OF AN ULCERATED BREAST CANCER DURING MRI: A LESSON TO BE LEARNED

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Dear editor,

The use of a breast magnetic resonance imaging (MRI) in the evaluation of cancer is increasing. The absolute contraindications for MRI are well known. Lesser known are the thermal injuries or burns caused by MRI. During a recent breast MRI of a patient with an ulcerated locally advanced breast cancer we did a remarkable observation. Almost directly from the start of the MRI the patient felt a slowly increasing excitation in the left breast together with a warm feeling. Within a few minutes she had the feeling that her left breast was burning. The MRI was stopped and the burning sensation diminished. The MRI was cancelled and no direct cause was found. It was only the next day during the ward round when inspecting her wound that we realized that the zinc oxide ointment, which was used for her wound care, was the likely cause of her burning.

A literature search was done and a comparison was made with cosmetics. Thermal heating has been reported in women having permanent cosmetics like eyeliner and tattoos (1-3). Pigment used for permanent eyeliner or tattoos may contain various heavy metals (lead, copper, zinc, chrome, arsenic, cadmium, barium, mercury, and iron oxide) (1, 3). The burning can occur not only due to iron oxides but also to tattoos free of iron oxide (3). The heating originates from a locally induced electric current (3). Actually any metal can induce an electric current when moving through a high-frequency magnetic field (4).

Cosmetics use can also lead to artifacts during MRI testing if the area on which the product is used is scanned (5). Theoretically wound dressing ointments could have the same effect.

Wound dressings containing zinc oxide ointment can lead to heating, burning and possible artifacts if this

region is scanned by MRI. Based on our finding it is recommended to remove the wound dressing before performing the MRI.

References

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