The exploding tumour on breast magnetic resonance imaging: an infected skin comedo

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ABSTRACT

A 61-year-old woman with a histologically proven invasive lobular carcinoma entered a clinical trial, which involved repeat magnetic resonance imaging (MRI). The protocol of the repeated MRI described a T4 breast cancer with involvement of the skin (Fig 1). There were only 17 days between the first and second MRI and during this short time it appeared that there had been rapid disease progression.

On the initial MRI, a skin comedo could be seen in the left breast close to the tumour. The patient had squeezed the skin comedo, which had become infected. The second MRI captured the infected skin comedo, which had the appearance of an extensive breast cancer with skin involvement. The patient could be mismanaged if the clinician does not correlate the clinical findings with the radiological findings.

KEYWORDS

MRI – Comedo – Mismanaged – Breast – Cancer – Infection

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Case history

The management of a 61-year-old woman with a histologically proven invasive lobular carcinoma (cT3N1M0) was discussed during the multidisciplinary meeting. The patient was advised that she could participate in a clinical trial or accept standard treatment. The patient opted to enter the trial. The trial requested repeat breast magnetic resonance imaging (MRI), which provides a more accurate reflection of the tumour extent in invasive lobular carcinoma. The protocol of the repeated MRI described a T4 breast cancer with involvement of the skin (Fig 1). Surprisingly, there were only 17 days between the first and second MRI and during this short time it appeared that there had been rapid disease progression.

Clinical examination and a closer look at the images solved the mystery. On the initial MRI, a skin comedo could be seen in her left breast close to the tumour (Fig 2). During the process of counselling for the study and while waiting for the additional examination, she squeezed the skin comedo, which became infected. The second MRI captured the infected skin comedo, which had the appearance of an extensive breast cancer with skin involvement (Fig 1). This is the first documentation of an infected breast skin comedo on MRI.

Figure 1 Magnetic resonance image with a hyperintense zone medially in the left breast with extensive skin involvement (arrow points to the skin involvement)

Figure 2 Magnetic resonance image with the skin comedo medially in the left breast (arrow points to the skin comedo)

Discussion

On MRI, it is impossible to differentiate between an infected skin comedo and inflammatory breast cancer. The recommended treatment for the latter is neoadjuvant chemotherapy. The clinical lesson is that you should always re-examine the patient, in case of an unexpected finding, before drawing conclusions and starting treatment. The patient could be mismanaged if the clinician does not correlate the clinical findings with the radiological findings.