Case Report

A Case of Ductal Carcinoma In Situ (DCIS; non-comedo type) Detected by Ultrasonography: Demonstration of Occult Multiple Foci


We report a case of ductal carcinoma in situ (DCIS) of the breast detected by ultrasonographic mass screening in a 51-year-old woman. In a mass screening program for breast cancer, physical examination with inspection and palpation, and ultrasonography (US) were performed. A hypoechoic mass with a slightly irregular margin was detected by US in the lateral upper quadrant of the right breast, at a distance 2 cm from the edge of the nipple. The mass was not detected by physical examinations or by mammography (MMG). The mass, which measured 0.8 x 0.5 cm and was examined by fine needle aspiration biopsy (FNAB) under US guidance, was cytologically diagnosed as class V. Modified radical mastectomy (Auchincloss method) was performed with the patient’s consent. Pathological examination of the resected specimen revealed DCIS (noncomedo type) and occult multiple foci of malignancy which was considered tracking centripetally underneath the nipple. This case suggests that US and FNAB performed under US guidance are useful in the detection and diagnosis, respectively, of a breast mass. We should take multifocality into consideration, particularly with tendency tracking to the nipple, in the treatment of small breast cancers such as DCIS.

Key words: Ductal carcinoma in situ (DCIS), Multifocality and multicentricity, Non-palpable breast cancer, Extensive intraductal component (EIC), Fine needle aspiration biopsy (FNAB) under ultrasonographic guidance

Ductal carcinoma in situ (DCIS) of the breast is an early and non-invasive breast cancer that arises from the ductal epithelium; it is considered a preinvasive phase of ductal carcinoma1). DCIS is detected by mammography (MMG) as a non-palpable calcification, or by biopsy of other lesions as incidental cancer, or by ultrasonography as a non-palpable small mass. With the recent recommendations to employ MMG in breast cancer screening, it is predicted that the detection of early breast cancers such as DCIS will increase2,3). Consequently, subclinical breast cancer will be detected more frequently, and the requirement for breast conservative treatment will increase. However, because of its occult invasion, local recurrence, or multicentricity, it is difficult to select treatment for DCIS, for which disease treatment is not yet standardized. In Japan, although DCIS is not reported frequently, the numbers of detected cases of DCIS will probably increase in future, due to the incorporation of MMG in mass screening.

Recently, we have reported the usefulness of ultrasonography (US) mass screening for breast...
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DCIS Revealing Multifocality by US Detection

cancer and improvement of the detection rate of early and non-palpable breast cancer tumors. Among these, this case is very rare and is the first DCIS case detected by US mass screening. We report a patient with non-invasive and non-palpable breast cancer detected by US mass screening; multiple occult foci were shown on pathology examination.

**Case Report**

**Clinical Course**

The patient was an asymptomatic 51-year-old woman who participated in a mass screening program for breast cancer, in whom physical examination with inspection and palpation, and US examination were employed. A mass, which was not detected by inspection or palpation, or by MMG, was detected by US examination. The US image showed a hypoechoic mass with a slightly irregular margin, measured 0.8 x 0.5 cm, in the lateral upper quadrant of the right breast. The US characteristics were: regular round shape, smooth border, regular fine boundary echo, homogenous internal echo, absent posterior echo, no lateral shadow, and longitudinal transverse ratio < 1 (Fig 1). The image appeared to be a benign lesion. To rule out malignancy, however, we performed a fine needle aspiration biopsy (FNAB) under US guidance, two weeks after the mass screening. The aspirated specimen was cytologically diagnosed as class V. Cytological findings showed many malignant cells and partial cribriform pattern (Fig 2). The patient was admitted for treatment of this lesion. On admission, blood chemistry results, including levels of tumor markers, showed no abnormality. The MMG image revealed no microcalcification or spiculation; the density of the breast tissue was heterogeneous.

Fig 1. US image revealed a hypoechoic mass sized 0.8 x 0.5 cm with slightly irregular margin at lateral upper quadrant of right breast. The US characteristics were as follows: boundary echo, homogenous internal echo, no posterior echo, no lateral shadow and a longitudinal transverse ratio of less than 1.

Fig 2. Cytological findings showed many malignant cells and a partially cribriform pattern.

Fig 3. MMG image revealed heterogeneous density of breast tissues and a fine round macrocalcification, which was confirmed as a benign cyst by US, but no microcalcification or spiculation.