

Unusual presentation of more common disease/injury

An uncommon presentation of ductal carcinoma in situ

Rodney Motindi, Peter Mallon, Stephen Dace

Antrim Area Hospital, Breast Unit, Antrim, UK

Correspondence to Dr Peter Mallon, petermallon@hotmail.com

Summary

A 47-year-old woman presented with 6 weeks history of non-blood-stained nipple discharge. Two separate nipple cytology assessments revealed malignant cells despite normal clinical examination and radiological investigation (mammogram, ultrasound and MRI). The patient elected for a central segmentectomy which revealed a 1.8 cm area of high-grade comedo ductal carcinoma in situ in the subareolar region. The patient made a good postoperative recovery. 6 months follow-up revealed a 5 mm area of new calcification, core biopsy revealed atypical cells. After counselling, the patient elected for bilateral mastectomy which revealed fibrocystic tissue only.

BACKGROUND

This case report demonstrates a rare presentation of ductal carcinoma in situ (DCIS) with non-blood-stained nipple discharge. Preoperative investigations revealed malignant cells in nipple discharge cytology only. All radiological investigations (mammogram, ultrasound and MRI) and core biopsies showed no evidence of malignancy. This suggests that nipple discharge cytology is still important in the triple assessment of patients with breast symptoms.

CASE PRESENTATION

A 47-year-old female was referred to the breast clinic in 2011 with a 6-week history of left nipple discharge. The patient was a non-smoker, postmenopausal, on hormone replacement therapy for 2 years and had no known family history of breast cancer.

On examination, there was no palpable abnormality of either nipple areolar complex (NAC) or breast. Both nipples were mildly retracted but were easily everted. A creamy discharge was expressed from the left nipple.

INVESTIGATIONS

Mammography revealed diffuse widespread calcification of both breasts which appeared benign. Ultrasound of the subareolar region was normal. Cytology of the nipple discharge demonstrated cells that were highly suspicious of malignancy (coded as C5). MRI of both breasts showed generalised benign calcification. A repeat nipple cytology revealed malignant cells (C5) again. Multiple core biopsies were taken from several areas of microcalcification in both breasts and the left subareolar region. All biopsies revealed benign fibrocystic change only. Fine needle aspirations of both left and right axillary lymph nodes were also normal. A staging ultrasound scan of the abdomen was also performed. All radiological investigations and core biopsies showed evidence of malignancy apart from duct cytology.

DIFFERENTIAL DIAGNOSIS

DCIS.

- ▶ Invasive breast cancer.

TREATMENT

In this unusual situation of having malignant cells on nipple discharge but no source identified within the breast, surgical options were discussed with the patient including mastectomy and breast-conserving surgery.

Following consideration, the patient opted for the breast-conserving option and underwent central segmentectomy and sentinel node biopsy. No abnormal breast tissue was palpated intraoperatively. The patient made a good postoperative recovery.

OUTCOME AND FOLLOW-UP

The pathology report revealed a 1.8 cm area of high-grade comedo DCIS within the subareolar ducts, which was in continuity with florid Paget's of the nipple. There was no microcalcification within the DCIS area. All resection margins were clear of malignancy by a minimum of 10 mm. Sentinel node biopsy showed no evidence of malignancy.

A 6 months mammogram follow-up revealed a new 5 mm area of calcification in the left breast. Clinical examination was normal. Core biopsy of this area revealed fibrocystic change with some atypical cells (B3). Repeat MRI confirmed the new 5 mm area of calcification; there were no other changes from previous MRI scan. Several surgical options were discussed with the patient namely localisation excision biopsy, wider excision of margins and the possibility of adjuvant radiotherapy. The patient considered these options; however, she was concerned that there was potentially further cancer in her breasts bilaterally. This concern arose from the fact that the original cancer was radiologically occult. The patient was keen on bilateral mastectomy for complete reassurance. She was counselled and made aware that it was likely there was no further malignancy in her breasts and that bilateral mastectomy was probably unnecessary. She understood

this and proceeded with surgery. The patient underwent bilateral simple mastectomy on February 2012. The pathology report revealed fibrocystic change only in both breasts.

DISCUSSION

Nipple discharge is a common complaint accounting for up to 5% of referrals to the breast clinic.¹ Most women of reproductive age will experience nipple discharge at some point and therefore a detailed history and careful examination will often discriminate normal physiological discharge from pathological disease.²

It has been suggested that the important clinical predictor for malignant disease in patients with nipple discharge is the presence of a palpable lesion,³ age >50⁴ and blood-stained discharge.⁴ The use of cytology for the investigation of non-blood-stained nipple discharge is controversial as malignant disease is rare with normal clinical examination and radiological investigation. Some authors have therefore suggested that nipple cytology is of limited benefit in the assessment of patients with non-blood-stained nipple discharge.^{4,5} This case report, however, demonstrates that duct cytology can play a vital role in the assessment of patients with non-blood-stained nipple discharge.

Learning points

- ▶ Nipple discharge cytology in rare cases still plays an important role in triple assessment.
- ▶ Ductal carcinoma in situ (DCIS) may present with normal clinical and radiological examination.
- ▶ DCIS may present with non-blood-stained nipple discharge.

Competing interest None.

Patient consent Obtained.

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