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Comparison of DCIS and post-surgical local recurrence

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Keywords

DCIS, HER2, local recurrence, p53

Context

With the widespread use of mammographic screening, the detection of ductal carcinoma *in situ* (DCIS) has markedly increased. Surgery is the preferred treatment, and breast conserving surgery is increasingly used. Within the remaining breast tissue, true local recurrences (ie tumour left behind) or new primaries can develop. This study analysed the incidence of second primary tumours and the molecular similarities between the original DCIS and the recurrent disease.

Significant findings

Of 116 recurrences examined, 61 (53%) were DCIS and 55 (47%) were invasive. Of these 116, 103 (89%) occurred near the site of the original resection. Comparing the primary DCIS and the recurrence, concordant histology was found in 62%. Although 11% of the recurrences developed at a distance from the primary DCIS, nearly all these showed the same histological and immunohistochemical profile. Well differentiated DCIS progressed towards poorly differentiated DCIS or grade III invasive carcinoma in 4 cases, whilst in 5 cases poorly differentiated DCIS or grade I invasive carcinoma. Identical marker expression (oestrogen receptor and progesterone receptor status and HER2/neu and p53 overexpression) was found in 45 out of 71 (63%) cases assessed. As, in most cases, primary DCIS and local recurrence were closely related, either histologically or by marker expression, the authors concluded that local recurrence probably reflects outgrowth of residual DCIS.

Comments

This interesting study attempted to unravel the complex relationship between DCIS and subsequent local recurrence. The importance of this issue lies in whether there is a relationship between the grade or molecular characteristics of the primary DCIS and the subsequent local recurrence. If high-grade DCIS increases the possibility of developing high-grade invasive recurrence, then more aggressive management of these primary lesions may well be warranted. Conversely, low-grade primary DCIS lesions might be adequately managed with conservative measures. This study unfortunately lacked large numbers; in particular, only 57 cases had a complete histological and marker expression assessment. One final interesting point was the 41 month median time between primary DCIS removal and invasive disease recurrence, emphasising the importance of prolonged follow-up in these patients.

Methods

Cases were obtained from the EORTC trial 10853, which compared treatment for DCIS with wide local excision versus excision plus radiotherapy; standard immunohistochemistry for oestrogen receptor, progesterone receptor, HER2/neu (3B5 monoclonal antibody), and p53 (D0-7 antibody); review of histology

Additional information

Further reading on DCIS.

1. Gupta SK, Douglas-Jones AG, Fenn N, Morgan JM, Mansel RE: **The clinical behaviour of breast carcinoma is probably determined at the preinvasive stage (ductal carcinoma *in situ*).** *Cancer* 1997, **80**:1740-1745 ([PubMed%20abstract](#)).
2. Lampejo OT, Barnes DM, Smith P, Millis RR: **Evaluation of infiltrating ductal carcinomas with a DCIS component: correlation of the histologic type of the in situ component with grade of the infiltrating component.** *Seminar Diagn Pathol* 1994, **11**:215-222 ([PubMed%20abstract](#)).

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1. Bijker N, Peterse JL, Duchateau L, Robanus-Maandag EC, Bosch CA, Duval C, Pilotti S: Histological type and marker expression of the primary tumour compared with its local recurrence after breast-conserving therapy for ductal carcinoma *in situ*. Br J Cancer . 2001, 84: 539-544.