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Letters

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Comments on *p53* Protein Expression, Cell Proliferation and Steroid Hormone Receptors in Ductal and Lobular *In Situ* Carcinomas of the Breast Rudas *et al.*, *Eur. J. Cancer* 1997, 33, No. 1, 39–44

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WE READ with interest the paper recently published by Rudas and associates [1] in the *European Journal of Cancer* about the use of histoprognostic parameters in *in situ* carcinomas of the breast.

The results we have recently obtained on hormone receptors, p53 and c-erb B-2 protein expression in ductal carcinoma *in situ* (DCIS) of the breast [2, 3] fit with most of the data reported by Rudas and associates [1]. We also found a close relationship between ploidy and the grade of malignancy of DCIS [2, 3]. At variance with the different classification schemes used by Rudas and colleagues [1], we demonstrated the DCIS may be subdivided into three different groups: high, intermediate and low grade taking into consideration just the nuclear grade and the evaluation of necrosis; this classification is significantly correlated with data reported for most of the other parameters, i.e. hormone receptors, p53, c-erb B-2 and ploidy [2, 3]. In our hands, the expression of c-erb B-2 and aneuploidy (namely the Auer's type IV histogram pattern detected by image analysis) constitute additional evidence in favour of the diagnosis of high-grade malignancy [2].

We concur with Rudas and colleagues [1] that nuclear pleomorphism is an important prognosticator in DCIS, but we think the assessment of necrosis as well as the inclusion of an intermediate group of malignancy may also be relevant in the evaluation of DCIS. Our results support the need to include such an intermediate group because there are tumours which express some characteristics of high-grade carcinomas (necrosis and aneuploidy) and some characteristics of the low-grade carcinomas (presence of hormone receptors and rare c-erb B-2 expression) [2]. Moreover, this group has an intermediate clinical behaviour [4] and thus has been integrated in The Van Nuys Prognostic Index for DCIS [5].

There is still the question of whether the biological markers studied by us [2] and Rudas and colleagues [1] may be integrated into any prognostic index for DCIS; a definitive conclusion to this issue requires long-term prospective studies of patients given conservative care. Another interesting point raised by Rudas and colleagues [1] is c-erb B-2 expression in minimal invasive cancers. Their figure of 50% positivity in these cases fits with our previous study showing that DCIS and invasive ductal carcinoma with extensive intraductal component display a higher prevalence of c-erb B-2 immunoreactivity than the pure invasive carcinomas [6]. In our opinion, these findings support a putative role of c-erb B-2 in cell motility and the extent of intraductal carcinomas rather than in the early steps of stromal invasion. In fact, De Potter and co-workers [7] demonstrated that c-erb B-2 expression correlates with the extent of DCIS and suggested that this relationship is a consequence of the effect of the c-erb B-2 protein on cell motility. Taking all this in consideration, it is tempting to suggest that c-erb B-2 is a strong candidate for incorporation as a biological marker in the Van Nuys Prognostic Index for DCIS.

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