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CORRESPONDENCE

Id-1 expression and prognosis in cancer: do antibodies matter?

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To the editor:

We have read with great interest the recently published review by Gomez-Raposo et al. [1] regarding angiogenic factors with prognostic value in ovarian cancer.

As mentioned in the manuscript, inhibitor of differentiation-1 (Id1) has been shown to play a critical role in tumour angiogenesis [2]. Other functions in which Id1 is involved include inhibition of differentiation [3], cell cycle regulation [4] and proliferation [5].

In addition, other reports have suggested the involvement of Id1 in the metastatic process of breast tumours [6] and in chemotherapy resistance [7, 8].

However, Id1 expression pattern in human cancers remains controversial. Using a commercially available non-specific polyclonal antibody, elevated Id1 protein expression levels have been reported in a variety of human cancers, including ovarian carcinoma [9]. Nonetheless, the lack of cell-type specificity of this polyclonal antibody makes it difficult to rely on the reported results [10, 11].

Recently, a new highly specific rabbit monoclonal anti-Id1 antibody was developed and tested in different human cancer samples in an attempt to clarify the issue [12]. Surprisingly, the immunohistochemical analysis showed that while the vast majority of breast cancer specimens examined exclusively exhibited a clear endothelial Id1 expression pattern, the presence of Id1-expressing tumour epithelial cells was restricted to the subtype of poor prognosis metaplastic mammary carcinomas [12].

Accordingly, we have recently shown Id1 expression in tumour cells in a prostate cancer subset of poor-prognosis patients while no Id1 protein expression was seen in a cohort of good-prognosis prostate cancer tumours [13].

Thus, the reassessment of Id1 expression using a monoclonal highly specific antibody in other tumours including ovarian carcinomas is warranted. In those future studies, the potential correlation between Id1 tumour cell expression and prognosis, the association of that expression between primary tumours and metastatic tissues, and the hypothetical involvement of Id1 expression in chemotherapy resistance should be addressed.

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