Impact of EGFR expression on colorectal cancer patient prognosis and survival: a response

We recently read the article from Spano et al. [1], which describes the impact of epidermal growth factor receptor (EGFR) detection on colorectal cancer patient survival. Although we found the study of some interest, we have some concerns.

First, the authors affirm that previous studies did not demonstrate any influence of EGFR expression on patient survival and disease-free survival.

In 2003 we published a study [2] which suggested that EGFR may be used as a marker of circulating tumour cells (CTCs) in a series of colorectal cancer patients, since EGFR persistence in blood after surgery identified a subset of patients at high risk of relapse. In that study, where we described the association between EGFR expression and tumour stage, we also found a statistically significant correlation between EGFR expression in blood and relapses. Analogous results have been obtained by our group in bladder cancer patients, where EGFR expression in blood also correlates with worse prognosis [3, 4]. Thus, it is incorrect to say that EGFR expression does not affect patient survival, but would be more correct to affirm that EGFR expression in tumoural tissues does not affect patient survival.

We would like to stress that in our series of patients affected by colon or bladder cancer, we often failed to find a correlation between EGFR expression in the primary tumour and in peripheral blood. This is not surprising, and reflects the biological characteristics of tumour progression: molecular oncologists well know that the genic profile of tumoural cells in the primary tumour is different from that of cells which detach and enter blood flow.

Thus, we are not surprised if EGFR expression at the tumour level does not affect prognosis, but are really interested to know if analysis of EGFR-expressing CTCs may lead authors to the same conclusions.

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Relevance of EGFR expression in colorectal cancer

In a recent issue of Annals of Oncology, Spano and colleagues reported their study of epidermal growth factor receptor (EGFR) expression by immunohistochemistry in 148 patients with colorectal cancer [1]. The aim of this study was to analyse the relationship between EGFR reactivity and various histological and clinical characteristics and survival. Multivariate analysis found significant overexpression in the T3 stage while there was no impact on overall survival. This study suggests some comments. Regarding eventual prognostic impact, the first handicap is the high frequency (80%) of over-expression, which is consistent with other studies. EGFR has been extensively studied in many tumours providing a number of data. Although the authors discuss the expression of EGFR among the different sites of the colon, the notable variation in expression between primary and secondary sites has not been discussed [2]. As rapidly evoked in the last sentence, somatic mutations of the EGFR can play a major role, which has been clearly demonstrated in lung cancer [3, 4]. Until now, about 30 mutations have been determined within the kinase domain of EGFR in lung cancer with a wide variation of frequency.