The Prognostic Factor Tumor, Node, Metastasis Classification
How Helpful is it as a Predictive Factor of the Success of a Specific Treatment?

To the Editor:

Regarding the argument presented by Sculier et al., predictive factors for determining which patients may benefit from adjuvant chemotherapy are important. Currently, the pathological stage based on tumor, node, metastasis (TNM) classification of surgical specimens is the only factor used. On the basis of the results of multiple randomized trials and meta-analyses, patients treated according to the pathological stage are presumed to have better survival with adjuvant chemotherapy than with surgery alone. Thus, to determine the setting in which adjuvant chemotherapy is applicable, TNM classification is used as a predictive factor. In addition to the pathological stage, some biological markers such as excision repair cross-complementing 1 are reported to be promising as predictive markers, but these are not yet used in clinical practice. In the management of advanced lung cancer, biological markers such as mutation of epidermal growth factor receptor and translocation of echinoderm microtubule-associated protein-like 4 gene and the anaplastic lymphoma kinase gene are used as predictive markers for the effectiveness of specific therapies such as epidermal growth factor receptor tyrosine kinase inhibitor and anaplastic lymphoma kinase inhibitor therapies. Researchers and now clinicians each emphasize that predictive factors and prognostic factors have different meanings; a prognostic factor provides information on outcome, independent of the therapy that is used, whereas a predictive factor provides information on outcome with regard to a specific therapy.3

A concern that arises is that we also use TNM classification for the decision of lung cancer resection. In the setting of this decision, we do not use TNM classification as a predictive factor for treatment-specific outcome. Mountain, et al.4 stated that the purpose of staging was to classify patients according to the anatomical extent or biological severity of their disease. Numerous efforts have been made to determine how staging clearly differs from each other in TNM classification, the 7th revision of which accurately reflects the prognosis of patients with lung cancer. A question arises as to whether the decision of lung cancer resection is justified on the basis of a prognostic factor. It may be necessary to reassess the usage of TNM classification as a predictive factor in the decision of lung cancer resection.

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REFERENCES

Spatiotemporal T790M Heterogeneity in a Patient with EGFR-Mutant Non–Small-Cell Lung Cancer

We previously reported a case with epidermal growth factor receptor (EGFR)-mutant non–small-cell lung cancer where gefitinib rechallenge was effective after disappearance of T790M.1 “Temporal” T790M heterogeneity had been demonstrated in the previous report, whereas “spatial” T790M heterogeneity was also shown in the same patient.

After progression on gefitinib rechallenge, he underwent pemetrexed with stable disease. Six months after gefitinib discontinuation, rebiopsy was performed again. T790M mutation was still detected. He then received S-1, gemcitabine, and docetaxel, sequentially. A further 6 months later, we repeated rebiopsy for both the primary tumor for which rebiopsy was done previously several times and a newly progressed pulmonary metastasis. T790M was detected in the primary tumor, but not detected in the metastatic nodule. We then administered gefitinib again. Both the primary tumor and metastatic nodules responded to gefitinib (Fig. 1). Gefitinib has been continued for 3 months.

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ISSN: 1556-0864/14/0908-0e64