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Impact of a multigene prognostic assay on postoperative management of early-stage non-small cell lung cancer.

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Abstract Disclosures

Abstract

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Background: Many stage II and most stage I non-small cell lung cancer (NSCLC) patients forgo adjuvant chemotherapy, despite the likely presence of occult metastasis in the 30-60% of these patients who die within 5 years of surgery, and despite demonstration that patients with undetected, i.e. very early, metastasis can achieve long-term survival with this intervention. A multi-gene assay using quantitative RT-PCR and run on formalin-fixed, paraffin-embedded samples (Pervenio Lung RS) has been independently validated in two large international studies to better differentiate high- and low-risk non-squamous NSCLC patients than either traditional risk assessment criteria or conventional staging. A survey of physicians who used this multi-gene assay probed whether better risk discrimination changed post-operative management. Methods: Physicians were queried via a web-based survey on practice patterns, patient characteristics and treatment recommendations. The survey was developed through cognitive interviews with oncologists and thoracic surgeons. Physicians were allowed to respond regarding up to 4 patients (stage I or II) for whom the multi-gene test was ordered. Results: Forty-one physicians (12 surgeons, 29 oncologists/internists) of 61 contacted (67%) provided responses on 77 patients. Community practices accounted for 83%, and the average years in practice was 15. Seventy-one percent provided responses on either 1 or 2 patients. Mean patient age was 66±10 years, with stage I and stage II comprising 73% and 27%, respectively. Prior to obtaining assay results, chemotherapy was recommended in 30% of patients, including 5 stage I patients. The assay characterized 5-year mortality risk as high, intermediate and low in 52%, 23% and 25% of patients, respectively. Treatment recommendations were changed post-assay in 36% of patients, including 73% of high-risk patients for whom observation was recommended initially. Change in treatment intensity correlated with the degree of assay-assessed risk. Conclusions:Refinement of risk assessment achieved via a multi-gene prognostic assay resulted in changes in treatment recommendations for a substantial number of early stage NSCLC patients.