

Online education tool helps bridge gaps in therapeutic decision-making for advanced NSCLC

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A new interactive online tool helps educate practicing oncologists worldwide with therapeutic decision-making for advanced non-small cell lung cancer (NSCLC) based on a patient's molecular and clinical characteristics by providing feedback from an expert panel.

Optimal treatment decisions for advanced stage NSCLC in the age of personalized medicine are often based on the molecular and histological characteristics of the tumor. Guidelines, like those published by the International Association for the Study of Lung Cancer (IASLC), exist for advanced NSCLC tumors bearing epidermal growth factor receptor (EGFR) mutations or anaplastic lymphoma kinase (ALK) rearrangements, however, characteristics of the patient, like age, smoking history or general health, can also influence therapeutic decisions. Therefore, integration of clinical, histological, and molecular features into treatment plans is needed for the best possible outcome.

An interactive online education tool was developed using the treatment recommendations from 5 internationally recognized NSCLC experts for 96 different patient cases based on 6 characteristics: tumor histology, tumor mutational status (EGFR or ALK), age, performance status, smoking history, and patient goals (improved response and survival versus better quality of life). Practicing oncologists then entered their patient's characteristics and treatment decisions into the web-based system, which subsequently returned therapeutic recommendations from

the expert panel for each patient. Therapeutic options were a) targeted therapy, b) platinum-based chemotherapy, and c) non-platinum-based chemotherapy, d) unsure and e) none. Specific drug choices were available for each of the first three options. The practicing oncologists were then queried as to whether the expert feedback impacted their original treatment plan.

The results published in the *Journal of Thoracic Oncology*, the official Journal of the IASLC, show a total of 442 individual physicians, of which 88% were from outside the United States, entered 653 cases. The impact of the expert recommendation was reported in 389 cases. Expert feedback affected treatment choice in 73% of the cases, with 23% reporting a change and 50% confirming the initial decision. For cases with EGFR mutations or ALK fusions, all experts selected targeted-therapy while 51% and 58% of participants did not. Participants were 2.5-fold more likely to change to expert recommended therapy for ALK fusions than for EGFR mutations ($P = 0.017$). Greater variability was seen between experts and participants for cases involving EGFR or ALK wild-type tumors, potentially due to the range of chemotherapeutic options available.

The authors, led by first author Helen Chow, conclude "these data demonstrate that there continues to be a need for new and easily accessible educational tools to assist in the transition from empiric to histology and molecular-based therapy. We postulate that integrating expert opinion into this educational process using a relatively simple interactive tool could be of additional assistance in understanding various case scenarios and formulating treatment plans". Dr. David R. Gandara, senior author and member of IASLC, remarks, "these analyses highlight clinical practice gaps between experts and participants irrespective of geographical location, emphasizing the value of this tool in identifying areas of focus for continuing medical education and quality improvement initiatives on an international basis".

Provided by International Association for the Study of Lung Cancer

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