NEWS RELEASE 2-OCT-2020

Liquid biopsy faster than tissue biopsy, improves time to treat

Compelling results presented at IASLC 2020 Lung Cancer Hot Topic: Liquid Biopsy Virtual Conference

Peer-Reviewed Publication
INTERNATIONAL ASSOCIATION FOR THE STUDY OF LUNG CANCER

Denver--October 2, 2020--A pilot study comparing the effects of a liquid biopsy with tissue-based test showed that liquid biopsy turn-around time for results was approximately 10 days faster than the tissue biopsy, according to research presented today at the IASLC 2020 Lung Cancer Hot Topic: Liquid Biopsy Virtual Conference.

Oncologists and pathologists prefer tissue-based analysis for patients with lung cancer, but liquid biopsy may provide a salvage approach in case of tissue exhaustion and may even be faster than tissue-based analysis according to Nir Peled, MD, a medical oncologist and Head of the Cancer Institute, Soroka Medical Center, Ben Gurion University of the Negev, Beer Sheva, Israel.

Dr. Or Sehayek, Dr. Peled and their colleagues developed a pilot study and evaluated 25 patients with treatment-naive advanced metastatic non-small cell lung cancer (NSCLC). Dr. Peled sought to compare time to report and time to treatment for next-generation sequencing (NGS)-based liquid biopsy vs. tissue-based analysis.

Tissue and blood biopsies were ordered for all patients. Tissue-based analysis was based on local standard of care, which was immunohistochemistry for ALK, ROS1, and PCR or amplicon-based NGS for EGFR mutation statuses. Each patient also was given a liquid NGS platform blood biopsy.

Turnaround-time analysis revealed that the median range (days) from the pathologic diagnosis to receipt of the tissue report on the last biomarker was 21.5 (7-45) days while the median ranges from blood draw to receiving the cfDNA findings was 10 (7-19) days.

Dr. Peled reported that actionable genes were identified in 11 tissue biopsies and in 14 by liquid biopsy. Liquid biopsy was able to identify mutations in PIK3CA and MET, as well as RET fusion, that were not tested by the local labs. One ALK fusion and one EGFR mutation were detected by tissue biopsy but not by liquid biopsy.

"This study suggests that NGS-based liquid biopsy improves time to report and more importantly, time to treatment, in patients with advanced NSCLC in comparison to tissue-based molecular analysis," Peled said. In addition, he said, "I am convinced that that the practice of 'liquid first' should be even implemented before tissue biopsy is performed; if so, we may see even more dramatic outcomes."

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Related Resources:

- To hear a preview of the meeting with co-chairs Dr. David Gandara, Dr. Maria Arcila, and Dr. Christian Rolfo, visit the IASLC "Lung Cancer Considered" Podcast here: https://soundcloud.com/lungcancerconsidered/iaslc-hot-topics-on-liquid-biopsy.

- To learn more about liquid biopsy in early-stage disease, read the article by meeting Co-Chair Dr. Christian Rolfo here: https://www.iaslc.org/iaslc-news/ilcn/liquid-biopsy-early-lung-cancer-detection-and-cancer-interception.

About the IASLC:

The International Association for the Study of Lung Cancer (IASLC) is the only global organization dedicated solely to the study of lung cancer and other thoracic malignancies. Founded in 1974, the association's membership includes nearly 9,000 lung cancer specialists across all disciplines in over 100 countries, forming a global network working together to conquer lung and thoracic cancers worldwide. The association also publishes the Journal of Thoracic Oncology, the primary educational and informational publication for topics relevant to the prevention, detection, diagnosis and treatment of all thoracic malignancies. Visit http://www.iaslc.org for more information.

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