

Researchers create new method to more accurately measure cancer lesions response to treatment

September 30 2022

Researchers from the University of Colorado Cancer Center on the Anschutz Medical Campus have created a new way of measuring cancer lesions response to treatment that could better inform the development of new cancer drugs.

Measurement of [cancer](#) lesions and their changes with therapy are conducted using a validated, ubiquitous method worldwide, called RECIST, which relies on assessment of only the largest dimension of the lesion. In a study published in *Clinical Lung Cancer*, researchers investigated how the location of a lesion in the chest of a patient and whether lesions shrank more in the long versus the shortest dimensions could impact assessments of the effectiveness of a treatment. Lesions in the outer lining tissues of the [lung](#) or around the heart tended to reduce in width rather than shrink in measured maximum length, underestimating treatment effectiveness. As different subtypes of [lung cancer](#) have previously been shown by CU Anschutz researchers to be associated with different rates of involvement of these lining tissues, this could introduce response rate differences, independent from any true differences in a drug's effectiveness.

To address this, the researchers created a novel method called MAX that utilizes two measurements of the lesions and picks the diameter (long or short) that has the greatest percentage change to be the one captured as representative of benefit.

"While RECIST is a reliable, validated and time-tested way of assessing lesion scope and informing care options for cancer patients, we wanted to see if these varying lesion features affect response rates," says CU Cancer Center member, Tami Bang, MD, a thoracic radiologist in the University of Colorado School of Medicine and the lead author of the study. "We found that we are more consistent with our new MAX method and believe we are more accurately measuring disease."

More than 300 [lung cancer patients](#) with 446 separately measured lesions were included in the study for RECIST analysis, while 249 lung cancer patients with 386 lesions were assessed using MAX. The MAX method significantly reduced the impact of lesion location in the chest on apparent effectiveness of targeted therapies for lung cancer and increased the observed response rate overall.

Researchers examined a specific population with lung cancer treated with highly active targeted therapies for this study, opening the door for more work to be done assessing the effectiveness of MAX in measuring lesions in patients with different cancers and in lung cancers treated with different agents.

"These results are promising in potentially providing a different way to assess and better develop new treatments for [cancer patients](#)," says Ross Camidge, MD, Joyce Zeff Chair in Lung Cancer Research in the CU Cancer Center and the senior author of the study. "We believe this method can better reflect a patient's response to therapy. We are hopeful it will be widely explored in the future."

More information: Tami J. Bang et al, The Effect of Intrathoracic Lesion Location on Initial Tyrosine Kinase Inhibitor Response in Advanced Oncogene-Addicted Non-Small Cell Lung Cancer: A Comparison Between RECIST 1.1 and a Novel Method of Response Assessment (MAX), *Clinical Lung Cancer* (2022). [DOI:](#)

[10.1016/j.clbc.2022.08.004](https://doi.org/10.1016/j.clbc.2022.08.004)

Provided by CU Anschutz Medical Campus

Citation: Researchers create new method to more accurately measure cancer lesions response to treatment (2022, September 30) retrieved 27 April 2024 from

<https://medicalxpress.com/news/2022-09-method-accurately-cancer-lesions-response.html>

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