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Reviewer Invitation for Exhaled Breath Analysis for Monitoring Response to Treatment in Advanced Lung Cancer
1 message

Journal of Thoracic Oncology <em@editorialmanager.com>   Thu, Jan 7, 2016 at 12:35 AM
Reply-To: Journal of Thoracic Oncology <mary.todd@iaslc.org>
To: Shicheng Guo <shg047@eng.ucsd.edu>

Jan 07, 2016

Dear Dr Guo,

I am writing in hopes that you may be able to review manuscript JTO-D-15-01083R1, entitled "Exhaled Breath Analysis for Monitoring Response to Treatment in Advanced Lung Cancer" by Dr Nir Peled.

Please find the manuscript abstract listed below.

If you should choose to accept this assignment, you will be given 14 days to complete the assignment.

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Thank you for your time and efforts,

Giorgio Scagliotti, MD
Associate Editor
Journal of Thoracic Oncology

Introduction: RECIST criteria serve as the gold standard method to monitor treatment efficacy in lung cancer. However, time intervals between consecutive CT scans might be too long to allow early identification of treatment failure. This study aims to examine the use of breath sampling in monitoring response to anti-cancer treatment in advanced lung cancer patients.
Methods: 143 breath samples were collected from 39 patients with advanced lung cancer. The exhaled breath

signature was determined by GC-MS and nanomaterial-based array of sensors, and correlated with response to therapy, assessed by RECIST as: Complete Response (CR), Partial Response (PR), Stable Disease (SD), or Progressive Disease (PD).

Results: GC-MS1 analysis identified three volatile organic compounds (VOCs) as significantly indicating disease control (PR/SD). One of them also significantly discriminated PR/SD from PD. The nano-array displayed an ability to monitor changes in tumor response across therapy, also indicating lack of further response to therapy. Using one sensor analysis, 59% of the follow-up samples were identified correctly. There was 85% success in monitoring disease control (SD/PR).

Conclusion: Breath analysis, mainly using the nano-array, may serve as a surrogate marker for the response to systemic therapy in lung cancer. Such a monitoring tool can provide the oncologist with a quick bed-side method to identify lack of response to anti-cancer treatment. That may allow more rapid recognition than the currently preformed RECIST analysis. Early recognition of treatment failure could improve patient care.