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Mayo Clinic researchers find pre-procedure cotinine analysis may better help BMT patients kick smoking habit, yield better outcomes

New Orleans, LA – Simply asking patients who are about to undergo a blood or marrow transplant (BMT) whether or not they smoke prior to the procedure, may not be enough to help them kick their tobacco usage – a habit that if successfully curbed, leads to much better patient outcomes post-transplant, according to Mayo Clinic researchers.

BMT patients who smoke can face serious repercussions from continued tobacco use post-transplant such as increased risk of death, complications requiring longer hospitalization and a higher likelihood of incurring a secondary medical condition.

Therefore, accurate identification of smoking or recent smoking behavior among BMT patients, both prior to and post-transplant, provides a unique opportunity to deliver interventions targeted at tobacco cessation and relapse prevention – also logical considering the patient may be in the hospital for an extended period of time and have better access to those programs.

However, it seems there is a population of patients who say they don't use tobacco when asked, yet have traces of cotinine – a metabolite of nicotine and the most commonly employed biochemical marker for tobacco.

The study will be presented April 14 at the Society of Behavioral Medicine Conference in New Orleans. "Reasons for misclassification of smoking status among chronically ill smokers is unclear, but may be impacted by exposure to environmental tobacco smoke, use of nicotine replacement, societal pressure to be smoke-free and distress related to smoking status," said Shawna Ehlers, PhD, a Mayo Clinic Clinical Health Psychologist and principal investigator of the study. "But as health care providers, we need to accurately identify every tobacco user, so we can ensure best patient outcomes and help people return home to their loved ones and the life they are fighting so hard to preserve."

Researchers estimate that anywhere from 35-44 percent of patients about to undergo a BMT have histories of tobacco use. Of those, 14-17 percent describe themselves as smokers both at the time of transplant and post-transplant.

Dr. Ehlers says we need to reassure patients that disclosing tobacco use is in their best interests and will be treated like any other risk factor.

"Until we treat all known risk factors, we are not providing best transplant care," she says.

A cotinine analysis may be a better tool to accurately measure tobacco exposure. Tests for cotinine can detect tobacco exposure over the last 3-5 days and can be collected from urine, blood or saliva. The accuracy of cotinine measures in identifying smoking behavior has been estimated to be greater than 90 percent.

“Despite the accuracy of cotinine measures, obtaining these results often requires additional processing time as well as resources,” Dr. Ehlers says. “However, understanding the feasibility of cotinine analyses among populations, such as BMT patients, would assist researchers and clinicians with implementing cost-effective assessments of smoking status. And that could both give patients the transplant outcomes they want and save money in the long run.”

The study was funded by the National Institutes of Health and the Fraternal Order of Eagles Cancer Research Fund.

The Society of Behavioral Medicine is a multidisciplinary organization of clinicians, educators, and scientists dedicated to promoting the study of the interactions of behavior with biology and the environment and the application of that knowledge to improve the health and well being of individuals, families, communities, and populations. www.sbm.org

This study was presented during the 2012 Annual Meeting and Scientific Session of the Society of Behavioral Medicine (SBM) from April 11-14 in New Orleans, LA. However, it does not reflect the policies or the opinion of the SBM.

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