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Deaths from advanced lung cancer have dropped significantly since immunotherapy became standard-of-care

AUGUST 05, 2024 - Since the first immunotherapy drug to boost the body's immune response against advanced lung cancer was introduced in the United States in 2015, survival rates of patients with the disease have improved significantly. That's the conclusion of a recent real-world study published by Wiley online in *CANCER*, a peer-reviewed journal of the American Cancer Society.

For the research, a team led by Dipesh Uprety, MD, FACP, of the Barbara Ann Karmanos Cancer Institute and the Wayne State University School of Medicine, analyzed data from the National Cancer Institute Surveillance, Epidemiology, and End Results database, which compiles cancer-related data covering approximately 48% of the US population. The investigators' analysis focused on non-small cell lung cancer (NSCLC), which accounts for up to 90% of all cases of lung cancer and is the leading cause of cancer-related death among both men and women in the United States.

In a comparison of 100,995 patients with metastatic NSCLC treated in 2015-2020 (after immunotherapy was deemed the standard of care) and 90,807 patients with metastatic NSCLC in the pre-immunotherapy era of 2010-2014, patients in the immunotherapy era were less likely to die from any cause. The overall survival rates at one, three, and five years were 40.1% versus 33.5%, 17.8% versus 11.7%, and 10.7% versus 6.8%. The median overall survival was eight months in patients in the immunotherapy era and seven months in those in the pre-immunotherapy era.

Similarly, patients treated after immunotherapy was available were less likely to die specifically from cancer than those treated before immunotherapy. The one-, three-, and five-year cancer-specific survival rates were 44.0% versus 36.8%, 21.7% versus 14.4%, and 14.3% versus 9.0%, with a median survival of 10 months versus eight months. Survival rates remained significantly better in the immunotherapy era even after accounting for factors including age, sex, race, income, and geographical area.

"By utilizing a large national database, our study provided real-world evidence of the positive impact of immunotherapy in patients with lung cancer," said Dr. Uprety. The investigators stressed that additional studies are needed, however. "Immunotherapy provides long-term benefits. Since the durable benefits of immunotherapy are limited to a small subset of patients, future research should aim to optimize immunotherapy with new agents that can benefit a broader population," said lead author Yating Wang, MD, of Ascension Providence Hospital.

Full Citation: "Survival Trends Among Patients with Metastatic Non-Small Cell Lung Cancer (NSCLC) Before and After the Approval of Immunotherapy in the United States: A Surveillance, Epidemiology, and End Results (SEER) Database-Based Study." Yating Wang, Kyle Kondrat, Janak Adhikari, Quynh Nguyen, Qian Yu, and Dipesh Uprety. *CANCER*; Published Online: July 10, 2024 (DOI: 10.1002/cncr.35476).

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