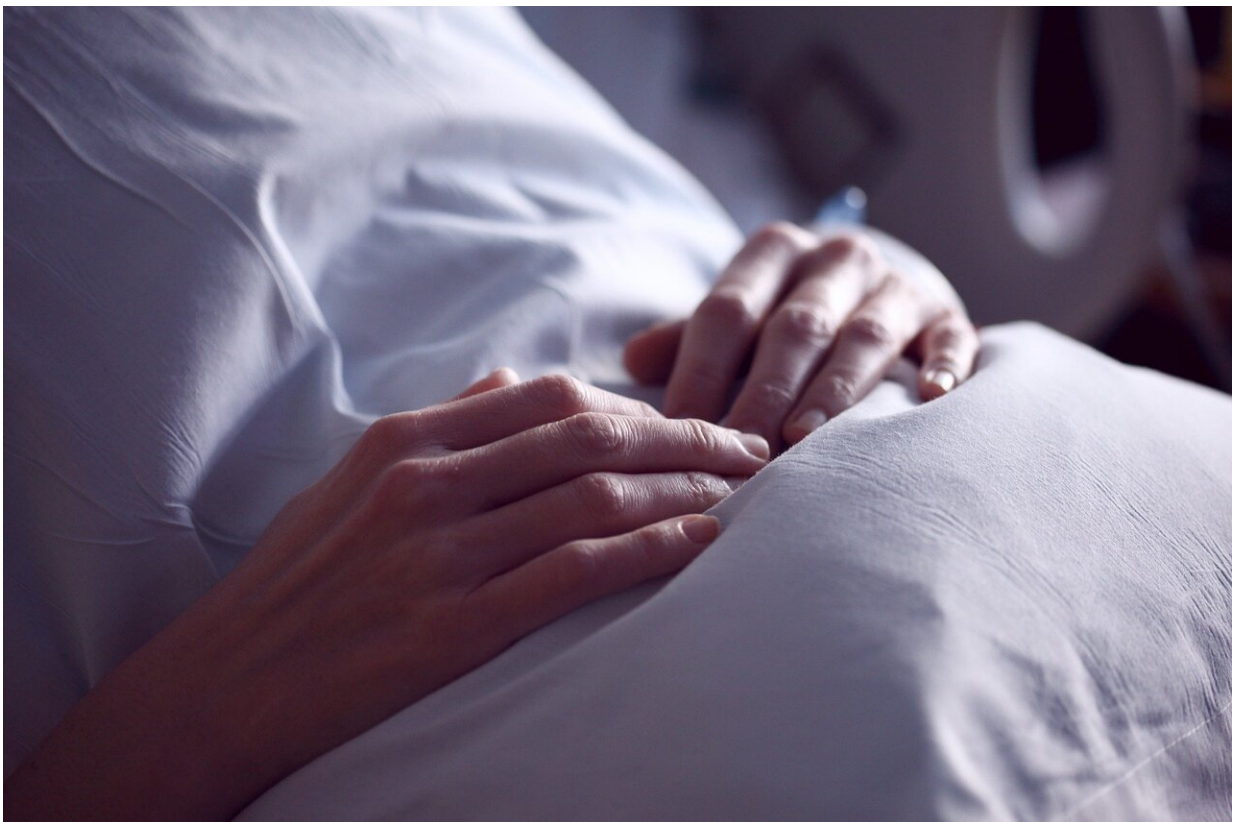


Metastatic cancer patients more likely to survive at academic and high-volume hospitals when given immunotherapy: Study

January 4 2024



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A new study led by Yale Cancer Center researchers at Yale School of Medicine has revealed a significant increase in patients starting

immunotherapy within one month of death. Using a national clinical database, the researchers focused on patients with metastatic melanoma, non-small cell lung cancer (NSCLC), and renal cell carcinoma (RCC). They were treated with immune checkpoint inhibitors from the point of FDA approval, through to 2019. The melanoma cohort began treatment in 2012 and the RCC and NSCLC cohorts in 2016.

The findings were [published in](#) *JAMA Oncology* on January 4.

"Immunotherapy has revolutionized the field of oncology over the last decade," said Sajid Khan, MD, senior author of the study and section chief of Hepato-Pancreato-Biliary (HPB) and Mixed Tumors at Yale School of Medicine. "Because survival is substantially improved for many [patients](#) treated with these drugs, its application has increased across the United States. In our study, we focused on immunotherapy initiation at the end of a patient's life with cancer metastasis."

Because the therapy is relatively new, the study aimed to "offer insights into national prescribing patterns and serve as a harbinger of shifts in the clinical approach to patients with advanced cancer."

The study included 20,415 stage IV melanoma patients, 197,331 stage IV NSCLC patients, and 24,625 stage IV RCC patients. Researchers considered each patient's age, sex, race, and ethnicity as well as the location of metastases and the medical facility where treatment was given.

"We were interested in gauging how frequently immunotherapy is initiated within the last 30 days of life," said Khan, a member of Yale Cancer Center and the co-director of Team Science at Yale Center for Clinical Investigation. "Our study found that the initiation of immunotherapy in the last month of a patient's life has significantly increased in the last 10 years, accounting for one in 14 immunotherapy

treatments overall."

For patients with [metastatic melanoma](#), the increase was from 0.8% to 4.3%, for NSCLC 0.9% to 3.2%, and for RCC 0.5% to 2.6%. In 2019, these end-of-life-initiated (EOL-I) treatments represented 7.3% of all immunotherapy treatments, indicating a growing application of EOL-I immunotherapy.

Where patients were treated with immunotherapy mattered. "There were improved [survival outcomes](#) when the [therapy](#) was administered at academic and high-volume facilities," said Khan. While patients treated at non-academic or low-volume hospitals had higher odds of receiving EOL-I immunotherapy, patients were less likely to experience death at academic and high-volume hospitals when given immunotherapy for metastatic cancers.

"Another noteworthy finding was that the outcome for patients receiving immunotherapy towards the end of their life was different depending on the burden of metastasis. Patients with more than three sites of distant metastases are more likely to die within one month of immunotherapy initiation than those with only distant lymph node metastasis."

The researchers note that immunotherapy provides a strong overall survival benefit and can salvage patients with metastasis, even those in high-risk sub-groups. The study findings highlight the need for further investigation into the implications of EOL-I [immunotherapy](#) with the hope of refining treatment guidelines for the benefit of patients facing metastatic [cancer](#).

Daniel Kerekes from Yale School of Medicine and Yale Department of Surgery was the study's first author. Alexander Frey, Elizabeth Prsic, Thuy Tran, James Clune, Mario Sznol, Harriet Kluger, Howard Forman, Robert Becher, and Kelly Olino were Yale co-authors.

More information: Daniel M. Kerekes et al, Immunotherapy Initiation at the End of Life in Patients With Metastatic Cancer in the US, *JAMA Oncology* (2024). [DOI: 10.1001/jamaoncol.2023.6025](https://doi.org/10.1001/jamaoncol.2023.6025)

Provided by Yale School of Medicine

Citation: Metastatic cancer patients more likely to survive at academic and high-volume hospitals when given immunotherapy: Study (2024, January 4) retrieved 9 May 2024 from <https://medicalxpress.com/news/2024-01-metastatic-cancer-patients-survive-academic.html>

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