Viewpoint: AI could guide us in understanding which cancer patients likely to benefit from expensive immunotherapy

Over the last decade, significant advances in research, education, early detection methods and treatment have boosted cancer survival rates while new therapies continue to be developed. The recent introduction of cancer immunotherapies, in particular those based on immune checkpoint inhibitors, has created a paradigm shift in clinical oncology.

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While tremendous progress has been made with <u>immunotherapy</u> modalities, today only a small percentage of patients are benefiting from such therapies.

[T]he <u>high cost</u> of <u>immunotherapy</u> (\$30,000–300,000 per year for an individual patient) and the risk of developing immune-related adverse events place pressure on the health system to prescribe such therapies only to those patients who are most likely to benefit. However, robust methods to identify appropriate candidates for immunotherapy are still lacking.

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As we enter the new decade, it is time to rethink the way we approach immunotherapy in order to benefit even more patients and their loved ones, while considering the financial realities on the ground. With the recent rise of artificial intelligence (AI) and machine learning tools to analyze complicated medical data, we now have the opportunity to profile patients earlier on in the immunotherapy treatment process to gain a new level of understanding that will ensure that precious time won't be lost on a therapy that won't have a positive impact.

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