

Advancements in Personalized Cancer Therapies

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Abstract. This article delves into the rapidly evolving field of personalized cancer therapies, which aim to tailor treatment based on individual genetic profiles. By leveraging advancements in genomic sequencing and molecular biology, personalized therapies promise to enhance treatment effectiveness and reduce adverse effects. This paper reviews recent clinical trials and case studies, demonstrating significant improvements in patient outcomes. However, challenges such as high costs and the need for robust infrastructure remain. The future of oncology is poised to be revolutionized by personalized medicine, but widespread implementation requires overcoming current limitations.

Keywords: cancer, personalized, therapy, genomics, clinical

Introduction: Cancer remains one of the most challenging diseases to treat, due to its complex nature and the variability in individual responses to traditional treatments. The advent of personalized medicine offers new hope in cancer therapy, allowing for treatments that are specifically designed based on the genetic makeup of an individual's tumor. This approach promises to enhance therapeutic efficacy and minimize toxicity by targeting specific molecular alterations. This paper reviews current advancements in personalized cancer therapies, highlighting successful clinical trials and discussing potential obstacles such as high costs and infrastructure demands. Our goal is to provide insights into how personalized medicine can reshape the future of oncology, making it more effective and patient-centric. While the potential is enormous, the path forward requires addressing these challenges to achieve widespread clinical application. [This is a preliminary version. To read the full version of the article, please purchase a subscription.](#)

References

1. Viroliya, K., Hojjat, A., Pena, B., Bhatt, H., Mehta, N. N., Venkata, S. Y., ... & Palabindela, P. (2023). Sa1359 HELICOBACTER PYLORI ASSOCIATED GASTRO-INTESTINAL BLEEDING IN BARIATRIC SURGERY-NATIONWIDE SURREY. *Gastroenterology*, 164(6), S-373.