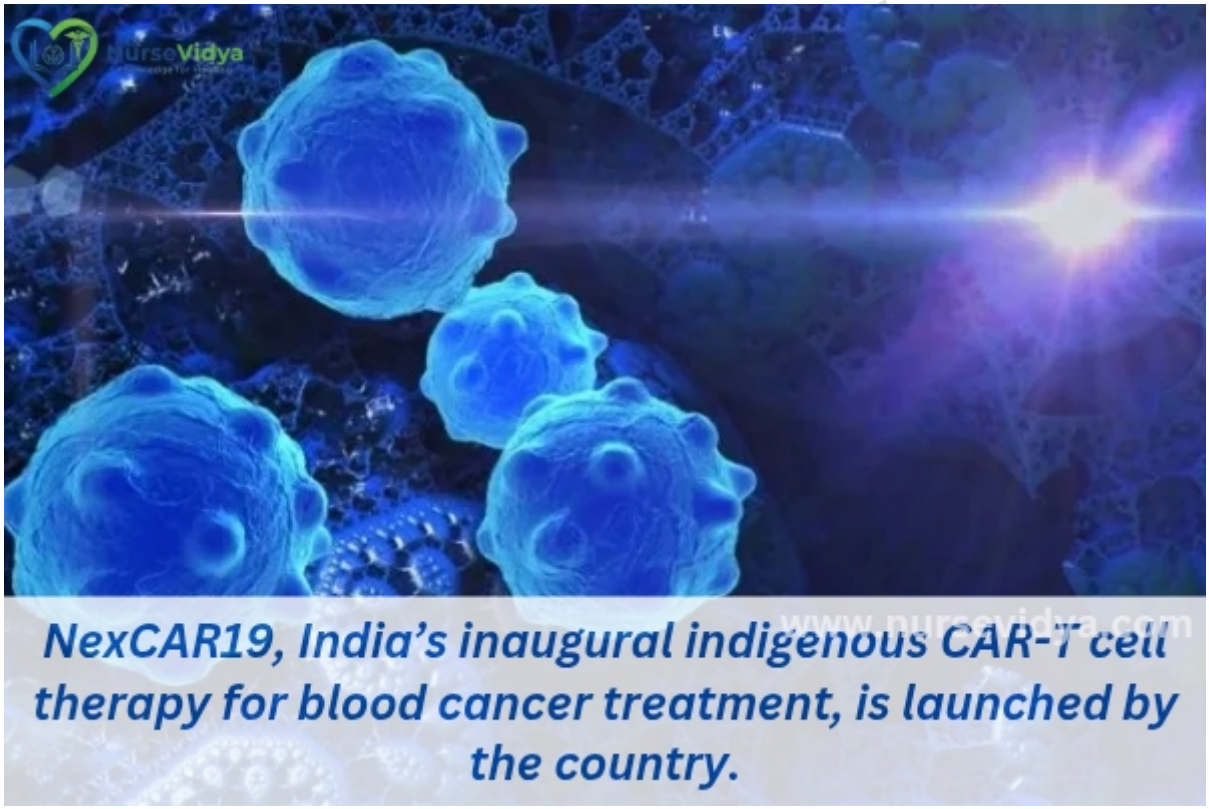
News

NexCAR19, India’s inaugural indigenous CAR-T cell for blood cancer treatment, is launched by the country.



During the Emerging Science, Technology & Innovation Conclave (ESTIC) 2025 in Delhi, Prime Minister Narendra Modi presented the therapy alongside other innovations like India’s quantum security chip and 25-qubit QPU.

NexCAR19, developed by ImmunoACT (an IIT Bombay spin-off), is India’s first homegrown CAR-T cell therapy and its launch marks a significant step forward in making cancer immunotherapy more accessible.

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Prime Minister Modi highlighted NexCAR19 as a humanized CAR-T therapy created in India, stating, “This initiative demonstrates the potential of local biotechnology to address major healthcare challenges while adhering to international safety and scientific standards.”

Immune cells from the patient are reprogrammed to target and eliminate cancer cells using CAR-T cell therapy. NexCAR19 is designed to target blood cancers such as Acute Lymphocytic Leukemia (ALL), particularly in patients with limited treatment options. The Tata Memorial Centre (TMC) has conducted clinical trials that produced encouraging outcomes, positioning India among the countries making progress in cell and gene therapies.

ImmunoACT originated from the Society for Innovation and Entrepreneurship (SINE) at IIT Bombay and was initially supported by BIRAC’s BioNest initiative, which provided funding, mentorship, and research facilities. At ACTREC, Tata Memorial Hospital began initial CAR-T clinical trials in 2021, targeting pediatric leukemia patients and partnering with ImmunoACT for manufacturing.

ImmunoACT has been funded to establish a GMP-compliant lentiviral vector and plasmid production platform with a capacity of 200L. This initiative is part of the Department of Biotechnology’s (DBT) Biomanufacturing initiative within the BioE3 Policy framework. Thanks to this arrangement, it is possible to produce gene delivery vectors on a large scale with cutting-edge bioreactor technologies, yielding vectors sufficient for up to 1,000 patients per year.

A DBT representative stated, “We aim to promote early and late-stage translational research in CAR-T and other immunotherapies to develop homegrown solutions for various cancers, including multiple myeloma, relapsed or refractory B-cell leukemia, and glioblastoma, while also addressing therapy-related toxicities.”

NexCAR19 signifies India’s induction into a select group of nations engaged in advanced cell and gene therapies. This therapy’s advancement underscores the nation’s growing capacity to provide cancer treatment that is both scientifically rigorous and accessible, thereby facilitating wider investigation into and availability of immunotherapy in India.