Hindustan Times

Teen beats cancer after ‘ultra-high' dose nuclear therapy at Mumbai's TMC

By **Shreya Jachak**

Jun 28, 2025 07:09 AM IST

Doctors administered an ultra-high dose of radioactive 131-Iodine MIBG therapy, making it the highest dosage ever used in India for treating Neuroblastoma.

In a pathbreaking medical feat, a 17-year-old boy suffering from relapsed Neuroblastoma, an aggressive form of paediatric cancer, was given a new lease of life through an experimental nuclear therapy conducted at ACTREC (Advanced Centre for Treatment, Research and Education in Cancer), R&D wing of the Tata Memorial Centre in Navi Mumbai.

The boy, who was first diagnosed in 2022 at age 14, had undergone a stem cell transplant but suffered a relapse earlier this year, leaving doctors with limited options.(Unsplash/Representational)

Neuroblastoma. The procedure, conducted on May 5, was the result of a meticulously planned, three-month-long collaborative effort by six departments at ACTREC, with guidance from Memorial Sloan Kettering Cancer Center in the US.

"This form of cancer is almost never diagnosed early. Most cases, by the time they come to us, are already in stage four," said Dr Venkatesh Rangarajan, head of nuclear medicine at Tata Memorial Hospital. The boy, who was first diagnosed in 2022 at age 14, had undergone a stem cell transplant but suffered a relapse earlier this year, leaving doctors with limited options.

That's when the medical team proposed 131-I MIBG—a form of targeted nuclear medicine therapy. While Indian protocols have previously capped radioactive dosage at 300 millicurie, this particular case warranted a drastic step forward.

"Administering 800 millicurie required exceptional safety measures and a special nod from the AERB," said Dr Rangarajan. "The major challenge was to shield healthcare staff and others from gamma radiation, which meant constructing an isolated high-safety ward and ensuring no one except the core team was exposed."

Also read: He stole to fund his son's cancer treatment, was still behind bars when boy died

One of the most dangerous side effects of such high-dose radioisotope therapy is bone marrow suppression. To mitigate this, doctors harvested and stored the patient's bone marrow before treatment. It was reinfused into his body after the therapy concluded. Another unusual condition for the therapy: the patient had to remain in complete isolation for five days.

Today, the boy is back home, cancer-free, and dreaming of becoming a doctor himself. "His resilience and the team's extraordinary commitment made this success possible," said Dr Gupta.