TIET Scientists Develop Indigenous 'Make In India' Device to Combat Cancer

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TIET develops India's first indigenous hyperthermia device, boosting Make in India and cancer treatment innovation.

A major milestone has been achieved in India's fight against cancer, as scientists at Thapar Institute of Engineering and Technology (TIET), Patiala, have developed a state-of-the-art indigenous hyperthermia applicator.

The project, supported by the Ministry of Electronics and Information Technology (MeitY), marks a significant step towards self-reliance in medical technology under the Make in India initiative.

The pioneering work has been led by Dr Rajesh Khanna, the principal researcher, along with co-researcher Dr Mayank Kumar Rai from TIET's Department of Electronics and Communication Engineering (DECE).

The team has created India's first homegrown hyperthermia system specifically designed to treat superficial cancers.

Hyperthermia treatment involves heating cancer-affected tissues to controlled temperatures, which helps destroy malignant cells.

When combined with conventional therapies such as radiotherapy and chemotherapy, hyperthermia can significantly enhance treatment efficacy.

Transition to Clinical Trials

In an exclusive interview with Bharat Express News Network, the scientists confirmed that the project has entered its final phase.

The team will soon transfer the device to Government Medical College (GMC), Patiala, for human tissue trials under the supervision of leading oncologist Dr Raja Benipal.

The multi-institutional research project also involves senior oncologist Dr Nagraj from Nanavati Hospital, whose clinical guidance is crucial for translating laboratory innovations into patient-ready treatments.

Dr Khanna and Dr Rai expressed confidence that the indigenous device will not only bolster the Make in India campaign but also contribute to India's long-term self-sufficiency in the medical device sector.

The vice-chancellor and registrar of TIET praised the progress, highlighting that the achievement reflects the institute's strong research culture, interdisciplinary collaboration, and commitment to socially impactful innovations.

The team continues to advance research in cutting-edge areas such as VLSI design and microwave engineering.

With successful clinical trials anticipated in the near future, this homegrown hyperthermia applicator promises to be a game-changer in cancer care in India, offering patients access to advanced, locally developed technology while supporting the nation's broader goal of technological self-reliance.