

## First time in India, Kerala hospital performs rare treatment for acute blood cancer



Kochi: Nineteen-year-old Neena (name changed) was suffering from acute blood cancer or acute myeloid leukaemia. Her disease slipped into a life-threatening stage even after two cycles of chemotherapy. She did not have a human leukocyte antigen, or HLA matched related or unrelated donor for a stem cell transplant, the standard procedure for such medical situations.

It was then a team of specialists led by Dr. Neeraj Sidharth, Head of Bone and Marrow Transplant programme at the Kochi-based Amrita Institute of Medical Sciences decided to try, a relatively new treatment protocol, for the first time in India, to save Neena's life called 'Microtransplant', which involves normal chemotherapy followed by infusion of intentionally mismatched cells.

This unique procedure is based on immunological killing of leukemic cells. The result was a success and Neena can possibly spring back to her normal life, though long-term data on a larger number of patients are required to validate the medical procedure.

"Worldwide cellular therapy has been done in a more sophisticated and costly manner in select centres at North America. Natural Killer Cell or NK cell therapy and CAR T-cell therapy - engineering patient's immune cells to treat their cancers, however, is limited by its availability in only a handful of centres. What we attempted was similar to what has been already tried in Israel and China and published in reputed scientific journals," said Dr. Sidharth, who was guided by experts in the field from John Hopkins Hospital, Baltimore, United States and from China.

Unlike normal treatment for acute blood cancer, this procedure does not require heavy dose of chemotherapy, followed by infusion of matched stem cells to replace the patient's stem cells. Microtransplant is cost effective - one fifth of the cost of standard treatment available and the patient needs to be hospitalised for just three weeks.

This therapy probably works best when the disease gets reduced immediately after chemotherapy and before normal cells recover. Mostly, it has been tried in some acute leukaemia and melodysplastic syndromes where standard treatment options like a stem cell transplant is either unavailable or considered too toxic. Chances of disease relapsing seem to be significantly lesser compared to standard chemotherapy extrapolating from the long term published data available from China.

The success of the treatment is a major breakthrough and opens up a window of opportunity for those select patients with relapsed and refractory leukemia and standard stem cell transplant is not considered and option for various reasons, said Dr. Sidharth.

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