Personalized Melanoma Vaccine Demonstrates Promising Results

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Catherine J.Wu, MD (Current Damon Runyon Physician-Scientist Mentor and Clinical Investigator ’07–’12) of Dana-Farber Cancer Institute, Boston, has led one of the first studies that demonstrates the potential of personalized cancer vaccines. The study focused on six people with advanced melanoma, a type of skin cancer. The participants had surgery to remove their tumors, but about half of all such patients face a recurrence of cancer. The researchers formulated a personalized vaccine for each person that contained up to 20 protein fragments corresponding to the mutations in their individual tumors. Thirty-two months later, four of the patients were cancer free. Two patients had their tumors re-grow, but experienced complete remission when subsequently treated with a PD-1 inhibitor, a drug that blocks the ability of cancer cells to hide from the immune system. Two years after treatment, the patients’ blood still carried anti-melanoma immune cells, suggesting the vaccine’s benefits last. Currently, cancer patients begin treatment with traditional therapies about three to six weeks after an initial diagnosis. Her goal is to treat a patient with an individualized cancer vaccine in that same window. While this is a small-scale study, the promising results mean researchers can move ahead with larger clinical trials, which could potentially lead to new, more effective cancer treatments. The results were published in the scientific journal Nature.

Read more about this research here.

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