Roche/BioNTech experimental vaccine shows early promise in pancreatic cancer

Typically, the rare long-term survivors of this disease have immune systems that learn to recognize and attack mutant proteins, or neoantigens, in their cancer cells, the study authors noted in a commentary published with their report.

By Nancy Lapid

Bengaluru: Half of the patients who received an experimental vaccine for pancreas cancer being developed by Roche and BioNTech following surgery in a small, early trial were still alive, most without disease recurrence, more than three years later, researchers reported.

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The messenger RNA-based therapeutic cancer vaccine, autogene cevumeran, achieved the same effect in eight of the 16 trial participants, the researchers had earlier reported.

The researchers, whose findings were published in Nature, do not know why only some patients responded to the vaccine.

The vaccine was personalized to deliver instructions that would teach the immune system to recognize each patient's specific tumor cells. Study participants first received surgery, followed by the vaccine and Roche's immunotherapy Tecentriq (atezolizumab), and finally chemotherapy.

At a median follow-up of 3.2 years, six of the eight responders remain cancer-free. The two who relapsed had weaker vaccine-induced immune responses compared with other responders, the researchers reported.

Seven of the eight vaccine non-responders had cancer recurrences at a median of 13.4 months after surgery.

Early-stage trials are designed to test safety, not efficacy, so the researchers cannot say the vaccine caused the delay in cancer recurrence. A larger, mid-stage trial is underway that should be able to shed more insight into the vaccine's efficacy.

"For patients with pancreatic cancer, our latest results continue to support the approach of using personalized mRNA vaccines to target neoantigens in each patient's tumor," study leader Dr. Vinod Balachandran of Memorial Sloan-Kettering Cancer Center in New York said in a statement.

Epstein-barr virus boosts crohn's disease risk

Epstein-Barr virus (EBV), which causes mononucleosis, can also increase a person's risk of developing Crohn's disease, a debilitating autoimmune condition of the gastrointestinal tract, researchers have discovered.

EBV is already known to contribute to higher risks for other autoimmune diseases, including multiple sclerosis, lupus and rheumatoid arthritis, but the association with Crohn's had not been recognized.

The researchers analyzed blood samples obtained periodically from a large cohort of young military recruits, looking for antibodies against a wide range of viruses.

Military personnel whose blood contained anti-EBV antibodies, showing they had once been infected, were three times more likely to eventually develop Crohn's disease compared to recruits without these antibodies, the researchers reported in Gastroenterology.

Participants' EBV infections likely preceded their Crohn's diagnosis by five-to-seven years, the researchers said.

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Later, in a large group of children whose parents or siblings had Crohn's, the researchers could not find evidence that EBV infections increased the children's risk of developing the disease. They speculated that having first-degree relatives with Crohn's could already have put them at increased risk, muddying the association with EBV.

The researchers want to learn what the Epstein-Barr virus does at a molecular level to make people more susceptible to Crohn's disease.

"Mechanistically, we need to understand exactly how EBV alters the immune system leading to Crohn's disease," study leader Dr. Scott Snapper of Boston Children's Hospital said in a statement. "If you could figure out the mechanisms, you could come up with new therapies."

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