Harnessing Viruses to Cure Cancer

Researchers injected a non-pathogenic virus into a tumor, triggering a powerful, widespread immune response that killed cancer cells

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Researchers have long been aware that several viruses have an innate ability to kill cancer cells. Dmitriy Zamarin, MD, PhD (Damon Runyon Fellow ’13–’16) and Jedd D. Wolchok, MD, PhD (Clinical Investigator ’03–’08) both at Memorial Sloan Kettering Cancer Center, are combining that observation with currently approved cancer immunotherapies to deliver a “one-two punch” against cancer in clinical trials. The researchers have injected a non-pathogenic Newcastle Disease Virus (NDV) into a tumor, triggering a powerful, widespread immune response that kills cancer cells not only in the tumor, but also outside the virus-infected region. In combination with checkpoint inhibitors that unleash the immune system’s full cancer-fighting power, they have shown that the treatment can overcome and even prevent immunotherapy resistance in mice. Positive results in patients may help expand the use of immunotherapies to a broader range of cancers, including solid tumors. These findings were published in the Journal of Clinical Investigation.

Read more about the study at Cancer Therapy Advisor.

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