Are Vaccines Dead in Lymphoma and CLL?

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TRANSCRIPT

I'm going to discuss very briefly the history and the future of vaccines in lymphoma and CLL. Vaccines were without a doubt the greatest invention of modern medicine in that they prevented or cured terrible infectious diseases from which people were otherwise dying. It has long been believed that we could use vaccines to also teach our immune systems how to kill cancer cells, such as lymphoma and CLL.

The first iterations of lymphoma vaccines were promising, but then in large studies were not good enough to show significant benefit, although some of those patients to this day remain in remission from vaccines they received ten and fifteen years ago. That was only a minority of patients and not enough patients got benefit from the earlier generations of lymphoma vaccines.

We have newer generations of vaccines for lymphoma, for other hematologic malignancies like CLL and multiple myeloma, and even other types of leukemia. Without going into the details of each type of vaccine, we have newer vaccines that are clearly accomplishing what those version 1.0 lymphoma vaccines were not accomplishing. Specifically, patients with bulky tumors having those tumors melt away after receiving these vaccines. Again, the purpose of these vaccines is to teach the patient's immune system how to recognize their own lymphoma or leukemia cells, and to travel systemically to target those lymphoma and leukemia cells and eliminate them. Now we have, in early phase studies both in lymphoma and myeloma, and in some leukemias, examples of that, things that earlier

vaccine platforms were not able to achieve. These will in the near term lead to larger studies and we'll be able to show how effective these vaccines are, but perhaps even more exciting is it that now, in this modern era of immunotherapy, we have a chance to combine these vaccines with other types of immune therapies. The most obvious example of these are checkpoint blockade therapies like anti-PD-1 antibodies. If the vaccines are able to initiate an immune cell response against a patient's own tumor, that immune cell response might peter out or might become exhausted. But by adding anti-PD-1 antibodies we think that these immune responses will be potentiated, they'll be more effective and hopefully be able to induce remissions in large numbers of patients with lymphoma or other hematologic malignancies.