

**Non-technical abstract:**

The purpose of this study is to determine the safety and toxicity of administering vaccine composed of lethally irradiated lymphoma cells admixed with GM-CSF secreting K562 cells in patients with follicular lymphoma who have had at least a PR or stable disease (with no lymph node mass greater than 5 cm in any one dimension) following systemic therapy.

In recent years, researchers at the Dana-Farber Cancer Institute (DFCI) have discovered that vaccines made from a patient's own cancer cells, that have been engineered in the laboratory to produce a protein called GM-CSF, can be effective in stimulating a powerful immune response specific to that cancer. GM-CSF is a naturally occurring hormone in the body that helps our immune system fight infections and diseases. Previous clinical trials performed at DFCI and other centers using these GM-CSF based vaccines have shown them to be safe in patients with advanced melanoma (a type of skin cancer), lung and ovarian cancer, as well as AML, and encouraging activity was observed in some patients. More recently, trials using the GM-K562 bystander cells have been generated, such that GM-CSF secretion no longer depends on the technically challenging procedure of viral introduction of GM-CSF into the patient's own tumor cells. GM-K562 cells are derived from K562 cells, which are myeloid leukemia cells, that lack immune markers that would otherwise cause them to be rapidly rejected by one's own immune system. To use GM-K562 cells in a vaccine specific for follicular NHL, the current study proposes to mix irradiated GM-K562 cells with the patient's own lymphoma cells (also irradiated) as a vaccine.

All study participants will receive vaccines consisting of GM-K562 cells, combined with an equal number of the patient's own fNHL cells. The vaccines will be administered on days 1, 8, 15 and then every 2 weeks up to six vaccines. If there are more tumor cells available the patient may continue to receive vaccine. The goals of this study are to assess the safety and toxicity of the vaccination procedure, to describe the biological activity of the vaccine, to determine response and to determine progression free survival.