

2. Non-technical Abstract:

Adenocarcinomas are cancers that can arise commonly in the lung, breast, colon, rectum, stomach, pancreas and other tissues that contain glands. Adenocarcinomas contain carcinoembryonic antigen (CEA), a protein, which can be detected on tumor tissues and/or the blood. It is normally found in the developing tissues of the intestine, but rarely in adult normal tissues. This research study will use a vaccine, rF-CEA(6D)/TRICOM, to stimulate the immune system to recognize CEA as foreign. This vaccine is a form of gene therapy. A virus named fowlpox has been made to contain the genes for CEA, B7.1, LFA-3 and ICAM-1. TRICOM stands for three proteins: B7.1, LFA-3, AND ICAM-1. They are proteins normally found on cells of the immune system that function to help the immune system to protect against foreign proteins. The immune system can develop an immune reaction against a foreign protein only with helping molecules, like B7.1, LFA-3 and ICAM-1. CEA, which is rare in normal adult tissues, is found on tumor cells but the helping molecules are not. Therefore the immune system cannot make an immune response against CEA. rF-CEA(6D)TRICOM is being tested to see if it can stimulate the immune system to recognize CEA on tumor cells. The first eighteen patients on this study will be treated with the vaccine alone. Another thirty patients will receive a growth factor called granulocyte macrophage-colony stimulating factor (GM-CSF) with the vaccine. GM-CSF will be added to the vaccine because it can help stimulate the immune system to respond to a vaccine. GM-CSF will be given either as a protein injection at the vaccine site or injected with the vaccine in the form of a gene therapy, rF-GM-CSF. Vaccine studies in animals have shown that GM-CSF can improve the ability of the immune system to recognize a foreign antigen, which has also been seen in some human vaccine studies using GM-CSF.