1. Scientific Abstract:

The overall hypothesis of this Phase I study is that recombinant fowlpox-TRICOM and/or recombinant fowlpox-GM-CSF can be given intravesically without significant side effects in patients with carcinoma of the bladder. The initial observation of Jewitt and Strong in 1946 concerning the prognostic significance of bladder wall penetration by transitional cell carcinoma laid the groundwork for the treatment of muscle-invasive bladder cancer by radical cystectomy. In the United States this is the most common treatment for muscle-invasive disease. The 5-year survival rates of patients treated by radical cystectomy are disappointing and vary greatly for patients with muscle-invasive tumors ranging from 15% to 85%. Patients in this study will undergo intravesical fowlpox-GM-CSF and/or fowlpox-TRICOM therapy prior to their surgery. The clinical rationale for the treatment is that local and/or systemic anti-tumor effects induced by the recombinant fowlpox might potentially increase the chance of tumor control following radical cystectomy. With this approach, the patient has the benefit of standard surgical treatment as well as the possible benefit from the generation of a systemic tumor-specific immune response elicited by intravesical fowlpox-GM-CSF and /or fowlpox-TRICOM. The primary objective of this clinical trial is to assess the safety of intravesical administration of recombinant fowlpox virus encoding three different costimulatory molecules (B7.1, ICAM-I, LFA-3) called TRICOM (-rF-TRICOM) and/or recombinant fowlpox encoding GM-CSF (rF-GM-CSF) in the treatment of patients with muscle-invasive carcinoma of the bladder. Secondary objectives include determining the kinetics of viral infection and gene function as well as host response to intravesical recombinant fowlpox virus in the treatment of bladder cancer.