

## **II. NONTECHNICAL ABSTRACT**

We have investigated the possibility of transferring genes into tumor cells within the body. These genes change the tumor so that it becomes sensitive to a type of chemotherapy that is not toxic to normal parts of the body. These changes may also make the tumor more visible to the immune system. The gene we have selected is the Herpes Simplex-thymidine kinase (HSVtk) gene, one of many genes contained within the Herpes Simplex Virus. The Herpes simplex virus can be killed by a drug called Ganciclovir (GCV). By transferring the HSVtk gene into the tumor using a disabled mouse virus called vector, we can convert the tumor to be genetically like a herpes virus. The HSVtk-containing tumor can now be killed with GCV.

We have conducted an initial trial in women with recurrent ovarian cancer and found that the gene treatment could be administered safely. In some patients their tumor became smaller. Based upon our initial results, we propose a trial to treat more patients with ovarian cancer who have failed standard therapies. Patients will undergo surgery to place a plastic catheter into the abdomen and then receive an infusion of HSVtk vector producing cells into the abdomen through the catheter. The patients will receive GCV by intravenous infusion for 2 weeks after the injection of the vector producing cells. Response to therapy will be assessed by X-ray studies and looking into the abdomen with a scope.