

By: Stefano/2008, Science Editor

A Vaccine to Save the Boobs!

And woman's fertility

They hit hard on what represent femininity and fertility. But soon, with just one injection, women would be protected from the devastating ovarian and breast cancers. The vaccine for ovarian cancer would instruct the immune cells to kill the tumor cells. "This trial is a phase I/II trial that is just getting started. The vaccine makes use of the patients' own tumor cells, which are then put into the patients' own dendritic cells. Dendritic cells are responsible for initiating the body's immune response. The "re-educated" dendritic cells are then injected back into the patient at intervals spanning as long as three years. Once in the body, these cells are designed to attack the cancer cells.", said lead researcher Dr George Coukos, assistant professor at the University of Pennsylvania's division of gynecologic oncology, in a presentation at a meeting of the Alliance for Cancer Gene Therapy, in Greenwich, Conn. The trial is made on 30 patients with ovarian cancer tests two new drugs (DCVax-L and DCVax-L) that boost the growth of new immune cells. "Using this therapy in mice produced dramatic results. Typically, the translation from mouse to human is always disappointing. We are hoping, based on other clinical data, there will be a good response," said Coukos. Individualized ovarian cancer vaccines made of patient's own cells could be a highly effective cure. "We actually use the patient's own tumor and the patient's own blood. So it's not one-type-of-therapy-fits-all. Everybody gets their own individualized treatment. We need to keep trying. One trial will not provide all the answers we need. In most cases of ovarian cancer, the disease has already reached the late stage and spread beyond the ovaries before it is detected and diagnosed. Because the cancer has spread to other parts of the body - metastasized - the prognosis is typically not good. After surgery and chemotherapy, late-stage ovarian cancer usually recurs in 18 months to 20 months. When it does reappear, it is considered incurable and usually results in death, even with aggressive chemotherapy," said Coukos. Other research presented at the meeting by Dr Leisha A. Emens, assistant professor of oncology at Johns Hopkins University, aims for a vaccine against six types of breast cancer, more specifically against HER-2/neu type, a particularly aggressive form amongst the 6 known types of breast cancer. "The vaccine is designed to marshal the body's immune response to fight the cancer," said Emens. Her team discovered that mixing the vaccine with chemotherapy drugs like cyclophosphamide and doxorubicin boost the vaccine's power, during the trial involving women with advanced breast cancer. Emens is also searching for a vaccine that, combined with chemotherapy, would impede blood vessels from delivering food to the tumor, killing it. "We have enrolled eight folks and have seen evidence for immunity. It is important that now that we are on the verge of developing immune-based and gene-therapy-based approaches for treating cancer to integrate these novel approaches into the standards we already have, so we can maintain the progress and improve it. By doing that, we will be able to cure breast cancer in our lifetime," said Emens.