

BIOMEDICINE

From the annual meeting of the American Association for Cancer Research in New Orleans

Gene therapy for breast, ovarian cancer

A novel gene therapy technique may one day hold out promise for women with breast or ovarian cancer.

Naoto T. Ueno of the University of Texas M.D. Anderson Cancer Center in Houston and his colleagues knew that 20 to 30 percent of ovarian and breast cancer patients have a gene, called *HER-2/neu*, that is hyperactive. They also knew that women with this overactive gene tend to have a poor therapeutic outlook. "The cancer is aggressive," Ueno says.

The team wanted to see if it could slow the cancer by countering the action of *HER-2/neu* in cancer cells. To do that, the researchers turned to another gene, *E1A*, which is thought to work by turning off *HER-2/neu*. They had previously used the *E1A* gene to treat mice with ovarian cancer.

The Texas team recruited 12 people with advanced ovarian or breast cancer. Each recruit received weekly injections of a solution of fatty particles, called liposomes, that contained the *E1A* gene.

Not only did the gene get into each patient's cancer cells, Ueno reported at the meeting, it dampened the activity of *HER-2/neu* in those cells. Moreover, several people's cancer showed signs of becoming less widespread, he says.

"We're very excited by the findings," Ueno says. However, the group must conduct further studies in order to document that the method has an antitumor effect, he cautions.

—K.F.