

# Research suggests link between infertility, low egg reserve, and breast/ovarian cancer gene (BRCA1)

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A New York Medical College physician who specializes in restoring or preserving fertility in female cancer patients has discovered a possible link between the presence of breast cancer genes and infertility.

In a paper published last week in the [Journal of Clinical Oncology](#), Kutluk Oktay, M.D., professor of obstetrics and gynecology and principal investigator on the study, concluded that mutations in the [BRCA1](#) gene, which have been linked with early onset breast cancer, are also associated with an early loss of egg reserves. This finding may help to explain why [women](#) who carry a mutated BRCA1 gene have greater rates of infertility as well as a greater risk for breast and [ovarian cancer](#).

Dr. Oktay's team performed ovarian stimulation in 126 women with [breast cancer](#) for the purpose of fertility preservation by embryo or oocyte cryopreservation. The results showed that of the 82 women who met the inclusion criteria, 47 women (57 percent) had undergone BRCA testing, with 14 having a mutation in BRCA [genes](#). In BRCA mutation-positive patients, the low ovarian response rate was significantly greater than for patients who did not show BRCA gene mutations, nor for women who had not been tested for the gene at all.

If fertility drugs are not as effective in stimulating egg production in the ovaries of patients who carry BRCA1 mutations, this establishes a link between infertility and the risk of getting breast or ovarian cancer, Dr. Oktay concludes.

It is estimated that in the general population, one in every 1,000 women is BRCA mutation positive, with the incidence as high as 2.5 percent in certain ethnic groups such as Ashkenazi Jews. Researchers have identified hundreds of mutations

in the BRCA1 gene, many already associated with an increased risk of cancer. This means that the mutations in BRCA1 gene may affect egg reserve and fertility of a significant number of women in the U.S.

Provided by New York Medical College

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