

# Migraines associated with lower risk of breast cancer

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Women who suffer from migraines may take at least some comfort in a recent, first-of-its-kind study that suggests a history of such headaches is associated with a significantly lower risk of breast cancer. Christopher I. Li, M.D., Ph.D., and colleagues at Fred Hutchinson Cancer Research Center report these findings in the November issue of *Cancer Epidemiology, Biomarkers and Prevention*.

"We found that, overall, women who had a history of migraines had a 30 percent lower risk of breast cancer compared to women who did not have a history of such headaches," said Li, a breast-cancer epidemiologist and associate member of the Hutchinson Center's Public Health Sciences Division.

In particular, migraine history appeared to reduce the risk of the most common subtypes of breast cancer: those that are estrogen-receptor and/or progesterone-receptor positive. Such tumors have estrogen and/or progesterone receptors, or docking sites, on the surface of their cells, which makes them more responsive to hormone-blocking drugs than tumors that lack such receptors.

The biological mechanism behind the association between migraines and breast cancer is not fully known, but Li and colleagues suspect that it has to do with fluctuations in levels of circulating hormones.

"Migraines seem to have a hormonal component in that they occur more frequently in women than in men, and some of their known triggers are

associated with hormones," Li said. "For example, women who take oral contraceptives – three weeks of active pills and one week of inactive pills to trigger menstruation – tend to suffer more migraines during their hormone-free week," he said. Conversely, pregnancy – a high-estrogen state – is associated with a significant decrease in migraines. "By the third trimester of pregnancy, 80 percent of migraine sufferers do not have these episodes," he said. Estrogen is known to stimulate the growth of hormonally sensitive breast cancer.

While this study represents the first of its kind to look at a potential connection between migraines and breast cancer, Li and colleagues have data from two other studies that in preliminary analyses appear to confirm these findings, he said.

"While these results need to be interpreted with caution, they point to a possible new factor that may be related to breast-cancer risk. This gives us a new avenue to explore the biology behind risk reduction. Hopefully this could help stimulate other ideas and extend what we know about the biology of the disease."

For the study, the researchers combined data from two population-based, case-control studies of 3,412 Seattle-area postmenopausal women, 1,938 of whom had been diagnosed with breast cancer and 1,474 of whom had no history of breast cancer, who served as a comparison group. Information on migraine history was based on self-report and was limited to migraines that had been diagnosed by a physician or other health professional.

Source: Fred Hutchinson Cancer Research Center

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