

Daily aspirin may reduce risk of common type of breast cancer

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Taking aspirin on a daily basis may lower women's risk of a particular type of breast cancer, according to results published in BioMed Central's open access journal *Breast Cancer Research*. In this large study, aspirin use was linked to a small reduction in estrogen receptor-positive breast cancers. However, unlike in some previous research, aspirin and related painkillers were not found to reduce the total risk of breast cancer.

Around 75% of breast cancers are estrogen receptor-positive (ER+), which means the cancer cells have receptors for the female hormone estrogen on their surface. Estrogen helps the cancer cells grow, so drugs that block the action of estrogen are often used to treat ER+ cancer.

It is feasible, in theory, that aspirin and other nonsteroidal anti-inflammatory drugs (NSAIDs) could lower the total risk of breast cancer. They block an enzyme called cyclooxygenase, an activity that could disrupt breast cancer development in a number of ways – for example, by reducing the amount of estrogen produced in the body.

A US research team, led by Gretchen Gierach, studied over 127,000 women enrolled in the National Institutes of Health–AARP Diet and Health Study, which was designed to explore the possible links between diet, health-related behaviours and cancer in older people in the USA. For the current research, the participants were women aged 51–72 with no history of cancer.

Unlike other NSAIDs, aspirin has irreversible effects on cyclooxygenase (COX) enzymes, so the study authors looked for differences in cancer development according to whether women used aspirin or another kind of NSAID.

NSAID use was not linked to total risk of breast cancer in this study. However, when the team considered different cancer subtypes and specific

types of NSAIDs, they found that daily aspirin use was associated with a small reduction (16%) in the risk of ER+ breast cancer. A similar link was not seen in cases of ER- breast cancer.

Gierach concludes: "In summary, our results do not support an important influence of NSAIDs on total breast cancer risk. Daily aspirin use, however, appeared to offer some protection for ER+ breast cancer in this population ... Our results provide support for further evaluating relationships in prospective studies with well-defined measures of NSAID use by NSAID type ... and by ER status."

Source: BioMed Central

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