Breast cancer incidence declined among postmenopausal women in Canada as their use of hormone therapy declined, according to a study published online September 23 in *The Journal of the National Cancer Institute*.

The Women's Health Initiative (WHI) trial of more than 16,000 postmenopausal women in the United States reported in 2002 that the risks of combined estrogen and progestin hormone replacement therapy outweighed the benefits. As a result, prescriptions for hormone therapy fell dramatically in several countries around the world and so did the incidence of breast cancer.

To determine whether a similar decline of hormone therapy use and breast cancer incidence occurred in Canada, Prithwish De, Ph.D., of the Canadian Cancer Society, and colleagues, analyzed data from various Canadian registries and from a national health survey for women aged 50-69 years. Specifically, the researchers looked at information on prescriptions for hormone replacement therapy, breast cancer incidence, mammography rates, and self-reported use of hormone replacement therapy.

The researchers found that "the nearly 10% drop in invasive breast cancer rates coincided with the decline in use of hormone replacement therapy reported among Canadian women aged 50-69 years." The steepest decline in use occurred between 2002 and 2004, when use dropped from 12.7% to 4.9%. In that same period, breast cancer
incidence dropped 9.6% but mammography rates remained stable.

The researchers write that the decline in breast cancer incidence "is likely explained by the concurrent decline in the use of hormone replacement therapy among Canadian women." They also say the drop in hormone therapy use may be partly explained by the media's coverage of results of both the WHI and the Million Women Study in the U.K., both of which showed that breast cancer risk was elevated with the use of combined hormone therapy. In Canada, cancer rates began to increase again in 2005 among women aged 50-69 years, which might be further evidence of a link between hormone therapy and breast cancer, according to the authors.

"Such a rebound might be expected if occult hormone-sensitive tumors were merely slowed by the withdrawal of hormone replacement therapy rather than prevented by it. If so, hormone replacement therapy may be thought to act as a promoter, rather than a cause of breast cancer," they write.

The study's limitations include the fact that data on hormone replacement therapy use was self-reported—and therefore subject to recall bias—and that data on frequency or duration of use were not collected. Also, data on receptor status of breast tumors were not collected.

In conclusion, the authors write that "further long-term surveillance studies of trends between hormone replacement therapy and breast cancer incidence can help reconcile the potential population-level associations of these two factors."

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