

Does Hormone Replacement Therapy Increase Women's Risk of Dementia?

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Related Article

Use of Hormone Replacement Therapy and Risk of Dementia: A Nationwide Cohort Study

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Introduction

Women have a higher risk of developing dementia, particularly Alzheimer dementia (AD). The reason for a sex difference in the risk of AD is not clearly understood. Some researchers suspect that hormone changes that come with menopause may be associated with a higher risk of dementia. If so, it would be expected that replacing hormones in menopause might reduce dementia risk for women. However, the relationship between hormone replacement therapy (HRT) and dementia risk is much more complex.

Previous studies on this topic have reached different conclusions about whether HRT increases or decreases the risk of AD. For example, the Women's Health Initiative Memory Study (WHIMS) suggested increased risk of AD with HRT. Other studies such as the Multi-Institutional Research in Alzheimer's Genetic Epidemiology (MIRAGE) study showed that HRT in younger women (that is, aged 50–63 years) was associated with reduced risk of AD.¹ These differing results make it difficult for doctors to give good advice about the effects of HRT to women experiencing menopause. To better understand the relationship between HRT and AD risk, the researchers in this study analyzed data from a large number of women over many years.²

How Was This Study Done?

This study was based on the review of over 100,000 medical records of women aged 40 years and older in Taiwan. Approximately one-third of the women were on HRT, and approximately two-thirds were not. The researchers' data came from a large insurance database that covered most people in Taiwan.

For each study participant, the researchers collected data beginning with the first date of HRT prescription until the diagnosis of dementia, death, or the end of this study, whichever occurred first. On average, they followed participants for approximately 12 years. Women on HRT could be on various forms of hormone replacement. These included different forms of estrogen and progesterone, alone or in combination. The hormones were taken by mouth, through the skin (by way of a patch), or by muscle injection.

Both study groups (that is, those on and not on HRT) were very similar. They were about the same age and had similar medical conditions. One significant difference was that for most women in the comparison group (73.6%), menopause started later (52 years or later), whereas for most participants (51.4%) in the HRT group, menopause started earlier (52 years or earlier). This difference may affect the interpretation of the study results and will be discussed below.

What Did This Study Find?

This study found that women on HRT have a significantly increased risk of all types of dementia, including Alzheimer disease, vascular dementia, and other types of dementia. Risks of Alzheimer disease and vascular

dementia were significantly higher in the HRT group, regardless of the age when menopause began. Higher doses of HRT were associated with higher dementia risk. However, the duration of hormone use, either 13.5 years or less vs 13.5 years or more, did not seem to affect the risk.

Strengths and Limitations of This Study

This was a good study because it included most women in Taiwan who were in the relevant age group. The researchers also had comprehensive information about prescriptions and dementia diagnoses for the participants. On the other hand, there were differences in the age of menopause in the 2 groups. This may be important because other studies have shown that early menopause is tied to increased dementia risk.³ The fact that most women in the HRT group had earlier menopause might make that group seem to be at higher risk of dementia for reasons unrelated to HRT. The researchers also did not look at every potential risk factor of dementia in their study. Finally, unlike the United States, Taiwan has a relatively homogenous population. Most of the population is ethnically Chinese. Therefore, it is unclear how findings of this study should be applied to other, more diverse populations.

About Dementia

What Are the Major Dementia Types?

Dementia is a condition in which cognitive function (which includes thinking, reasoning, and memory) deteriorates beyond what might be expected from the usual effects of aging. Dementia causes gradual loss of cognition, including memory, orientation, visuospatial skills, executive functions, language, mood, and behavior.

The most common type of dementia is Alzheimer dementia (AD). At the age of 65 years, a woman has a 1 in 5 chance of developing AD in her lifetime. The exact cause of AD is unclear, and there are likely many factors that can increase the risk of developing AD. These include age, genetics, education, high blood pressure, diabetes, traumatic brain injury, smoking, excessive alcohol consumption, obesity, depression, hearing loss, and environmental factors such as air pollution.⁴

Vascular dementia refers to dementia caused by stroke, brain bleed, or transient ischemic attack (also referred to as TIA; this is when a person has a mini stroke and experiences stroke-like symptoms but shows no signs of permanent stroke on a brain scan). To minimize the risk of vascular dementia, it is important to treat high blood pressure, diabetes, high cholesterol, and sleep apnea and to stop smoking. Sometimes dementia can have more than 1 cause. When this occurs, the term “mixed dementia” is used. For example, a person can have both AD and vascular dementia at the same time. Other types of dementia include frontal temporal dementia, Lewy body dementia, dementia of Parkinson disease, and prion disease.

Is It Safe to Take Hormone Replacement? For How Long?

HRT use continues to be an area of intense research and debate. In 2016, an updated guideline on this complex subject was published. This guideline was endorsed by many international societies. It is available online to the public.

The consensus is that HRT is the most effective treatment for “hot flash” symptoms that are associated with menopause at any age. Furthermore, the benefits are more likely to outweigh risks for women experiencing these symptoms before the age of 60 years or within 10 years after menopause.⁵

In practice, each perimenopausal and menopausal woman should have a discussion with her physician and make an informed decision about HRT. It is important to consider personal risk factors such as family history, cancer, risk of developing blood clots, heart disease, stroke, and other possible factors. Because HRT is an active research topic, the guidelines about it will continue to be updated as new information becomes available.

For More Information

Brain & Life

brainandlife.org

Alzheimer's Association

alz.org

BrightFocus Foundation

brightfocus.org

Alzheimer's Foundation of America

alzfdn.org

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