

# Early menopause linked to increased risk of brain aneurysm

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The younger a woman is when she goes through the menopause, the greater may be her risk of having a brain (cerebral) aneurysm, suggests research published online first in the *Journal of NeuroInterventional Surgery*.

A cerebral aneurysm refers to an abnormal bulging of one of the arteries in the brain, which is often only discovered when it ruptures, causing a potentially fatal and/or disabling bleed.

Women are more prone to cerebral aneurysms than men. And fluctuations in the female hormone oestrogen have been implicated in the development of aneurysms, the incidence of which, along with cardiovascular disease, rises sharply after menopause.

The authors base their findings on 76 [postmenopausal women](#) who had had a cerebral aneurysm, which, in most cases had not ruptured, and who were subsequently quizzed about their medical and reproductive histories.

Conditions, such as [high blood pressure](#), diabetes, [high cholesterol](#) and an underactive thyroid gland ([hypothyroidism](#)) can all boost the risk of a stroke, while the number of pregnancies and the age at which periods start and stop determine [lifetime exposure](#) to oestrogen.

This information was then compared with that taken from more than 4,500 women participants of the 2002 National Institute of Child Health

and Human Development Contraceptive and Reproductive Experiences Study, and matched for age and [educational attainment](#).

The average age at which women in both groups had started the menopause was similar, and analysis of the results showed that later menopause and use of [hormone replacement therapy](#) (HRT) protected against the risk of a cerebral aneurysm, lessening the risk by 21% and 77%, respectively.

Premature menopause - before the age of 40 - had occurred in one in four (26%) of the women who had had an aneurysm compared with around one in five (19%) of those in the comparison group.

And each successive four year increase in the age at which a woman went through the menopause lessened the likelihood of a cerebral aneurysm by around 21%.

Smoking did not seem to be linked to an increase in risk, while alcohol consumption was of borderline significance.

The outcomes for ruptured cerebral aneurysms are poor, with around one in two people who have one likely to die. One in 10 people die before they reach hospital and of those who survive, one in five is severely disabled, say the authors, so finding a potential marker may help to detect the condition earlier.

"Loss of oestrogen earlier in a woman's life may contribute to the [development] of cerebral aneurysm," conclude the authors, adding that HRT may protect against this. And they suggest: "These data may identify a risk factor for [the development of this condition] and also a potential target for future therapies."

**More information:** Younger age of menopause in women with

cerebral aneurysms Online First [doi: 10.1136/neurointsurg-2012-010364](https://doi.org/10.1136/neurointsurg-2012-010364)

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