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## **The BMJ Press Release**

### **Women with migraines have higher risk of cardiovascular disease and mortality**

*Migraine should be considered an important risk marker for cardiovascular disease, say experts*

Women diagnosed with migraines have a slightly increased risk of developing cardiovascular diseases, such as heart attacks and strokes, and are somewhat more likely to die from these conditions than women who do not have migraine, according to findings of a large study published in **The BMJ** today.

These results add to evidence that migraine should be considered an important risk marker for cardiovascular disease, say experts. But more research is needed to determine possible causes, and whether treatments to prevent migraines could help to reduce these associated risks.

Migraine has been consistently linked with an increased risk of stroke, but few studies have shown an association of migraine with cardiovascular diseases and mortality.

So a team of US and German researchers carried out a large prospective study to evaluate associations between migraine, cardiovascular disease and mortality.

They analysed data from 115,541 women enrolled in the Nurses' Health Study II. The participants were aged 25-42 years, free from angina and cardiovascular disease, and

followed from 1989-2011 for cardiovascular events, diseases and mortality.

Overall, 17,531 (15.2%) women reported a physician's diagnosis of migraine at baseline. Over 20 years of follow-up, 1,329 total cardiovascular disease events occurred and 223 women died due to cardiovascular disease.

When compared to women who did not have migraine, these results show that women who reported a migraine had a greater risk for major cardiovascular disease, including heart attacks, strokes and angina/coronary revascularization procedures.

These associations remained after adjusting for other factors that may have increased the risk for these diseases.

In addition, migraine was associated with a higher risk for cardiovascular mortality. This association was similar across subgroups of women, including by age, smoking status, hypertension, postmenopausal hormone therapy, and oral contraceptive use.

In a linked editorial, Rebecca Burch from Harvard Medical School and Melissa Rayhill from The State University of New York at Buffalo caution that "the magnitude of the risk should not be over-emphasized," as "it is small at the level of the individual patient, but still important at a population level because migraine is so prevalent."

While the current study controlled for a large number of vascular risk factors, no information was available for vascular biomarkers, and migraine specifics, such as migraine aura.

Nevertheless, the authors say "these results further add to the evidence that migraine should be considered an important risk marker for cardiovascular disease, at least in women," and there is no reason why the findings can't be applicable to men.

"Given the high prevalence of migraine in the general population, an urgent need exists to understand the biological processes involved and to provide preventive solutions for patients," they conclude.

The editorialists Rebecca Burch and Melissa Rayhill agree "it's time to add migraine to the list of early life medical conditions that are markers for later life cardiovascular risk."

They say this latest study raises questions about whether treatments that decrease the frequency or severity of migraine may reduce later life vascular risks, and conclude by saying "what little evidence we do have suggests the need for therapeutic restraint [to prevent cardiovascular risk] until we have a better understanding of the mechanisms underlying the link between migraine and vascular disease."

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### **Note to Editors**

Research: Migraine and risk of cardiovascular disease in women: prospective cohort study

Editorial: Migraine and vascular disease

Journal: The BMJ

Public link to research:

<http://www.bmj.com/content/353/bmj.i2610>

Public link to editorial:

<http://www.bmj.com/content/353/bmj.i2806>

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