

## Death of partner linked to heightened risk of irregular heartbeat for up to a year later

*Risk greatest among under 60s and when loss least expected*

The death of a partner is linked to a heightened risk of developing an irregular heartbeat otherwise known as atrial fibrillation—itsself a risk factor for stroke and heart failure—for up to a year afterwards, finds research published in the online journal **Open Heart**.

The risk seems to be greatest among the under 60s and when the loss of the partner was least expected, the findings indicate.

A growing body of evidence suggests that highly stressful life events boost the risk of a heart attack or stroke, but it is not clear whether this might also be true of atrial fibrillation.

The researchers therefore collected information on 88,612 people newly diagnosed with atrial fibrillation and 886,120 healthy people, matched for age and sex, between 1995 and 2014.

They looked at several factors that might influence atrial fibrillation risk. These included time since the bereavement; age and sex; underlying conditions, such as heart disease and diabetes; the health of the partner a month before death; and whether they were single.

Some 17,478 of those diagnosed with atrial fibrillation had lost their partner as had 168,940 of the comparison group.

Underlying illnesses, such as cardiovascular disease and diabetes, and associated treatment for these conditions, were more common among those who had been diagnosed with atrial fibrillation.

But the risk of developing an irregular heartbeat for the first time was 41% higher among those who had been bereaved than it was among those who had not experienced such a loss, the findings indicated.

This heightened risk was apparent, irrespective of gender and other underlying conditions.

The risk seemed to be greatest 8 to 14 days following a death, after which it gradually subsided until after a year the risk was similar to that of someone who had not been bereaved.

The highest risk was seen among people under the age of 60: they were more than twice as likely to develop atrial fibrillation if they had been bereaved.

The risk also seemed to be greater where the partner's death had been unexpected, as defined by a validated score (ACCI) to assess likelihood of death in the short term according to health status.

Those whose partners were relatively healthy in the month before death were 57% more likely to develop atrial fibrillation. No such increased risk was seen among those whose partners were not healthy and who were expected to die soon.

This is an observational study so no firm conclusions can be drawn about cause and effect, and no data on other potentially influential factors, such as lifestyle and family history, were available, say the researchers.

Nevertheless, they point out that although the underlying factors for the association found between bereavement and atrial fibrillation are not clear, bereavement is known to increase the risk of cardiovascular disease, mental illness, and even death.

They suggest that acute stress may directly disrupt normal heart rhythms and prompt the production of chemicals involved in inflammation.

“In addition, patients with paroxysmal [atrial fibrillation] often claim that emotional stress is a common triggering factor and increasing levels of perceived stress are associated with prevalent [atrial fibrillation],” they explain.

Further research looking at whether the association found applies to more common, but less severe life stressors, is warranted, they suggest.