Heart attack survivors may be less likely to develop Parkinson's disease

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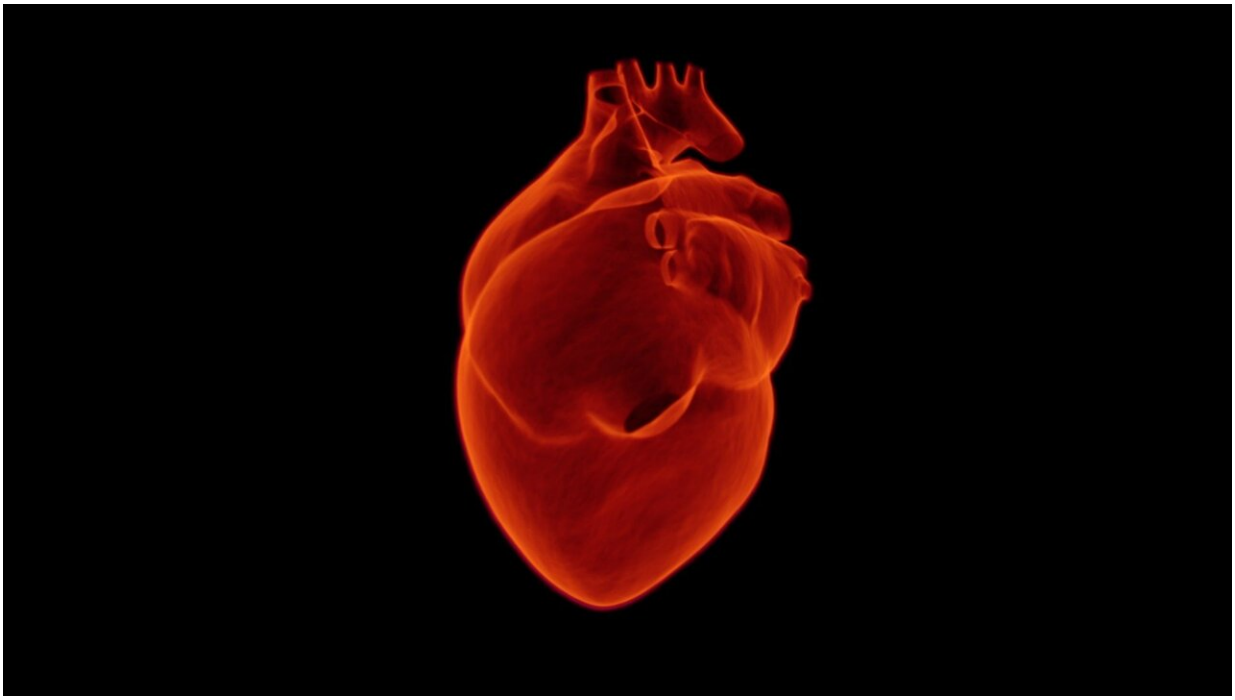

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People who have had a heart attack may be slightly less likely than people in the general population to develop Parkinson's disease later in life, according to new research published today in the *Journal of the American Heart Association*, an open access, peer-reviewed journal of the American Heart Association.

Parkinson's disease is a brain disorder characterized by progressive loss of physical movement, including tremors, slow or slurred speech, and/or stiffness or limited range of motion for walking and other physical activities. There is no cure for Parkinson's disease, and it is also associated with behavioral changes, depression, memory loss and fatigue. Secondary parkinsonism, which has symptoms similar to Parkinson's disease, may be caused by stroke, psychiatric or cardiovascular medications, or other illness.

"We have previously found that following a heart attack, the risk of neurovascular complications such as ischemic stroke [clot-caused stroke] or vascular dementia is markedly increased, so the finding of a lower risk of Parkinson's disease was somewhat surprising," said lead study author Jens Sundbøll, M.D., Ph.D., from the departments of clinical epidemiology and cardiology at the Aarhus University Hospital in Aarhus, Denmark. "These findings indicate that the risk of Parkinson's disease is at least not increased following a heart attack and should not be a worry for patients or a preventive focus for clinicians at follow-up.

"It is not known whether this inverse relationship with risk of Parkinson's disease extends to people who have had a heart attack. Therefore, we examined the long-term risk of Parkinson's disease and secondary parkinsonism among heart attack survivors," Sundbøll said.

The researchers examined health registries from the Danish National Health Service. They compared the risk of Parkinson's disease and secondary parkinsonism among about 182,000 patients who had a first-time heart attack between 1995 and 2016 (average age 71 years old; 62% male) and more than 909,000 controls matched for age, sex and year of heart attack diagnosis. The results were adjusted for a variety of factors known to influence the risk of either heart attack or Parkinson's disease.

Over a maximum continual follow-up of 21 years, after adjusting for a

wide range of potential confounding factors, the analysis found that, when compared to the control group:

- there was a 20% lower risk of Parkinson's disease among people who had a heart attack; and
- a 28% lower risk of secondary parkinsonism among those who had a heart attack.

"For physicians treating patients following a heart attack, these results indicate that cardiac rehabilitation should be focused on preventing ischemic stroke, vascular dementia and other cardiovascular diseases such as a new heart attack and heart failure, since the risk of Parkinson's appears to be decreased in these patients, in comparison to the general population," Sundbøll said.

Heart attack and Parkinson's disease share certain risk factors, with higher risk found among elderly men and lower risk among people who drink more coffee and are more physically active. Interestingly, however, some classic risk factors for a heart attack—such as smoking, high cholesterol, high blood pressure and Type 2 diabetes—are associated with a lower risk of Parkinson's disease.

In general, more heart attack patients smoke and have elevated cholesterol, either of which may explain the slightly reduced risk of Parkinson's disease among heart attack survivors.

"There are very few diseases in this world in which smoking decreases risk: Parkinson's disease is one, and ulcerative colitis is another. Smoking increases the risk of the most common diseases including cancer, cardiovascular disease and pulmonary disease and is definitely not good for your health," Sundbøll noted.

One limitation of the study is that there was not enough information

about smoking and high cholesterol levels among the participants, which may have influenced the findings. In addition, the study population was vastly of white race/ethnicity, according to Sundbøll, therefore, the findings may not be generalizable to people from diverse racial or ethnic groups.

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More information: *Journal of the American Heart Association* (2022). www.ahajournals.org/doi/10.1161/JAHA.121.022768

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