

Inflammation raises the risk of heart attack and stroke in people with rheumatoid arthritis



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Coronary heart disease is a common cause of death in people with rheumatoid arthritis, and may be linked to systemic inflammation.

INTRODUCTION

Rheumatoid arthritis is a chronic inflammatory disease that affects a person's joints, causing pain and disability. Patients with rheumatoid arthritis often have a higher risk of developing cardiovascular diseases such as coronary heart disease, stroke or heart attack. This is because the inflammation involved in rheumatoid arthritis can have an effect on other systems in the body, as well as the joints.

WHAT DID THE AUTHORS HOPE TO FIND?

The authors hoped to work out the role that risk factors such as cholesterol and inflammation play in people with rheumatoid arthritis. Because inflammation is a key feature of rheumatoid arthritis, understanding how it contributes to the development of cardiovascular diseases is important.

WHO WAS STUDIED?

The study looked at data from almost 40,000 people with rheumatoid arthritis being looked after by the Veterans Health Administration (VHA) in the United States. The VHA system is made up of 152 medical centres and nearly 1400 outpatient clinics that provide care to retired members of the United States military. Most of the patients were men over the age of 60.

HOW WAS THE STUDY CONDUCTED?

This was a retrospective observational study, which means that the authors used the VHA database of electronic medical records to look back and find people diagnosed with or treated for rheumatoid arthritis over the past 12 years. There was no interventional treatment given. The authors used the data to work out which factors increased the risk for developing a heart attack or stroke.

WHAT WERE THE MAIN FINDINGS OF THE STUDY?

Many of the people included in the study had cardiovascular risk factors. One-third had high blood pressure, and two-thirds had a history of smoking. The main finding was that raised levels of some markers of inflammation in the blood were linked to a risk of suffering from a heart attack or stroke. Although cholesterol is often found to be a risk factor for heart attacks, in this study it did not appear to be the most important contributing factor. There were no clear results for the risks for people with high levels of low-density lipoprotein (LDL, or 'bad' cholesterol), but the authors found that patients with high levels of high-density lipoprotein (HDL, or 'good' cholesterol) might be protected from heart attacks and strokes. A person's serologic status (meaning the presence of auto-antibodies such as rheumatoid factor) was also linked with an increased risk for heart attack and stroke. Overall, the amount of inflammation was the most important risk factor in people with rheumatoid arthritis suffering from a heart attack or stroke.

ARE THESE FINDINGS NEW?

These findings are not new, but this is the first time that these effects have been shown in such a large group of people. Overall, they agree with the results of past studies that had smaller numbers of patients.

HOW RELIABLE ARE THE FINDINGS?

One of the limitations of this study was a lack of information on each person's disease activity (severity). It would have been useful to have had clinical information such as the number of swollen joints and the length of time since diagnosis for each person. Instead, the authors used information from laboratory tests to estimate disease activity. Also, although this study recorded the smoking status for most patients, this information was missing for approximately 12% of people in the database. Smoking is a major risk factor for cardiovascular disease, and it would have been useful to have been able to include this information for everyone. Finally, because the study was mainly made up of men, the results may not be applicable to all patients with rheumatoid arthritis. However, given the very large numbers of people included, the authors are confident that the findings are reliable.

WHAT DO THE AUTHORS PLAN ON DOING WITH THIS INFORMATION?

The authors are carrying out more studies. They hope that these will help to develop ways to encourage doctors to use treat-to-target guidelines, which recommend that doctors treat patients with the goal of achieving remission or low disease activity. Remission can lead to decreased inflammation and therefore also a decrease in cardiovascular risk.

WHAT DOES THIS MEAN FOR ME?

These results highlight that rheumatoid arthritis is a systemic disease which does not just affect a person's joints. If you have rheumatoid arthritis, or are caring for someone with the disease, it is important that you are aware of the possible complications. You can take steps to reduce your cardiovascular risk factors. People with rheumatoid arthritis should not smoke, and should try to maintain their weight at a healthy level. This will help to minimise the risk of developing cardiovascular diseases such as stroke or heart attack. You should talk to your doctor about ways to treat your rheumatoid arthritis to achieve remission or low disease activity.

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FURTHER READING

- 1 Smolen J, *et al.* Treating rheumatoid arthritis to target: 2014 update of the recommendations of an international task force. *Ann Rheum Dis* 2016;75:3–15.
- 2 Peters M, *et al.* EULAR evidence-based recommendations for cardiovascular risk management in patients with rheumatoid arthritis and other forms of inflammatory arthritis. *Ann Rheum Dis* 2010;69:325–31.