

### Transcript Details

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## Coronary Risk in Rheumatoid Arthritis: Rural vs. Urban Hospitalization Disparities

### Announcer:

You're listening to *Living Rheum* on ReachMD. On this episode, we'll hear from Dr. Jasvinder Singh, a Senior Faculty member and Section Chief for Immunology, Allergy, and Rheumatology at Baylor College of Medicine in Houston, Texas. He is also a Staff physician at Michael E. DeBakey VA Medical Center. He will discuss the rural-urban disparity in the incidence of myocardial infarction hospitalization in patients with rheumatoid arthritis. He also presented on this topic at the 2024 American College of Rheumatology Convergence. Here's Dr. Singh now.

### Dr. Singh:

So just to give you some background on the study that we did in people with rheumatoid arthritis examining the rural versus urban differences, we are all well aware that heart disease, especially coronary artery disease and the blockages in the coronary arteries, is twice as common in people with rheumatoid arthritis as age-matched non-RA patients. We also know from a variety of very elegant studies published in the last 30 years that coronary artery disease is the leading cause of morbidity and mortality in rheumatoid arthritis. More specifically, myocardial infarction or heart attack risk is doubled in people with rheumatoid arthritis, and that risk is almost the same as the risk with diabetes. So as much as people know about diabetes being a risk factor for heart attacks and doing their best to get their diabetes under control and prevent increased risk, we've been aware of the same increased risk of heart attacks in people with rheumatoid arthritis.

However, the knowledge that primary care physicians and others might have with regards to this increased risk may not be a well-known fact and a widespread misinformation among primary care physicians. So knowing that the difference exists compared to non-RA patients in terms of heart attack risk and then the fact that this is a leading killer of people with rheumatoid arthritis in the population and rheumatoid arthritis being the most common inflammatory arthritis in the US, we're interested in asking whether there are differences by where a patient lives in terms of hospitalizations for heart attacks or myocardial infarction.

So what we found in this study was very interesting. We obviously hypothesized that people with rheumatoid arthritis might have differences in myocardial infarction hospitalization by rural versus urban, but what was really impressive was how significant the difference was, and the persistence of this gradient or this mortality gap, what we call "the disadvantage by residence," was quite impressive.

So we used the US 2016–2019 National Inpatient Sample. The NIS is the largest most representative data for all hospitalizations in the US and collects data from all 50 states with a random sampling from within hospitals, and we looked at the primary diagnosis for hospitalization in people with rheumatoid arthritis over those years. When we adjust the model for demographics, comorbidity, hospital characteristics, geography, and socioeconomic factors, we found that people with rheumatoid arthritis who lived in rural areas were 1.7 times more likely to have a myocardial infarction hospitalization compared to those living in urban areas. And what that model tells us is that these differences are significant, despite controlling for all these other factors that I just listed a moment ago. In particular, this difference is driven by the differences by sex as we know that the morbidity of heart disease is higher in men versus women.

Knowing that rheumatoid arthritis is a female-predominant disease but also affects a significant proportion of men, there are a lot of differences, even in age-adjusted rates for myocardial infarction hospitalization among rural male versus rural female and urban male versus urban female. So if you look at the decreasing order of hospitalization, you have rural men followed by urban men, followed by rural women, followed by urban women. So that's the age-adjusted rate of these hospitalizations that shows you the gradient of what is contributing to the rural-urban difference; but as I said, the difference by residence is already adjusted for all the factors listed, including

sex, race, and ethnicity.

**Announcer:**

That was Dr. Jasvinder Singh discussing his session at the 2024 American College of Rheumatology Convergence that focused on disparities in heart attack hospitalizations among patients with rheumatoid arthritis based on rural or urban residence as well as socioeconomic status. To access this and other episodes in our series, visit *Living Rheum* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!