VINCENT RAJKUMAR: Multiple myeloma is the second most common blood cancer. It affects about 20,000 Americans each year. Generally, it's not considered curable. Over the last 10 years, we've made some remarkable strides in the treatment of multiple myeloma. The average survival used to be about three to four years. Now it's in excess of 7 to 10 years. Almost all the patients with multiple myeloma start off with a precursor a condition called monoclonal gammopathy of undetermined significance. It's also called MGUS, or MGUS.

MGUS has been extensively studied in Olmsted County, Minnesota, and we find that over 3% of the general population over the age of 50 has an MGUS. 1% of patients progress each year to the cancer called multiple myeloma.

It's well known that African-Americans have a significantly higher risk of multiple myeloma compared with whites. And this increase is not slight. It's more than two-fold and such kind of a discrepancy is not seen in most other cancers. And in our previous studies, we have found that this increase is also seen in the Africans from Ghana. So there is a suggestion it might be a genetic predisposition. But there might be environmental factors also at play. The reason why multiple myeloma has markedly increased in blacks may be a result of either an increase in the precursor condition MGUS or an increased risk of transformation of the precursor condition to multiple myeloma.

There's been no systematic nationwide study of the prevalence of MGUS, the precursor condition of myeloma in the United States. And there has also been no study looking at the disparities in prevalence between blacks, whites and Hispanics. This was a very large study that we conducted using the National Health and Nutrition Evaluation Survey, NHANS. It was conducted in collaboration with the NCI, as well as the CDC. And after studying over 13,000 samples, what we found was that there was a significant increase in the risk of the precursor condition to multiple myeloma in blacks compared with whites and Hispanics. Hispanics had somewhat of a lower rate than even whites. Now not only did blacks have a higher risk or higher prevalence of this precursor condition, but they also had the type of MGUS they had was also the higher risk type, a type more likely to progress to multiple myeloma.

Another important but unexpected finding was that there was a geographic difference in the prevalence of MGUS, suggesting environmental factors may also play a role. Such that, in the Midwest we had a higher prevalence than in the south. The further steps that we need to take if we can understand why MGUS is more prevalent in blacks compared with whites, we may actually have a clue as to why people get myeloma in the first place. Understanding the racial disparity actually helps everyone. And we are undertaking such studies including looking at the specific cytogenetic types of myeloma that are affected more in one race versus the other, as well as more molecular based studies.

So we hope that we will have more answers in the next few years. Currently we are studying young people, age 10 to 50, trying to understand whether MGUS occurs earlier on in blacks compared with whites, whether the age of onset is different.