

Study finds increased risk of MGUS in Vietnam Vets exposed to Agent Orange

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A study that used stored blood samples from U.S. Air Force personnel who conducted aerial herbicide spray missions of Agent Orange during the Vietnam war found a more than 2-fold increased risk of the precursor to multiple myeloma known as monoclonal gammopathy of undetermined significance (MGUS), according to an article published online by *JAMA Oncology*.

While the cause of MGUS and [multiple myeloma](#) (plasma cell cancer) remains largely unclear, studies have reported an elevated risk of multiple myeloma among farmers and other agricultural workers and pesticides have been thought to be the basis for these associations, according to study background.

Ola Landgren, M.D., Ph.D., of Memorial Sloan Kettering Cancer Center, New York, and coauthors examined the association between MGUS and exposure to Agent Orange during the Vietnam War in a study sample of 958 male veterans, including 479 Operation Ranch Hand veterans who were involved in aerial herbicide spray missions and 479 comparison veterans who were not.

The study found the overall prevalence of MGUS was 7.1 percent in the Operation Ranch Hand veterans and 3.1 percent in the comparison veterans, which translates to a 2.4-fold increased risk for MGUS in Operation Ranch Hand veterans.

The authors noted limitations to their study, including a lack of women

in the study group and the potential for unknown confounding factors such as family medical history and civilian occupation.

"Our findings of increased MGUS risk among Ranch Hand veterans support an association between Agent Orange exposure and multiple myeloma," the study concludes.

In a related editorial, Nikhlil C. Munshi, M.D., of the Dana-Farber Cancer Institute, Boston, writes: "The study by Landgren et al has brought clarity to the risk of AO [Agent Orange] exposure and plasma cell disorder. It also highlights the importance of tissue banking that allows investigation of a number of unanswered questions using modern methods. The emphasis now is to store samples from almost every major study with correlative science in mind, and this is essential if we are to understand disease biology, mechanism of response and resistance to therapy in the era of targeted therapy and precision medicine."

More information: *JAMA Oncol.* Published online September 3, 2015. [DOI: 10.1001/jamaoncol.2015.2938](https://doi.org/10.1001/jamaoncol.2015.2938)
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