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Online only: Study suggests link between exposure to Agent Orange and high blood pressure

A new report from the Institute of Medicine finds suggestive but limited evidence that exposure to Agent Orange and other herbicides used during the Vietnam War is associated with an increased chance of developing high blood pressure in some veterans. The report is the latest update in a congressionally mandated series by the IoM that every two years reviews the evidence about the health effects of these herbicides and the type of dioxin that contaminated some of them.

The committee that wrote the report also concluded that there is suggestive but limited evidence that AL amyloidosis is associated with herbicide exposure. Characterized by the accumulation of protein deposits in and around organs, this rare condition affects one in 100,000 people annually in the United States. The committee based its conclusion on the fact that AL amyloidosis shares many biological and pathological similarities with multiple myeloma and certain B-cell lymphomas, which have been found to be associated with exposure to herbicides.

A finding of "limited or suggestive evidence of an association" means that scientific studies of adequate quality have yielded information pointing to a possible statistical link or plausible biological means by which exposure to the chemicals of concern could result in a particular health effect, but that contradictory results from other studies, biases, or other confounding factors limit the certainty of the evidence.

Two recently published studies of Vietnam veterans who handled Agent Orange and other defoliants provide evidence that these veterans have higher rates of hypertension. Defined as blood pressure exceeding 140/90, hypertension affects more than 70 million American adults and is a major risk factor for heart attack, stroke and other cardiovascular ailments. It is often associated with age, race, being overweight, or having diabetes.

The two new studies were able to adjust for the impact of common risk factors for hypertension on the results. The results also were consistent with findings from several other studies that looked at the health effects of herbicides and their contaminants on Vietnam veterans but were not adjusted for known risk factors and had poorer measures of exposure. At the same time, a new environmental study and an earlier study of workers in an herbicide manufacturing plant did not find evidence of an association between herbicide or dioxin exposure and increased incidence of high blood pressure.

Given the studies' limitations and inconsistent results, the committee found the cumulative body of evidence suggestive of, but insufficient to conclude with certainty, an association between high blood pressure and herbicide exposure.

The committee also reviewed studies that provide intriguing findings on rates of ischemic heart disease and exposure to defoliants or dioxin. However, many of the studies did not have information necessary to adjust for the impact of weight, smoking and other known risk factors on the results, and their measures of heart disease were somewhat imprecise. The committee members could not agree on whether these factors distort the studies' results.

The report presents scientific data only and does not imply or suggest policy decisions that the U.S. Department of Veterans Affairs might make. Also, the findings relate to exposures and outcomes in populations. Researchers' abilities to pinpoint the health risks faced by individual veterans are hampered by inadequate information about veterans'

exposure levels during their service in Vietnam.

U.S. forces sprayed Agent Orange and other defoliants over parts of southern Vietnam and surrounding areas from 1962 to 1970. Most large-scale sprayings were conducted from airplanes and helicopters, but herbicides also were dispersed from boats and ground vehicles or by soldiers wearing back-mounted equipment.

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