

Sarcoidosis in the Military May Be Chronic Beryllium Disease



To the Editor:

We commend Seedahmed et al¹ for their research letter published in *CHEST* (November 2023) that emphasizes the need to screen veterans with sarcoidosis for chronic beryllium disease (CBD). The authors found that < 1% of veterans with sarcoidosis had a beryllium lymphocyte proliferation test (BeLPT) ordered to rule out CBD. A recent study by the same group reported a higher incidence of sarcoidosis in veterans than in the general population, with increased risk in the Army, Air Force, and service in multiple branches.² They speculated some sarcoidosis cases might be CBD due to beryllium exposure during aircraft construction/maintenance² as documented in military and nonmilitary personnel in our clinics and others.

It would be of interest to know whether the authors had access to any job or exposure data to determine if the sarcoidosis cases in their study had potential beryllium exposure and/or to expand job/exposure assessments to the whole study population and estimate the number of potentially missed CBD cases. Zell-Baran et al³ examined military occupational specialty codes in Southeast Asia deployers to identify high-risk inhalational exposures in an effort to focus medical surveillance and exposure control. Perhaps a similar approach could be used to determine beryllium exposures in veterans. Beryllium sensitization is seen in up to 18% of beryllium-exposed individuals, with CBD developing in 20% to 100% of beryllium sensitization cases.⁴ The US Government Accountability Office estimates that more than 100,000 active and reserve Air Force members are employed in aircraft maintenance alone. Assuming that, on average, 5% of exposed individuals experience beryllium sensitization, there are potentially more than 5,000 individuals in this military branch alone at risk of the development of CBD.

Beryllium is classified by the US Department of Defense as a material vital to national security. Alloys with high beryllium content are used extensively by the US Department of Defense, which includes aircraft maintenance in the Air Force and abrasive blasting in Naval shipyards. Thus, a thorough occupational history in all military personnel could identify known or potential beryllium exposure to target testing with a blood or BAL BeLPT to evaluate CBD. Although the

Occupational Safety and Health Administration is now mandating BeLPT testing of beryllium-exposed civilian workers, this should also be done in veterans and active military personnel with risk of prior exposures. Many of these sarcoidosis cases may indeed be CBD,⁵ and screening with the BeLPT is necessary to ensure current personnel and veterans receive proper follow-up, treatment, and disability benefits.

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DOI: <https://doi.org/10.1016/j.chest.2023.07.4221>

Financial/Nonfinancial Disclosures

None declared.

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Response



To the Editor:

We appreciate the thoughtful comments and suggestions offered by Maier et al in response to our research letter published in *CHEST*.¹ The authors correctly underscore the potential for underdiagnosis of chronic beryllium disease among veterans, the unmet need for comprehensive occupational military histories, and the paucity of targeted testing for beryllium sensitization in veterans.

The authors rightly suggest that military occupational specialty (MOS) codes might prove valuable in identifying veterans at increased risk of beryllium

exposure. This approach has been used successfully to identify the risk among veterans for rheumatoid arthritis and for COPD in association with MOS codes subsuming job duties that are likely to involve dust inhalation.^{2,3} If MOS codes were available in the Veterans Health Administration electronic health record (EHR), they would have enriched our analysis. For example, we could have explored whether the increased odds of beryllium sensitivity testing that we observed for the Air Force and Marine service branches were related to specialty codes for particularly high-risk occupations, such as aircraft or electronics maintenance. We certainly share the authors' enthusiasm for the potential of linking data sources from the Veterans Affairs Informatics and Computing Infrastructure and the Military Health System Data Repository of the US Department of Defense, which currently are separated from one another. An initiative that promises to bridge this gap is ongoing through the US Department of Defense and Veterans Affairs Infrastructure for Clinical Intelligence.⁴ Another potential approach to extracting occupational data in the current EHR might be natural language processing. One study found that limited narrative occupational data were available by manual review in approximately one-half of the veterans' EHRs, although this included the capture of current or former employment and was not specific to military occupations.⁵

In closing, we wholly concur that greater vigilance is needed in recognizing potential beryllium exposure among veterans, particularly those with a diagnosis of sarcoidosis. Including work histories, job codes, and even industrial hygiene sampling data in future research could help us better understand the impact of occupational exposure on sarcoidosis and chronic beryllium disease diagnosis. The pressing need, however, is to increase the frequency of appropriate testing among veterans with sarcoidosis that might be related to military occupational sensitivity to beryllium.

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Published by Elsevier Inc. under license from the American College of Chest Physicians.

DOI: <https://doi.org/10.1016/j.chest.2023.08.001>

Funding/Support

This work was supported by funds from (1) the National Center for Advancing Translational Science, National Institute of Health, through the University of California San Francisco (UCSF) - Clinical Research Informatics Postdoctoral (CRISP) Fellowship Award [UCSF-CTSI grant no. TL1-5TL1TR001871-05] to M. I. S. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH; (2) a UCSF Academic Senate Committee on Research – Resource Allocation Program (RAP) grant to M. I. S.; (3) the California Tobacco-related Disease Research Program (T29IR0715) to M. A.; (4) the Department of Veterans Affairs (CXV-00125) to M. A., and (5) the National Heart, Lung, and Blood Institute of the NIH (R01HL157533) to L. L. K.

Financial/Nonfinancial Disclosures

See earlier cited article for author conflicts of interest.

Acknowledgments

Role of sponsors: The sponsor had no role in the design of the study, the collection and analysis of the data, or the preparation of the manuscript.

Disclaimer: The funders had no role in the decision to publish, or manuscript preparation. The statements and conclusions in this publication are those of the authors and not necessarily those of the funding agencies. The mention of commercial products, their source, or their use in connection with the material reported herein is not to be construed as an actual or implied endorsement of such products.

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