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Sarcoidosis after Alemtuzumab therapy: Is Alemtuzumab posing a threat to its patients?

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To the editor,

I would like to bring to your attention towards an important matter that I believe warrants consideration in your esteemed journal i.e., the emergence of sarcoidosis in individuals with a previous record of Alemtuzumab therapy. Further investigation is warranted in this area as it can deteriorate patients' condition and can impose a challenge in the treatment of an already existing disease. Sarcoidosis, an illness of unknown origin, presents as a multisystem disorder marked by the development of non-caseating granulomas across different organs of the body. Drug-induced sarcoidosis is now a well-known phenomenon, and various case reports have been published in which Sarcoidosis developed after taking interferon therapy (1). Alemtuzumab is a humanized monoclonal antibody that targets the pan-lymphocyte CD52 antigen found on both human lymphoid and myeloid cells. Alemtuzumab demonstrates high efficacy in the treatment of multiple sclerosis, surpassing first-line treatments and showing comparable effectiveness to natalizumab. Various cases have come forward that displayed the possibility of development of sarcoidosis after Alemtuzumab therapy. Graf et al. (2) presented a case of Acute Sarcoidosis (Löfgren's syndrome) in a patient with relapsing-remitting multiple sclerosis (RRMS). Willis et al. (3) described three cases where sarcoidosis emerged after Alemtuzumab treatment. These patients had been healthy aside from having relapsing-remitting multiple sclerosis (RRMS). Natalie et al. (4) also presented a case in which, after 2 years of the last Alemtuzumab treatment for multiple sclerosis, a patient developed epigastric pain, radiating to the back. After various investigations, the patient was diagnosed with cardiac sarcoidosis. Alemtuzumab-associated sarcoidosis is not only reported in patients with prior multiple sclerosis but with other disorders as well. Thachil et al. (5) forwarded a case of sarcoidosis, in which the patient developed sarcoidosis after 12 months of the last dose of Alemtuzumab for treatment of mycosis fungoides/Sezary syndrome. All the abovementioned cases occurred between 2007 to 2020. Patients experienced Sarcoidosis a few years after their last dosage of Alemtuzumab and fortunately all the patients responded well to treatment, if needed, with no relapses during follow-up visits. Secondary Autoimmune Disease (AID) is a well-known occurrence following Alemtuzumab treatment which manifest in roughly 50% of patients over time. One possible explanation for the development of sarcoidosis after Alemtuzumab was given by Rezvany

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et al., (6) who said that Alemtuzumab induces modifications in T-cell composition characterized by a significantly narrowed T-cell repertoire and fluctuations in CD4/CD8 T-cell counts. Vigilance is essential in monitoring patients on Alemtuzumab for symptoms resembling sarcoidosis. Patients should be informed about the potential treatment risks, and thorough clinical and laboratory monitoring should be conducted. Further investigation is warranted in this area, and it is imperative to conduct clinical trials or observational studies to gather additional data.

Conflict of Interest: Author declares that she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

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