

Revised diagnostic criteria and classification for the autoimmune lymphoproliferative syndrome (ALPS): report from the 2009 NIH International Workshop

1. Joao B. Oliveira¹,
2. Jack J. Bleesing²,
3. Umberto Dianzani³,
4. Thomas A. Fleisher¹,
5. Elaine S. Jaffe⁴,
6. Michael J. Lenardo⁵,
7. Frederic Rieux-Laucat⁶,
8. Richard M. Siegel⁷,
9. Helen C. Su⁸,
10. David T. Teachey⁹, and
11. V. Koneti Rao¹⁰

± Author Affiliations

1. ¹Department of Laboratory Medicine, Clinical Center, National Institutes of Health, Bethesda, MD;
2. ²Division of Bone Marrow Transplantation and Immune Deficiency, Cincinnati Children's Hospital Medical Center, OH;
3. ³Interdisciplinary Research Centre of Autoimmune Diseases, and University of Eastern Piedmont, Novara, Italy;
4. ⁴Laboratory of Pathology, Center for Cancer Research, National Cancer Institute, and
5. ⁵Laboratory of Immunology, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD;
6. ⁶Inserm U768, Université Paris Descartes, Paris, France;
7. ⁷Immunoregulation Unit, Autoimmunity Branch, National Institute of Arthritis and Musculoskeletal and Skin Diseases, and
8. ⁸Laboratory of Host Defenses, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD;
9. ⁹Division of Hematology and Oncology, Department of Pediatrics, Children's Hospital of Philadelphia, PA; and
10. ¹⁰ALPS Unit, Laboratory of Clinical Infectious Diseases, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD

Abstract

Lymphadenopathy in children for which no infectious or malignant cause can be ascertained constitutes a challenging diagnostic dilemma. Autoimmune lymphoproliferative syndrome (ALPS) is a human genetic disorder of lymphocyte apoptosis resulting in an accumulation of lymphocytes and childhood onset chronic lymphadenopathy, splenomegaly, multilineage cytopenias, and an increased risk of B-cell lymphoma. In 1999, investigators at the National Institutes of Health (NIH) suggested criteria to establish the diagnosis of ALPS. Since then, with approximately 500 patients with ALPS studied worldwide, significant advances in our understanding of the disease have prompted the need for revisions to the existing diagnostic criteria and classification scheme. The rationale and recommendations outlined here stem from an international workshop held at NIH on September 21 and 22, 2009, attended by investigators from the United States, Europe, and Australia engaged in clinical and basic science research on ALPS and related disorders. It is hoped that harmonizing the diagnosis and classification of ALPS will foster collaborative research and better understanding of the pathogenesis of autoimmune cytopenias and B-cell lymphomas.

Submitted April 20, 2010.

Accepted June 1, 2010.

© 2010 by The American Society of Hematology