

This Week's Citation Classic

Suchi T, Tajima K, Nanba K, Wakasa H, Mikata A, Kikuchi M, Mori S, Watanabe S, Mohri N, Shamoto M, Harigaya K, Itagaki T, Matsuda M, Kirino Y, Takagi K & Fukunaga S. Some problems on the histopathological diagnosis of non-Hodgkin's malignant lymphoma. A proposal of a new type. *Acta Pathol. Jpn.* 29:755-76, 1979. [Aichi Cancer Center, Kure Mutual Aid Hospital; Tohoku Univ.; Keio Univ.; Fukuoka Univ.; Tokyo Univ.; National Cancer Center, Fujita Gakuen Univ.; Yamagata Univ.; and Jikei Univ., Japan]

A new subtype of lymphoma, "pleomorphic," was proposed for the rapid-growing tumors of peripheral T-cell nature, along with a new classification for non-Hodgkin's lymphomas as the one suited for lymphomas in Japan. It was based on the finding that the relative incidence of peripheral T-cell lymphomas was much higher in Japan than in the Western countries. [The SC[®] indicates that this paper has been cited in more than 155 publications, making it the most-cited paper published in this journal.]

Defining Lymphoma

Taizan Suchi
Department of Pathology and
Clinical Laboratories
Aichi Cancer Center Hospital
Chikusa-ku, Nagoya 464
Japan

In 1978, the authors of this paper, all members of a multi-institutional study group for lymphoma pathology from various parts of Japan, were carrying out an investigation on how to improve the agreement rate of histologic diagnosis on lymphoma subclassification, hopefully by establishing effective criteria for each category. It was shortly after this that the so-called adult T-cell leukemia/lymphoma (ATLL), caused by the retrovirus HTLV-1, was found to be endemic in certain areas—mainly the southwestern region of Japan.

Our study revealed that it was especially difficult to attain a high reproducibility rate of diagnoses on the diffuse mixed, lymphocytic and "histiocytic" category of Rappaport classification, the then-universally used classification for non-Hodgkin's lymphomas (NHL), and that the difficulty was due mainly to the presence in a significant number of

rapid-growing tumors of peripheral T-cell nature with characteristically "pleomorphic" histology. It was further clarified that the tumors of this type, either with or without HTLV-1 association, are seen in Japan, even in the nonendemic areas of ATLL, with a much higher frequency than in the Western countries.

These findings led us to the proposal, in this paper, of the new subtype of lymphomas, "pleomorphic," for the tumors with these features, along with a scheme of classification for NHL, as the one suited at least for the lymphomas in Japan. One of the consequences of the proposal was that this type was incorporated into the International Working Formulation as the "polymorphous" subcategory of the major category of "immunoblastic."¹

M. Kikuchi described in detail the histological variations of HTLV-1-associated tumors the next year (1979), using the scheme of this classification.² Since then, the paper dealing with peripheral T-cell lymphomas employing the term pleomorphic increasingly has been seen in literature, both domestic and international.³ And, it eventually led to the proposal by T. Suchi, K. Lennert, et al., in 1987, of a T-cell lymphoma classification⁴ in which "pleomorphic type" was given a place at the core of the high-grade category. This classification was subsequently adopted by the updated Kiel classification as its T-cell scheme.

I believe that this paper has been frequently cited in the literature because (1) it reported that the peripheral T-cell lymphomas in general are much more frequent in Japan than in the Western countries (pathoepidemiology); (2) it proposed the important subtype of lymphoma—pleomorphic; and, (3) it proposed a scheme of classification for NHL.

1. Rosenberg S A (Chairman. The Non-Hodgkin's Lymphoma Pathologic Classification Project). National Cancer Institute sponsored study of classifications of non-Hodgkin's lymphomas. Summary and description of a working formulation for clinical usage. *Cancer* 42:2112-35, 1982. (Cited 170 times.)
2. Kikuchi M, Mitsui T, Matsui N, Sato E, Tokunaga M, Hasui K, Ichimaru M, Kinoshita K & Kamihira S. T-cell malignancies in adults: histopathological studies of lymph nodes in 111 patients. *Jpn. J. Clin. Oncol.* 9(Supp.):407-22, 1979.
3. Watanabe S, Shimotoyo Y & Shimoyama M. Lymphoma and leukemia of T-lymphocytes. (Sommers S C & Rosen P P. eds.) *Pathology annual. Part 2.* East Norwalk, CT: Appleton-Century-Crofts, 1981. p. 155-203.
4. Suchi T, Lennert K, Tu L-Y, Kikuchi M, Sato E, Stansfeld A G & Feller A C. Histopathology and immunohistochemistry of peripheral T cell lymphomas: a proposal for their classification. *J. Clin. Pathol.* 40:995-1015, 1987.

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