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Chemotherapy for peripheral T-cell lymphoma

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Over the past two decades, increased understanding of the immune system and genetic abnormalities associated with non-Hodgkin's lymphoma (NHL) have led to the identification of several previously unrecognized types of lymphoma including a variety of T-cell lymphomas.[1-5] This recognition of clinically relevant subtypes led to a proposal for changing the lymphoma classification which incorporated some aspects of the Kiel classification[6] and the Working Formulation.[7] Eventually the World Health Organization (WHO) classification was proposed[8] and independently evaluated.[9]

Taken together, all subtypes of PTCL represent approximately 7% of all NHL's.[9] However, the relative percentages of PTCL and different subtypes varies by location, with higher percentages in Asian countries.[10] Several of these lymphomas represent distinct clinical-pathologic entities with specific syndromes and/or associations such as enteropathy type NHL which is associated with celiac disease.[10]

The results of treatment for patients with aggressive T-cell lymphomas have generally been found to be worse than those for patients with diffuse large B-cell lymphomas.[11-15] Recently, a large retrospective international study of over 1300 patients with T-cell or NK-cell lymphomas confirmed this observation.[16] In this study, previously untreated adult patients with peripheral T-cell or NK/T-cell lymphoma were reviewed from 21 sites worldwide. All cases were reviewed by a panel of expert Hematopathologists and standard phenotyping was performed. All cytogenetic and molecular results as well as all the available clinical information was computerized at a central location. The various percentages of the types of T-cell lymphomas found are outlined in Table 1.

Five-year overall survival for PTCL-unspecified patients was 25%. This did not significantly differ by the type of chemotherapy administered. Various combinations were used by different groups including anthracycline containing regimens, purine analogues, or platinum containing regimens. No regimen seemed to demonstrate a particular advantage.[16] The effects of high-dose therapy and stem cell transplantation at the time of CR1 were not easily evaluated due to difficult comparisons; however, stem cell transplant at the time of relapse did offer an advantage over salvage chemotherapy. The use of the International Prognostic Index (IPI[17] was helpful in prognosticating patients as well as the T-cell IPI.[18] Future directions including the use of novel agents directed at new targets such as depsipeptide, SAHA, Ontak, Pralotrexate, and new T-cell antibodies or biologic agents are in clinical trials. Novel combinations of these agents with existing agents, in concurrent or sequential therapy will form the basis of future clinical trials.

Table 1. Relative percentage of cases compared to total T-cell lymphoma set.

Subtype	*% T-cell*
PTCL – Unspecified	29.3%
Angioimmunoblastic	21.0%
NK/T-cell	11.7%
ATLL	10.9%
ALCL, ALK+	8.0%
ALCL, AKL -	6.2%
Enteropathy-type	5.4%
Primary cutaneous ALCL	2.0%
Hepatosplenic	1.6%
Subcutaneous panniculitis	1.0%
Gamma/delta T-cell	0.1%
Unclassifiable PTCL	2.8%

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