

# Proyecto latinoamericano sobre células T. Propuesta brasileña

The Latin American T-Cell Project: a Brazilian proposal

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## Abstract

By virtue of being the product of the genetic admixture of three ancestral roots: Europeans, Africans, and Amerindians, the present-day Latin America population displays very high levels of genomic diversity. In the other hand, the continent has a vast territory with distinct socioeconomic regions, sometimes bearing unique particularities in culture and environmental aspects. This variability has an important impact in epidemiology of various diseases including lymphoma reflecting patients treatments and outcomes<sup>(1,2)</sup>. The main purpose of this project is to establish a better picture of the T-cell lymphomas in Latin America, comparing data from

each different socio-geographic region and limiting the selection or biases probably found in the international studies. Information comprising these regions can contribute much to the epidemiology of these diseases as well as to identify better treatment strategies for the patients in the future.

## Introduction

Peripheral T-cell lymphomas (PTCLs) are a heterogeneous group of clinically aggressive diseases associated with a poor outcome. Studies that focus specifically on PTCLs are emerging, with the ultimate goal of improved understanding of disease bi-

ology and the development of more effective therapies<sup>(3)</sup>. PTCLs are very heterogeneous in terms of morphological patterns, phenotypes, and clinical presentation<sup>(4,5)</sup>, depending on the diverse cells from which they can originate<sup>(6-15)</sup>.

Comprising 10-15% of all non-Hodgkin lymphomas (NHL), the PTCLs have a well documented geographical variation<sup>(1,2,13,16-21)</sup>.

Approximately 15% to 20% of lymphoma are diagnosed as PTCL or NK/T-cell lymphomas in Asia and South America, where they are most frequent compared to Europe and North America. In Western hemisphere, the PTCLs have an overall incidence of 0.5-2 per 100,000 per year<sup>(1,13,22)</sup>. It has become clear that the difference in the frequency patterns of different geographic regions may be indicative of environmental or host risk factors in a particular region. One could be the higher prevalence of viral infections, particularly the human T-cell lymphotropic virus type 1 (HTLV-1) in eastern countries compared to Europe and the US. The northeast region of Brazil has a higher incidence of this virus infection as well. This infection is described to be related to the adult T-cell leukemia/lymphoma (ATLL) and NK-cell neoplasms<sup>(21,23-25)</sup>.

Although studies of individual NHL subtypes have been conducted in some South American countries, only centers from big cities are normally involved. An epidemiologic study of all sub-types of PTCLs patients from centers distributed in each geographical region of the continent is necessary to provide a complete picture of the disease in such a heterogeneous continent.

### The T-Cell project

Comprising seven (Argentina: 3; Brazil: 2; Chile: 1; Uruguay: 1) participating centers, Latin America included 292 patients as of June 2016 at the International T-Cell Project (corresponding to 20% of the study population). The project was designed as a prospective collection of information potentially useful to predict the prognosis of newly diagnosed patients with the more frequent subtypes of peripheral T-cell lymphoma (peripheral T-cell lymphoma unspecified [PTCL-NOS], and angioimmunoblastic T-cell lymphoma [AITL]) and to better define clinical characteristics and outcome of the more uncommon subtypes (extranodal NK/T-cell lymphoma [NKTCL]; enteropathy-type T-cell lymphoma

[EATL]; hepatosplenic T-cell lymphoma [HSTCL]; peripheral  $\gamma\delta$  T-cell lymphoma [P $\gamma\delta$ TCL]; subcutaneous panniculitis-like T-cell lymphoma [SPLTCL]; anaplastic large-cell lymphoma, T/null cell, primary systemic type [ALCL]). The project comprised 74 institutions distributed in 14 countries worldwide that registered 1481 cases of PTCL between September 2006 and June 2016 whose preliminary results had been published in various international congresses<sup>(1,26-30)</sup>.

### T-Cell project in Latin America

Recognition of the fact that we should limit the selection biases and incorporate a bigger scope with the inclusion of patients from all regions, we had recently implemented the Brazilian T-Cell Lymphoma Project that we are proposing to amplify to all Latin America, with the consulting and participation of the international T-Cell project team.

To date, 51 centers, distributed among all five macro-regions of Brazil, are collaborating in the project. Centers in other Latin America countries had also shown interest. The designed study follows up on the previous one by the International T-cell Project and its purpose is to verify whether a prognostic collection of data would permit access to more accurate information permitting a better definition of prognosis and investigation of more adequate treatment strategies for these neoplasms. It should also include patients with lymphomas that are quite frequent in Latin American regions and not contemplated in the T-Cell Project (such as ATL).

Registration will be made on-line on a key restricted accessible web-database: investigators must complete the on-line registration forms after obtaining the informed consent dated and signed by the patient. Every registered patient will undergo a central histopathology review by a panel of experts. The referring pathologist will collect and review the pathologic material sent by the participating centers, without knowing the clinical outcome of the patient. Validated cases have to be supplied of information regarding treatment procedures and follow-up updating for at least 5 years.

The project has secondary objectives that are not less important. First is to call attention of the scientific community worldwide showing that Latin America can be considered a strong source of NHL patients that could participate in clinical trials.

The analysis of patients distributed in all regions of the continent and a comparison between them will provide a complete picture of the disease in Latin America, limiting the bias probably found in the international project. Besides that, this project will allow us to build a strong and well-represented Latin American network to be active in many epidemiological and clinical studies in benefit of our patients.

**Declaración de conflictos de interés:**

Los autores declaran que no poseen conflictos de interés.

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