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Editorial and Views

# Geographic hematology: an evolving concept

*Geographic hematology*: a new section and an obvious question. Why? What aim? To whom could it be of interest?

Haematologica is trying to be open to new problems, to new hematologists around the world, not only in the old Europe or in the so-called *developed countries* in the Northern hemisphere (the North), but also to the majority of the world population living in such different conditions, mostly in the so-called *low income countries* (the South).

In starting a new section, an old definition has been chosen, in acknowledgment of a great hematologist, Jean Bernard. He first proposed the definition of *Hématologie Géographique*, pioneering a new chapter in modern hematology.[1]

According to Jean Bernard's definition, *geographic hematology* has two major branches:

1. *l'hématologie ethnique,* dealing with differences between the various populations, taking advantage of the great heterogeneity of the essential, normal or abnormal, blood features (blood groups, hemoglobins, erythrocyte enzymes). The more recent diagnostic techniques, including molecular biology, have led to alliances between hematologists, geographers, historians, anthropologists, etc. studying population migrations going back to prehistory and to protohistoric periods;

2. *l'hématologie péristasique,* dealing with various environmental factors such as food habits, malnutrition, radiations, soil nature and mineral contents, altitude and polyglobulia, pharmacological habits, pollution, parasitosis, viral infections, etc.

Linking very different fields, through extremely varied disciplines (molecular biology, physiology of nutrition, parasitology, virology), geographic hematology finds its unity in prevention (J. Bernard) and offers possibilities of great interest concerning the study of the pathogenesis of many blood diseases, thus opening the way to better possibilities of prevention.

Both these types of geographic hematology developed widely and gave important contributions to the study of etiological factors of many blood diseases. Jean Bernard's original article is of tremendous interest, rich with learned information, some of which with a prophetic flavor.

See "*l'inegale fréquence, selon les pays, de la leucémie des enfants depende-elle souvent de la difference [...] de l'allaitment au sein ou au lait de vache [...] ces variations pouvant avoir pour conséquence l'apport ou non de facteurs leucémigènes ou de protection antileucémique venant du lait [...]*".[1]

Very recently it has been shown that being breast-fed was associated with 21% reduction in the risk of acute childhood leukemias.[2]

In the past few years the concept of *Geographic Hematology* has widened and is attracting even more attention from hematologists. I refer here to the social dimensions of hematology and to the consequences of the progress achieved in the last thirty years.

Thanks to the results obtained from research, the efficacy of intervention in many hematologic diseases (leukemias, lymphomas, anemias, coagulopathies) has reached very high levels, with the possibility of recovery, particularly for malignant hemopathies and childhood neoplasms, unimaginable until not many years ago.

This progress has been obtained thanks to increasingly sophisticated technology, both at the level of diagnosis (immunology, molecular biology, advanced imaging technologies etc.) and of therapy (new drugs, protocols of intensive chemotherapy, bone marrow transplantation, supportive therapy, etc.). As a consequence costs are increasing and the inadequacy of resources is becoming more marked, thus making it increasingly difficult to largely apply the results of the scientific progress.

The problem is relevant in medicine, in general terms, but acquires special characteristics in hematology. Investments in research are mostly dedicated to promoting "efficacy", to moving forward the frontiers of knowledge. Very little attention is paid to "effectiveness", to a new field of research related to the definition of what is useful, based on the evidence, and how it is possible to apply it in different countries with limited resources.

Pediatric hemato-oncology provides one very impressive example (see Figure 1).

Until 40 years ago the possibility of cure in childhood leukemia and solid tumors was very limited and not significant difference between children living in the North and the South. The possibility of cure has now increased to about 70% in Northern countries but that figure is for only about 20% of children in the world; the possibility of cure for the remaining 80% of children, living in low income countries, is

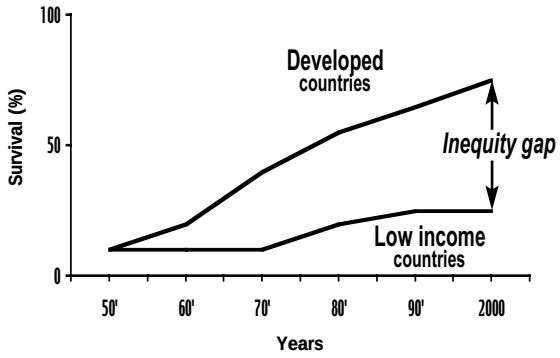


**Figure 1. Survival of children with cancer.**

limited to about 1 in 5.

*Geographic Hematology* should be a forum for discussion and evaluation not only of the progress in *hématologie ethnique* and *hématologie péristasique*, following the first definition by Jean Bernard, but also in what could be called *social hematology*, that is the branch of hematology dealing with the application of the scientific progress not only in the countries of the South with limited resources, but also in those disadvantaged areas of the North.

*Haematologica* will promote the publication of scientific papers, fully respecting the rigorous criteria of the Journal. Furthermore, a section *News in Geographic Hematology* will be opened in which it will be possible to publish brief information concerning initiatives, meetings, preliminary observations, proposals, etc... with the aim of promoting a network among people, both in the North and the South, available to invest resources and research to contribute to the progress of the *effectiveness* of hematology.

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