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Research and Education



General Editors: **A. Canonico, O. Estevez, R. Chacon and S. Barg**

Volume VII

Leukemia and Non-Hodgkin Lymphoma

Editor : **D.G. Crowther**



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Proceedings of the 12th International Cancer Congress,
Buenos Aires, 1978

Volume VII
LEUKEMIA AND
NON-HODGKIN LYMPHOMA

Editor:

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LEUKEMIA RESEARCH

Foreword

This book contains papers from the main meetings of the Scientific Programme presented during the 12th International Cancer Congress, which took place in Buenos Aires, Argentina, from 5 to 11 October 1978, and was sponsored by the International Union against Cancer (UICC).

This organisation, with headquarters in Geneva, gathers together from more than a hundred countries 250 medical associations which fight against Cancer and organizes every four years an International Congress which gives maximum coverage to oncological activity throughout the world.

The 11th Congress was held in Florence in 1974, where the General Assembly unanimously decided that Argentina would be the site of the 12th Congress. Argentina was chosen not only because of the beauty of its landscapes and the cordiality of its inhabitants, but also because of the high scientific level of its researchers and practitioners in the field of oncology.

From this Assembly a distinguished International Committee was appointed which undertook the preparation and execution of the Scientific Programme of the Congress.

The Programme was designed to be profitable for those professionals who wished to have a general view of the problem of Cancer, as well as those who were specifically orientated to an oncological subspeciality. It was also conceived as trying to cover the different subjects related to this discipline, emphasizing those with an actual and future gravitation on cancerology.

The scientific activity began every morning with a Special Lecture (5 in all), summarizing some of the subjects of prevailing interest in Oncology, such as Environmental Cancer, Immunology, Sub-clinical Cancer, Modern Cancer Therapy Concepts and Viral Oncogenesis. Within the 26 Symposia, new acquisitions in the technological area were incorporated; such acquisitions had not been exposed in previous Congresses.

15 Multidisciplinary Panels were held studying the more frequent sites in Cancer, with an approach to the problem that included biological and clinical aspects, and concentrating on the following areas: aetiology, epidemiology, pathology, prevention, early detection, education, treatment and results. Preferred Papers were presented as Workshops instead of the classical reading, as in this way they could be discussed fully by the participants. 66 Workshops were held, this being the first time that free communications were presented in this way in a UICC Congress.

The Programme also included 22 "Meet the Experts", 7 Informal Meetings and more than a hundred films.

METHODOLOGY

The methodology used for the development of the Meeting and to make the scientific works profitable, had some original features that we would like to mention.

The methodology used in Lectures, Panels and Symposia was the usual one utilized in previous Congresses and functions satisfactorily. Lectures lasted one hour each. Panels were seven hours long divided into two sessions, one in the morning and one in the afternoon. They had a Chairman and two Vice-chairmen (one for each session). Symposia were three hours long. They had a Chairman, a Vice-chairman and a Secretary.

Of the 8164 registered members, many sent proffered papers of which over 2000 were presented. They were grouped in numbers of 20 or 25, according to the subject, and discussed in Workshops. The International Scientific Committee studied the abstracts of all the papers, and those which were finally approved were sent to the Chairman of the corresponding Workshop who, during the Workshop gave an introduction and commented on the more outstanding works. This was the first time such a method had been used in an UICC Cancer Congress.

"Meet the Experts" were two hours long, and facilitated the approach of young professionals to the most outstanding specialists. The congress was also the ideal place for an exchange of information between the specialists of different countries during the Informal Meetings. Also more than a hundred scientific films were shown.

The size of the task carried out in organising this Congress is reflected in some statistical data: More than 18,000 letters were sent to participants throughout the world; more than 2000 abstracts were published in the Proceedings of the Congress; more than 800 scientists were active participants of the various meetings.

There were 2246 papers presented at the Congress by 4620 authors from 80 countries.

The Programme lasted a total of 450 hours, and was divided into 170 scientific meetings where nearly all the subjects related to Oncology were discussed.

All the material gathered for the publication of these Proceedings has been taken from the original papers submitted by each author. The material has been arranged in 12 volumes, in various homogenous sections, which facilitates the reading of the most interesting individual chapters. Volume XII deals only with the abstracts of proffered papers submitted for Workshops and Special Meetings. The titles of each volume offer a clear view of the extended and multidisciplinary contents of this collection which we are sure will be frequently consulted in the scientific libraries.

We are grateful to the individual authors for their valuable collaboration as they have enabled the publication of these Proceedings, and we are sure Pergamon Press was a perfect choice as the Publisher due to its responsibility and efficiency.

Argentina
March 1979

Dr Abel Canónico
Dr Roberto Estevez
Dr Reinaldo Chacon
Dr Solomon Barg

General Editors

Introduction

This volume is devoted to papers on acute leukaemia and non-Hodgkin's lymphoma presented at the XIIth International Cancer Congress in Buenos Aires (1978).

The first section of the volume is devoted to papers on acute leukaemia. J. Clemmerson reviews the evidence for an increase in leukaemia incidence using international data. The next two papers deal with the relationship between prognosis, cell surface markers and genetic markers in acute lymphoblastic leukaemia. The Houston group present their data on agar culture in acute myeloblastic leukaemia. This is followed by several papers on the treatment of acute leukaemia.

The second section is devoted to the non-Hodgkin's lymphomas with the first paper on the aetiology and epidemiology and the next series on factors important in the classification and prognosis. The Toronto group present their experience in determining prognostic factors and there are several papers on the role of different histopathological classifications. The Kiel classification is dealt with by several German groups.

The final section is concerned with the treatment of the non-Hodgkin's lymphomas. A group from the NCI present a summary of current clinical trials and the remaining papers are devoted to the role of chemotherapy and radiotherapy.

D. CROWTHER
March 1979

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Acute Leukemia

Leukemia — Change of Pattern

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ABSTRACT

An analysis of Leukemia incidence in various countries shows that an increase limited to groups aged over 60, which groups also account for international differences. Results from Denmark and other countries suggest that the increase is due mainly to more efficient diagnosis among the old.

KEYWORDS

Leukemia incidence. Age Groups. Geographical distribution. Leukemia Increase with time.

Since the first experimental approach by Ellermann & Bang, 1908 leukemia has taken a special position different from other neoplastic diseases. In fact it took several decades before it was recognized as such. Characteristic it was that the virus etiology has always been more under consideration for leukemia, and for related diseases, such as the juvenile African lymphoma, called Burkitt's tumor, and also the so-called lymphoepithelioma, whatever its true nature. In animals confirmation of a viral etiology has been collected gradually for a number of species, beginning with chicken in 1908, and continued with mice in 1951 (Gross), with Cats 1964 (Jarrett et al.) and with cattle in 1972 (Olson et al.)

On epidemiological evidence the viral etiology of e.g. cattle leukemia had been suspected for long, and Bendixen had in Denmark taken the consequences, gradually eradicating the cattle leukemia, and so producing the final evidence of its contagiousity.

The old argument, why virus should play a different part in the etiology of malignant neoplasms in Man, from what is the case in animals may be answered by the one word Hygiene. It seems too modest to assume that the difference between our and other species is negligible, and nobody would ask a corresponding question in relation to chemical carcinogenesis. It may still be questioned to which extent racial factors may play a part. For instance, it seems significant that pharyngeal lymphoepithelioma is frequent in South East Asia as well as among the inhabitants of Greenland, which have racial features in common with the Chinese.

Registration and viruses

It may be argued that cancer registration has failed to reveal clusters or similar features supporting an infectious pathogenesis for leukemia. Usually cancer registries are established in regions with highly developed medical facilities, where

Johannes Clemmesen

a virus may be supposed to have relatively less facilities for spreading. One exception may have been the Cancer Registry of Kampala, Uganda, established by J.N.P. Davies, which provided the basis for the clarification of the Burkitt' tumour and contributed to the discovery of the Epstein-Barr virus, related to this tumour as well as to the nasopharyngeal so-called lympho-epithelioma.

Clusters

During later years the studies of clusters reported from various places have never provided very striking evidence of a viral spread, but it may be wise not to engage statisticians too deeply in such studies, because they may be inclined to regard statistical significance as identical with medical significance.

An example is a cluster in New Zealand which statisticians explained away by epidemiological assumption of biological factors like many children or migration of unpredictable influence on analysis data.

All these data on clusters, which seem to have no parallel in other neoplastic diseases present clinical evidence - but during recent years we have come no further to any clue.

Chemical Leukemogenesis

Since no decisive changes seem to have been observed on the virus front, it should not be overlooked that there has been a number of statements on chemical leukemogenesis from various sides, but they do not seem to have made any overall change in the picture.

Radiation

At the time after World War II, there was general concern in some circles about a possible leukemogenic effect from nuclear radiation on the overall level of leukemia incidence but in the Danish Cancer Registry, which was established in 1942 we found no evidence of a general rise in incidence.

It applies, of course, both to chemical leukemogenesis and to radiation leukemia that we may expect some cases, secondary to antineoplastic treatment, and such cases have in fact been reported, although with the reveration that they may be due to a late leukemogenic effect from the carcinogen resulting in the neoplasm under therapy. It will be the task of workers in the near future to clarify this issue as far as possible.

Countries

In a previous study we compared the age distribution of leukemia mortality rates for a number of countries based on WHO data for the year 1953. It appeared that international differences in rates are limited to the age groups beyond 60 years. We were under the impression that the effort dedicated to the diagnosis of causes of death among the aged might influence these rates differently in the various countries.

On the basis of registry data for various countries published by the U.I.C.C. in its volumes on Cancer Incidence in Five Continents we have worked out corresponding age curves for incidence. It should be kept in mind that since the larger countries are represented only by regional registries their curves will tend to be more irregular than for mortality data. Nevertheless the curves leave an impression of similarity, except for the age groups beyond 60.

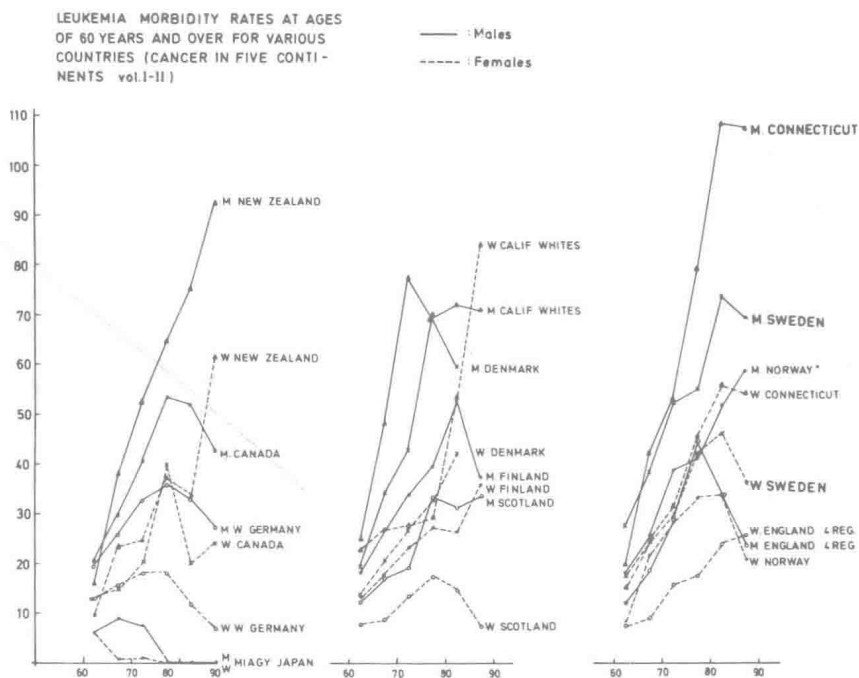


Fig.1.

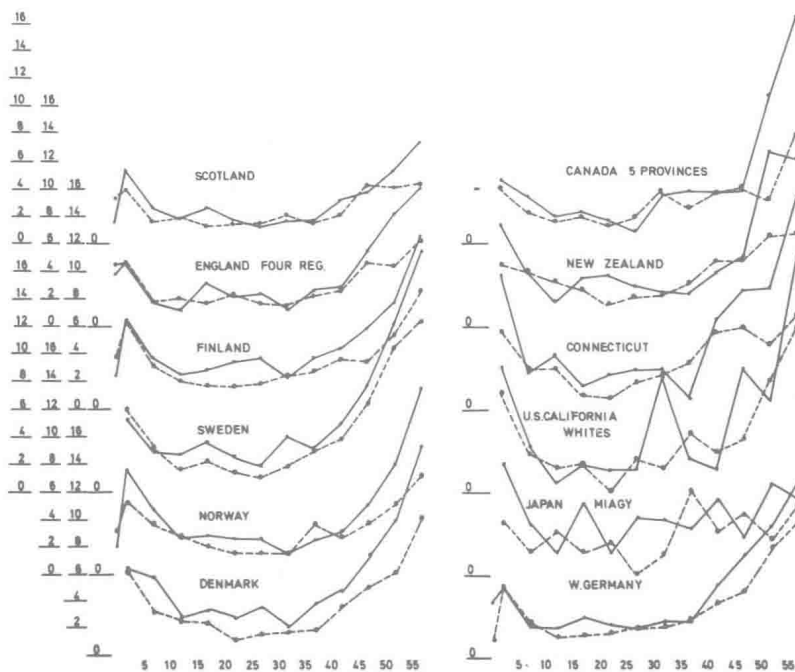


Fig.2.

Johannes Clemmesen

A study of Danish rates based on registration since 1942 shows an increase in overall rates, but when we study to which age groups we should ascribe this increase, we find it limited to the older age groups. For lymphatic leukemia it seems that the increase is limited to persons aged beyond 70 while for myeloid leukemia it starts no later than 60 years. Table I.

Since the age curve for lymphatic leukemia in general has its decisive rise later in life than the myeloid type has, this finding suggests that there may be no increase in the causative factors rather than just improved diagnosis among the aged.

Table I.

CANCERREGISTERET DENMARK

MEN PR.100,000	LYMPHATIC LEUKEMIA		MYELOID LEUKEMIA	
	1943-47	1968-72	1943-47	1968-72
00 - 04	3.8	4.0	2.1	1.1
05 - 09	1.1	2.2	0.9	0.5
10 - 14	1.3	1.2	1.3	0.5
15 - 19	1.2	1.6	0.9	1.6
20 - 24	1.0	0.4	1.5	1.2
25 - 29	1.3	1.2	1.6	1.5
30 - 34	0.7	0.3	1.7	1.7
35 - 39	0.9	1.7	2.2	2.4
40 - 44	1.0	1.0	1.2	2.4
45 - 49	2.7	2.3	2.4	3.3
50 - 54	5.8	3.8	2.6	4.8
55 - 59	9.8	8.1	4.5	5.7
60 - 64	12.2	12.4	4.5	7.9
65 - 69	19.4	18.0	6.7	11.0
70 - 74	21.7	34.7	6.1	16.1
75 - 79	15.0	45.4	5.0	22.9
80 - --	11.2	56.4	0.0	21.2
ALL AGES EUR, STAN.	4.6	6.3	2.4	4.0