Brief Report

Selected Aspects of Hodgkin's Disease in a Whole Community

By Dina Meytes and Baruch Modan

Most information regarding the course of Hodgkin's disease has been based on selected patients, and particularly those referred to large medical centers. In the present report, an attempt has been made to reevaluate some selected clinical and epidemiologic aspects of this entity, on the basis of nationwide data.¹

Patients and Method

All hospital records of Israeli residents, diagnosed during the 5 years 1960-1964 as having Hodgkin's disease, were personally reviewed. Subsequently, the patients were divided into three diagnostic categories, according to the degree of pathological confirmation:

a) "definite"—with an unequivocal histological confirmation, (186 cases).
b) "probable"—with a histologic diagnosis compatible with Hodgkin's disease, (61 cases).
c) "questionable"—with 1) a histologic diagnosis of "malignant lymphoma;"—type unspecified, 2) diagnosis made on clinical or roentgenologic grounds, (112 cases). Some of the patients in this group were obtained after a supplementary review of all cases with lymphoma in the country, diagnosed during the same time period.¹

Patients were followed up through hospital records and the Central Population Registry. The cut-off point for the calculation of survival was July 1, 1967. The survival analysis was performed with the aid of a life table method² and restricted to Jewish patients only, due to a lower proportion of death confirmation in the Arabic population.

Results

Of the 186 "definite" cases, 169 were Jews and 17 Arabs. The minimal mean annual incidence of the disease was 1.6 per 100,000, with no significant difference between males and females. If the probable cases are added, the incidence rises to 2.1 per 100,000.

Figure 1 presents the mean annual incidence by age and sex. As expected, a bimodal incidence curve is obtained with the first mode around the age of 30 group and the second in the 60-69 age group. It is of interest that the bimodal distribution is evident both in the total group of patients and in such sub-
categories as sex and ethnic origin. No bimodality was observed in the “questionable” category of cases, with an intermediate age pattern in the “probable” group.

There were no significant differences in incidence rates between the various Jewish ethnic groups, in contrast with other cancer sites studied in Israel.3-6 Also, no seasonal variation7 could be demonstrated for the group as a whole, nor for separate age, sex, site and diagnostic subcategories.
In 50 per cent of all cases, diagnosis was made within three months from clinical onset, and in 75 per cent within six months. There was no difference in the lapse of time till diagnosis between males and females, between the various ethnic groups, nor between patients with localized and generalized disease process. In contrast, marked differences were present in the clinical patterns of the disease. Thirty-five per cent of the male patients presented with a generalized disease process, as compared to 23.5 per cent of the females. Even more dissimilar in this respect, were the two modal age groups: only 19.6 per cent of patients younger than 45 at diagnosis had involvement both above and below the diaphragm, as compared with 43 per cent in the older age group.

Survival patterns in the three diagnostic categories are given in Figure 2. The median length of survival in the "definite" group was 27 months, as compared with 53 months in the "probable" group, and 12 months in the "questionable" category. These differences reflect most probably, 1) a dilution of the "probable" group by patients with nonmalignant disorders (e.g., subacute lymphadenitis) and 2) an inclusion of patients with more malignant types of lymphoma in the "questionable" group. The following survivorship as well as non-lymphomatous neoplasms analysis will, therefore, be limited to the "definite" patients only.

There was a considerably better prognosis in younger patients, with a median survival of 3.5 years (Fig. 3), as compared with 1 year in the older group \((p = .0001)\). Also, younger females had a much better survival pattern, with a median survival of 51 months, as compared with 37 months among males (Table 1). On the other hand, the prognosis was identical in both sexes beyond the age of 45.

As expected, patients presenting with a "generalized" form of the disease
Table 1.—Median Length of Survival of Patients with Hodgkin's Disease by Sex, Age and Lymphocyte Level (in Months)

<table>
<thead>
<tr>
<th>Sex</th>
<th>Age Group</th>
<th>Lymphocytes per mm³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-44</td>
<td>45+</td>
</tr>
<tr>
<td></td>
<td>0-1500</td>
<td>over 1500</td>
</tr>
<tr>
<td>Males</td>
<td>37</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>29</td>
</tr>
<tr>
<td>Females</td>
<td>51</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>32</td>
</tr>
</tbody>
</table>

at diagnosis had a lower survival, with a median of 15 months, compared with 38 months in patients presenting with supradiaphragmatic involvement. There were no significant differences between males and females in these two groups.

Lymphocytopenic males had a shorter median survival, compared with males with normal levels of lymphocytes (Table 1), but no such difference was noted among females.

**Comment**

The data presented above corroborate previous observations with regard to the bimodality of the age incidence curve in Hodgkin's disease. The consistency of this phenomenon in both sexes and in the various ethnic subcategories supports MacMahon's inference of two distinct populations among Hodgkin's patients. The differences between the younger and the older age groups with regard to the stage of the disease at diagnosis are also indicative of such a hypothesis.

It should be pointed out that both the incidence rate and median survival are lower in this study than those obtained in other reports. These discrepancies may stem from the following two sources:

a) More strict diagnostic criteria.

b) The evaluation of survival on the basis of data obtained from a single, large, medical center might exclude the patients who had died before having had a chance of a referral to such a center, and would consequently artificially prolong the computed median survival time, in contrast with data based on the whole community.

Therefore, it is of particular interest to note that an identical median survival of 26.5 months was reported by Meighan and Ramsay for all Saskatchewan patients.

The difference in survivorship patterns between the two sexes has been pointed out previously, yet the nature of this phenomenon is not clear. Our data suggest a relatively better survival only in the young female, and one may therefore be tempted to look for hypothetical, modifying, hormonal mechanisms. Further studies along this line should be encouraged.

**Summary**

All available hospital records of patients with Hodgkin's Disease, diagnosed in Israel during a 5-year period were reviewed.

A bimodal incidence curve was obtained both for all patients, and for such subcategories as sex and ethnic origin. There was no significant difference in incidence between males and females, nor between various ethnic groups.
The frequency of patients presenting with a generalized disease at diagnosis was relatively higher in males and in older patients of both sexes.

The median survival was 27 months with a considerably better prognosis in younger patients of both sexes and in females younger than 45, as compared to males of the same age group. Lymphocytopenic males had a shorter survival course, but no such pattern was evident among females.

ACKNOWLEDGMENTS

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SUMMARIO IN INTERLINGUA

Omne le disponibile schedas hospitalaride patientes con morbo de Hodgkin diagnosticate in Israel durante un periodo quinquennne esseva revistate.

Esseva obtene un curva bimodal de incidentia pro omne le patientes e etiam pro subcategorias establite secundo le sexo e secundo le origine ethnic del patientes. Nulle significative differentia de incidentia esseva notate inter masculos e femininas o inter le varie gruppos ethnic.

Le frequentia de patientes con morbo generalisate al tempore del diagnose esseva relativemente plus alte in masculos e in patientes de etate avantiate del un e del altre sexo. Le superviventia median esseva 27 menses.

Un considerabilemente melior prognose esseva characteristic de patientes de etate plus juveme in ambe sexes e in feminas de minus que 45 annos de etate in comparation con masculos del mesme grupo de etate. Masculos lymphocytopenic habeva un reducite superviventia, sed nulle tal phenomeno esseva evident in le femininas.

REFERENCES


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