Lymphomas and Kaposi's Sarcoma in South Ethiopia: results from a cancer registry 1963 – 1986.

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Summary

The pattern of Non-Hodgkin's lymphoma and aggressive Kaposi's sarcoma is known to have changed in some countries as the prevalence of the acquired immunodeficiency syndrome increases. A retrospective analysis of histologically verified cancers in southern Ethiopia during the period 1963-86 did not demonstrate any change in the pattern of aggressive Kaposi's sarcoma nor of Non-Hodgkin lymphomas, suggesting that the HIV epidemic did not start before the mid-1980s.

Introduction

This is a paper I wrote in 1987 while I worked as a doctor at Sidamo Regional Hospital in Yirga Alem in Ethiopia. Today the hospital has been renamed to Yirga Alem Hospital. The article has not been published before, and I believe it is of historical interest. I have briefly edited the original paper.

The incidence of Kaposi's sarcoma and Non-Hodgkin's Lymphoma (NHL) is increasing in some countries with the endemic spread of the acquired immunodeficiency syndrome (AIDS) [1-5]. AIDS is characterized by susceptibility to severe opportunistic infections and/or Kaposi's sarcoma. The AIDS associated Kaposi's sarcoma is an aggressive form with nodal and visceral involvement, and different from endemic African Kaposi sarcoma [2]. In the USA the increase of Kaposi's sarcoma became evident in 1981 [3], and in Zambia the AIDS epidemic, which seems to have started in 1982, was also manifested by an increase in the aggressive Kaposi's sarcoma [1]. Recently highly aggressive Non-Hodgkin's Lymphoma has been documented as a manifestation of the AIDS related complex of diseases [3-5], often with extra nodal involvement [4]).

With this background we analysed the N Non-Hodgkin's Lymphoma and Kaposi's sarcoma pattern at three hospitals in the Gamo Gofa and Sidamo Regions in southern Ethiopia.

Patients and methods

The data are based on biopsy proven malignancies diagnosed at the Sidamo Regional Hospital, Yirga Alem (Sidamo Region), and the Gidole and Arba Minch Hospitals (Gamo Gofa Region). For more comprehensive information on this survey the reader is referred to an earlier publication about this cancer registry in South Ethiopia [6]. This review covers the period 1963-1986. The relative ratios (i.e. percentage of tumour type related to the total numbers of cancers diagnosed) of the various cancer forms have been analysed. All cancers were classified by site using the Ninth Revision of the International Classification of Disease (ICD 1975) [7].

"Control cancers" were selected on the basis of similar clinical features and range of diagnostic bias as the tumour type under question [6]. Malignant melanoma, a superficial malignancy most often located on the foot (similar to that of Kaposi sarcoma) [8, 9], was selected as control for Kaposi's sarcoma, in accordance with previous practice [10]. The selection of "control cancer" for the lymphomas pose a difficulty. However, as the association between the AIDS epidemic and Hodgkin's Disease is not as convincing as that of AIDS and Non-Hodgkin's Lymphoma [3, 5], Hodgkin's Disease has been selected as a "control cancer" for the Non-Hodgkin's Lymphoma group.

Statistical analysis:

Data were analysed on a microcomputer using the ABstat program (Anderson Bell, 1982 Version 3.03, Canon City, USA). For each cancer type the observed numbers are presented and corresponding expected number calculated. Statistical analysis was by the Chi-square test. p values less than 0.05 were regarded as significant.

Ethical issues

This is a study that was carried out on information previously collected (1963 – 1984) in the course of normal patient care. All patients agreed to be tested as part of patient care, and their data were anonymised before being entered into a cancer registry for south Ethiopia [6]. Several paper from the same hospitals were at that time published [6, 8, 11, 12], and the Ethiopian health authorities did not require ethical approval during that period.

Results and conclusion

Table 1 shows the observed and expected numbers of Non-Hodgkin's Lymphoma (excluding Burkitt's lymphoma), Burkitt's lymphoma and Hodgkin's Disease.

Table 1: Lymphoma pattern in southern Ethiopia.

Year	Non-Hodgkin lymphoma		Burkitt's lymphoma		Hodgkin's disease		Total number cancers
	Observed	Expected	Observed	Expected	Observed	Expected	
1963-67	3	4	0	1	0	2	67
1968-72	8	9	0	2	7	4	158
1973-77	19	18	4	4	6	8	314
1978-82	28	30	11	7	16	14	530
1983-86	25	22	5	5	8	10	376
Total	83	83	20	20	37	37	1445
Statistics							
Chi-square	0,49		3,86		3,09		
D.F.	4		4		4		
P	0,97		0,42		0,54		

The frequency of Non-Hodgkin's Lymphoma (excluding Burkitt's lymphoma), Burkitt's Lymphoma and Hodgkin's Disease seems to have remained relatively constant during the review period (Table 1). As these two cancer types have similar clinical features the registration bias may also be of the same magnitude. The Non-Hodgkin's Lymphoma and Hodgkin's Disease have, however, different age distribution , with Hodgkin's Disease having a higher incidence among children [6]. A breakdown analysis of adult and childhood Non-Hodgkin's Lymphoma and Hodgkin's Disease does not demonstrate any significant change in either group.

Table 2 shows the Observed and Expected numbers of Kaposi sarcoma and malignant melanoma during different time periods.

Table 2 Observed and Expected numbers of Kaposi sarcoma and malignant melanoma during different time periods.

Year	Kaposi sarcoma		Malignant melanoma		Total number cancers
	Observed	Expected	Observed	Expected	
1963-67	1	1	7	3	67
1968-72	0	2	7	8	158
1973-77	1	4	19	16	314
1978-82	12	6	31	28	530
1983-86	3	4	11	20	376
	17	17	75	75	1445
Statistics					
Chi-square	9,79		8,58		
D.F.	4		4		
P	0,04		0,07		

Kaposi's sarcoma is the third most common dermatological malignancy in Sidamo (9), and seems to be more common in the Sidamo than in the Gamo Gofa Region[6]. The clinical type is mainly the classical nodular form. Our data (Table 2) may indicate an increase in the incidence of Kaposi sarcoma in southern Ethiopia since 1978. However, this apparent increase is limited to the period 1978 - 82, where a similar increase in the malignant melanoma frequency is observed. This most probably represents a bias. However, if the increase in Kaposi's sarcoma is true, it represents an increase in the nodular (endemic) form, which apparently is unrelated to the AIDS complex of diseases and immunosuppression [2].

The methods used in this review are based on the study of the relative ratios and hence not fully representative of the true cancer pattern in the communities [6]. This method has, however, from previous studies in Africa, proved useful in defining the cancer pattern [10, 13]. It should however, be underlined that since the numbers of tumour types under question in each time period are small, a true change (increase or decrease) may remain undetected.

In conclusion, this study does not demonstrate any increase in the incidence of lymphomas or Kaposi's sarcoma in south Ethiopia during the period 1963 – 1986. The results of this study may be used as baseline data should any deviation from the established pattern occur in the future.

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