Pattern of childhood malignancies in a University referral Hospital in Addis Ababa

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Abstract

A retrospective analysis of 77 patients below the age of 15 years with childhood malignancy admitted to the pediatric wards of Tikur Anbessa Hospital (TAH) in Addis Ababa during a 2 year period from January 2005 up to December 2006 is presented. Malignancies accounted for 3.1% of all admissions during this period. There were 55 (71.8%) males and 22(28.2%) females, with ages ranging from 3 months up to 12 years; 35 (44.9%) patients were in the age group 0-5years. The commonest malignancy was Wilm's tumor, which contributed for 19(24.7%) of cases.

Fever, weight loss, abdominal mass, pallor, lymphadenopathy and hepatosplenomegaly were the leading clinical presentations of patients with malignancy. Over two-third of the patients were 53 (68.8%) presented in advanced stage of the disease. Diagnosis was confirmed by Hematology and /or histopathology tests. Patients who were presented with intracranial space occupying lesion without Computerized tomography (CT) were excluded from the analysis.

Introduction:

Due to different public health measures in western and developing countries together with the advent of antibiotics have caused a marked decline in infant mortality rate and in the death rate in childhood. The Annual incidence of all malignant tumors in the US in persons under 15 years of age reported as 12.45 per 100,000 and 9.78 per 100,000 among whites and blacks respectively. (2) In the developing countries especially in sub Saharan countries accurate statistical data on neoplasm are not available.

Children with childhood malignant disease represented 3% of the total pediatric admissions to university of Nigeria teaching Hospital (5). In an Ethiopia analysis of histopathological specimens showed a rate of 27.9% for neoplasm, among which 14.6% were malignant. The peak age group for malignant Neoplasm was 40 – 49 years (22%), Pediatric malignancies (Age < 15 years) constituted 10% of all malignancies (6). In the study in North-western Ethiopia childhood malignant diseases represented 0.66% of the total pediatric admissions (7,8). Proper cancer registry and documentation of childhood malignancies are essential to provide basic data for organizing appropriate health planning and management of malignancy in Ethiopia.

Patients and Methods

A retrospective descriptive study was made of the clinical records of all children with malignancy admitted to pediatrics ward of Tikur Anbessa Hospital over two years of period from January 2005 to December 2006. Data were collected from both the log book and charts using a structured questionnaire. Readmission of the same patient was not included in the analysis. Data were entered and analyzed using Epinfo version 6 soft ware.

Results

There were 77 cases diagnosed to have malignant disease during the study period, which made up 31.4 cases per 1000 admissions.

The ages of patients ranged from 3 months to 12 yrs, of these 35 (44.9%) were children below 5 years. In all Age groups there was preponderance of males over females in the ratio of 2.5:1. Two-thirds of patients 52 (66.7%) were from rural area (fig 1). The commonest malignancies were Wilm's tumor (24.7%) followed by the leukemia's (19.5%) and lymphomas (14.3%) respectively (Table1). The commonest Presenting symptoms were fever (15.8%), weight loss (13.7%), anorexia (11.4%) and abdominal mass (9.6%) respectively. The commonest presenting signs were pallor (17.3%), lymphadenopathy (16.1%) hepatomegaly (14.3%), abdominal mass (14.3%) and splenomegaly (10.2%) respectively.

The mean duration of illness was 23 weeks ranging from 7 days up to 2.7 years. The mean duration of hospitalization was 24days. There were six (7.7%) deaths while on treatment and five (6.4%) discharges against medical advice.

Discussions

A total of 77 cases of childhood malignancies are included in this series. In the 1970 – 1971 analysis of admissions it accounted for 1.4% of all admissions to the ESCH (Ethio-Swedish Children Hospital), currently it represented 3.1% of all admissions to the pediatric wards. In a Nigerian series (9) it represented 3% of total admissions, where as in a Malawian study it was 6.6% (10).

In Both children and adults, males are affected more often by cancer than are females, the usual ratio is 1.2:1 (13). In the present study the gender distribution showed male preponderance with a M: F ratio of 2.5:1 similar to previous studies (8, 9,12). As in Agugua (9) 66.7% of patients were from rural residence; with only 33.3% being from urban areas. This may be a

reflection of population distribution of the country were 85% of the population lives in the rural area.

In our study the highest number of childhood Malignancies are found in the Age group 0-4year. 44.9% occurred in the 1st five years of life. This also observed in the previous study done in Addis Ababa (7,12). Of the total malignancies, Wilm's tumor and Neuroblastoma were found to be common in the first five years of life. Lymphomas and Bone & soft tissue sarcomas spread over the entire childhood period. The overall mean Age was 5.2years.

The Commonest presenting features were at the time of first presentation to the Hospital were fever (15.8%) followed by weight loss (13.7%) anorexia (11.4%) and abdominal mass (9.6%). pallor (17.3%), Lymphadenopathy (16.1%), hepatomegaly (14.3%) Abdominal mass (14.3%) and Splenomegaly (10.2%) were the common presenting physical signs at admission. These findings were similar to previous studies (8, 10, and 11).

Wilm's tumor (24.7), leukemia (19.5%) lymphoma (19.4%), and bone and soft tissue tumors (11.7%) were the first three common malignancies observed in this series. Wilm's tumor was found in 4.9% Ugandan, 6.6% of Malawian (10) studies. In UK and Jamaica 15%and 11% of the malignancy was Wilm's tumor. (3,13,16)

This study indicated that childhood malignancy is one of the common cause of admission, and showed an increasing trend from 1.4% in previous study to 3.1 % in our study. The mean duration of hospitalization was 24 days, which may reflect a prolonged cause of hospital stay.

In conclusion it is mandatory to establish a cancer registry, which may help to establish the true magnitude of the problem. Opening and strengthening of regional centers may also be necessary to minimize the delay in the diagnosis and facilitating follow-up of children with malignancy.

Figure 1

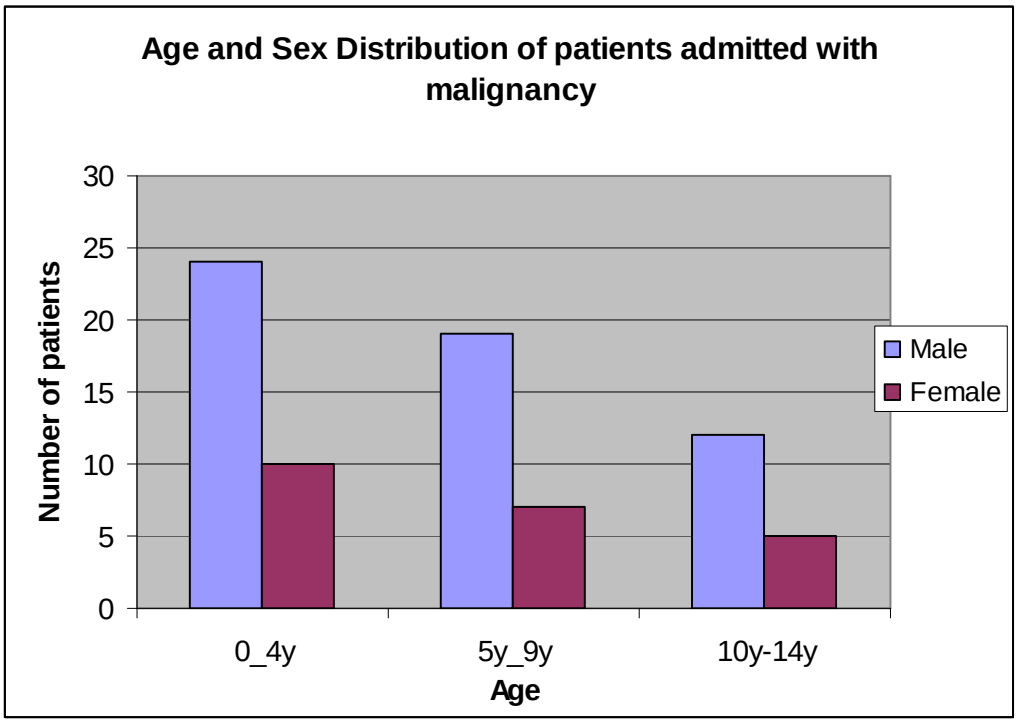

Table 1: Types of malignancies seen in the two-year study period

Type of malignancy	No	Percent
Rhabdomysarcoma	5	6.5
Burkitt's Lymphoma	2	2.6
Retinoblastoma	3	3.9
Acutelymphocytic leukemia	14	18.2
Wilm's Tumor	19	24.7
Neuroblastoma	3	3.9
Non Hodgkin's Lymphoma	6	7.8
Acute mylogenous Leukemia	1	1.3
ISOL*	9	11.7
Sacrococcygeal Tumor	1	1.3
Ewing`s sarcoma	2	2.6
Osteosacroma	1	1.3
Hodgkin's Disease	9	11.7
Total	77	100%

* Intracranial space occupying lesion

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