

Childhood Cancers: Experience at a Tertiary Care Hospital

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Abstract

Background: To study the prevalence of childhood tumours in a paediatric unit of a tertiary hospital

Patients and Methods: In this descriptive study 94 cases of childhood malignancies treated at a tertiary hospital were studied. Age, gender, type of malignancy and outcome were evaluated

Results: Out of a total of 94 patients 69.1% were males and 30.9% were females. The most common malignancy was acute leukaemia (34%). Overall mortality was 48.94%

Conclusion: The high mortality highlights the inadequacies in the treatment of childhood tumours.

Key Words: Cancer, leukaemia, lymphoma

enrolled in the study. The age at presentation, gender, type of cancer and its outcome were noted.

Results

Total patients diagnosed and treated for childhood cancer were 94. There was a male preponderance (69.1%) Most of the patients were between 4 – 11 years of age. (Table 1). Acute lymphoblastic leukemia was found to be the most common childhood malignancy (34%). (Table 2). Total patient survival was 51.06%. (Table 3)

Table 1: Childhood Tumours-Age Distribution

Age (years)	Patients(%)
1	6(6.4)
2	6(6.4)
3	5(5.3)
4	11(11.7)
5	8(8.5)
6	8(8.5)
7	11(11.7)
8	10(10.6)
9	8(8.5)
10	12(12.8)
11	9(9.6)
Total	94(100)

Table2: Prevalence of Childhood Tumours

	Patients (%)
Acute Lymphoblastic Leukaemia	32(34.0)
Hodgkin's Disease	19(20.2)
Brain Tumours	19(20.2)
Acute Myeloid Leukaemia	5(5.3)
Non Hodgkins' lymphoma	1(1.1)
Retinoblastoma	6(6.4)
Nephroblastoma	5(5.3)
Ewing sarcoma	3(3.2)
Ovarian tumours	1(1.1)
Neuroblastoma	2(2.1)
Rhabdomyosarcoma	1(1.1)
Total	94

Introduction

Cancer is generally an uncommon occurrence in childhood. World wide, early diagnosis and identification of prognostic markers lead to a better survival.¹ Relative frequencies of different cancers have been reported sporadically. Absence of a National Cancer Registry in Pakistan makes it difficult to determine the incidence of childhood cancers. However whatever data is available, the trends coincide with the international data. Due to inadequate available facilities and expertise in the field, it is estimated that 50% children do not get properly diagnosed and treated. 40% report only at very advanced stages of disease. Among the treated, only 50% survive after completion of treatment with an overall survival of 15% in childhood cancers.^{2,3}

Patients and Methods

The study was a descriptive, non interventional study, collecting data from October, 2005 to September, 2009. It was carried out at Paediatric Unit, Fauji Foundation Hospital, Rawalpindi, an 800 bedded hospital with an 85 bedded Paediatric unit. All cases diagnosed as paediatric cancer, either at the unit or referred for treatment from other hospitals after being diagnosed were

Table 3: Childhood Tumours- Survival

	Total Patients	Patients Survived(%)
All cancers	94	48(51.06)
Acute Leukemias	37	20(54.1)
Brain Tumours	19	01(5.3)
Lymphomas	20	19(95.0)
Miscellaneous (Wilm's tumour, neuroblastoma, retinoblastoma, rhabdomyoblastoma)	18	6(33.3)

Discussion

Childhood cancers, approximately, account for only about 1% of all cases. Incidence rates are highest among young children (aged 1-4 years) and adolescents (aged 15-19 years).⁴ The exact incidence of childhood cancer in Pakistan is not well documented. Few cancer registering bodies are available in developing countries and Pakistan is no exception. The Karachi Cancer Registry (KCR) is the first population-based registry of Pakistan, with 9 years proven data stability (1995-2003) for Karachi South, making a strategic basis for National Cancer Control Program. It states that an estimated 600 children are diagnosed with cancer yearly.² Shaukat Khanum Memorial Hospital Cancer Registry data over the last fourteen years shows 11.44% of malignant cases diagnosed in children.⁵ In present study, male predominance and acute leukaemias being the commonest, are the salient features. These findings are substantiated by the other studies.⁶

Mortality due the malignancies portrays a grim picture in our study. It was even worse among those having CNS tumours with only 5.3% surviving. The third most common malignancy seen in our study i.e. lymphomas (predominantly Hodgkin's lymphoma) had a 95% survival rate. The rest of the malignancies had a survival of 33.3% only. Overall survival was 51.06%. This data very clearly reflects the lack of availability of highly specialized care required for these patients.

There has been a considerable reduction in childhood cancer mortality in the developed countries since the 1960s in spite of stable or increasing incidence rates reflecting dramatic improvements in survival. This has been due primarily to treatment advances leading to improved survival, particularly for childhood leukaemia. Only about 25% of children with cancer diagnosed in Britain during the decade 1962-1971 survived for more than five years. Nearly 75% of those diagnosed during 1992-96 survived for

more than five years.⁷

The most impressive improvement is in acute lymphoblastic leukaemia. Currently, 80% of children with leukemia are still alive five years after diagnosis, while 40 years ago, survival was uncommon. The proportion of patients in Britain who were still alive five years after diagnosis has increased from 12% of those diagnosed during the decade 1962-71 to more than 80% of those diagnosed in 1992-96.⁷ There have been striking improvements in almost all the other common diagnostic groups too; for example from 21% to over 75% in non-Hodgkin lymphomas, from 17% to more than 50% in neuroblastoma, and from 35% to more than 80% in Wilms' tumour. These improvements are seen as a result of improved diagnostic modalities, early detection, classification and treatment of childhood cancers over the years.⁸

In developing countries, where reliable cancer estimates are not available, estimates have to rely upon cancer frequency data from institutions. These estimates are of limited value as there may be problems in correlating the results from general population to various forms of selection bias. Nevertheless in the absence of population based registries, where standardized incidences and mortality figures are not available, this data provides useful information that can be utilized for systematic approach towards cancer control, health planning and future research.

Conclusion

More standardized data collection regarding incidence, mortality and survival rates of childhood cancers should be carried out.

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