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Solid Tumors in Panama Children's Hospital: A Never-Ending Challenge in a Pediatric Third Level Public Hospital

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ABSTRACT

This is a description of the evolution of survival percentage of children that survive cancer treatment in the third level pediatric hospital. This study shows the importance of the primary care health professional in early detection. This fact can only happen with t continual educational campaigns. The policy of making pediatric cancer awareness among the general population and the basic health personnel will improve survival in this menace disease.

Keywords

Tumors, Pediatric hospital, Early detection, Awareness.

Introduction

Early detection and prompt reference efforts, attention of premonitory symptoms and suspicion by the general physician or primary care pediatric health professionals and good administrative skills in a public setting are three main points that lead to increase the percentage of patients that nowadays are alive and are playing an important part as cancers survivors.

Purpose of the study

Description of the pediatric/oncology epidemiology and how an educational measures can improve the prognosis.

Methods

This is a descriptive, transversal and single institution study. We revised the Solid Tumors Cases Registry of Panamá Children's Hospital, the tumor report at the Pathology Department of Panamá Children's Hospital and the social database of the medical history for each patient included in the study.

Inclusion criteria

Patients at the moment of diagnosis were between 1 day to 16 years of age. Patients whose data are included from January 1, 2000 to January 31, 2015. All cases must have follow-up history at the ambulatory clinic.

Exclusion criteria

Patients that at the moment of diagnosis were more than 16 years of age. Lymphoma because this diagnosis in our setting is attended by Hematology, not by our Service. Patients who are loss of the follow-up consultation for more than a year.

We used database Excel of Microsoft Office 2010. We review each name and ID numbers to avoid repetitions. We calculated the percentage of patients that are alive and with no evidence of neoplasia at January 1, 2017.

Results

There are 257 cases of children with solid tumors.

Table 1 shows the absolute numbers of cases for pathology.

Diagnosis	Number of patients
Central Nervous System Tumors	69
Germ Cell Tumors	25
Wilm's Tumors	26
Retinoblastoma	32
Neuroblastoma	18
Osteosarcoma	22
Rabdomiosarcoma	29
Hepatic Tumors	18
Ewing Sarcoma	7
Thyroid Tumors	3
Soft Tissue Sarcomas	6
Other Tumors	2

18 patients had and incomplete follow up history. We include 239 patients who have complete evidence of being free of disease.

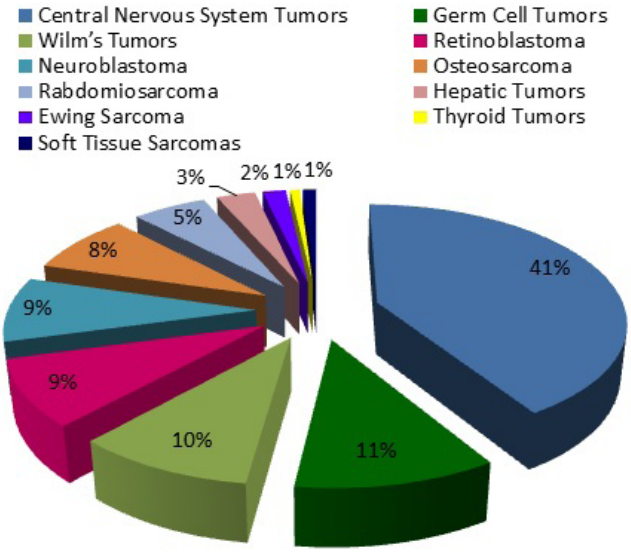

Figure 1: Represents the perceptual distribution of tumors according to diagnosis.

For this study we calculated the percentage of surviving cases within two periods of time:

- January 2000 to December 2009
- January 2010 to January 2015

The percentage of surviving cases was calculated dividing the Number of patients alive and free of disease between the Number of cases for each diagnosis for each period of time.

Table 2 shows the percentage of surviving cases between two periods of time.

Diagnosis	% de survival 20002009	% de survival 2010-2015
Central Nervous System Tumors	67.3%	58%
Germ Cell Tumors	85%	91%
Wilm's Tumors	69%	67%
Retinoblastoma	78%	94%
Neuroblastoma	54%	88%
Osteosarcoma	32%	50%
Rhabdomiosarcoma	65%	82%
Hepatic Tumors	78%	44%
Ewing Sarcoma	20%	0%
Thyroid Tumors	78%	100%
Soft Tissue Sarcomas	40%	100%

There is an increase in the percentage of survival in all types of tumors except in Central Nervous System Tumors, Hepatic tumors and Ewing Sarcomas. The overall percentage of survival in the 20002009 was 61 % and in the period of 2010-2015 was 73%.

Discussion

During the year 2010, the Ministry of Health in cooperation with Pan-American Health Organization implemented a Guide for the integral attention of children from newborn period to 9 years of age including the exam for signs of cancer in the Growth and Development Consultation of all children. Before this, the Foundation for Children with Cancer of Panama initiated in the yearly Campaign of the Premonitory Signs of Pediatric Cancer.

The objective of both initiatives was to recall the attention of the general public and the health personnel to the problem of delayed diagnosis of the child with cancer. At the same time, Panamá Children's Hospital was continuously improving the acquisition of technology for the diagnosis and treatment of childhood disease. There is a need to design a multifactorial study to know the biological nature that characterizes the advanced tumors especially on tumors of the central nervous system, hepatic tumors and Ewing Sarcoma.

Also to provide an actual incidence of childhood cancer to the authorities we calculated for each millions of people between 1 month and 15 years and 11 months attended in Panama Children Hospital, there are 19.15 new cases of Solid Tumors in the last 5 years. The mortality rate in Panama Children Hospital is 5.79 cases for each 100 000 patient with pediatric pathology.

Of the total of new cases, 45% will have between 1 and 4 years of age, which is the range included in the Growth and Development Consultation in all the Primary Health System.

Conclusions

Both educational initiatives to the community and the health personnel, improved the opportunities of survival. We need to maintain these important activities especially those directed to the youngest child.

Our efforts must be directed on the treatment of tumors that have complicated surgery, complex chemotherapy and radiation therapy, to avoid severe long term sequels.

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