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Liver tumours in children: diagnostic and therapeutic approach in the Tropics

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ABSTRACT

Liver tumours in children are rare and their prognosis are poor. Through a cross and retrospective study, we examined the epidemiological, clinical and therapeutic aspects on a number of patients in our hospital to try and improve the management of cases. This study involved 66 children admitted to the pediatric oncology unit of University Hospital of Treichville in Abidjan between 1991 and 2007. The average age of children was 7.2 years and the sex ratio of 1.4. 42 children lived in the countryside and 52 children were from disadvantaged areas. 63.2% of children were not vaccinated against hepatitis B. The abdominal mass was the primary sign of discovery and these tumours were dominated in both their primitive and secondary forms by the Burkitt's lymphoma.

1. Introduction

Liver tumours in children are rare and represent about 1% of all childhood tumours[1]. Their prognosis is still grim in most cases[2]. They therefore represent a major therapeutic challenge[3].

The objective of this study was to describe the epidemiological, clinical, curative and development of these tumours in order to find the best ways to improve their medical care.

2. Patients and methods

This is a cross and retrospective study conducted in the pediatric oncology unit of University Hospital of Treichville 1991 to 2007.

Were included in the study, children aged from 0-15 years old with a liver tumour diagnostic through ultrasound with or without laboratory evidence (cytology or histology).

3. Results

We recorded 66 cases, spread as follows: 39 boys and 27 girls, a sex ratio of 1.4. The average age is 7.2 years with some extreme cases ranging from 5 months to 15 years (Table 1). 24 children lived in town while 42 were from the countryside. Most of these children (46) came from disadvantaged areas. They were all examined for an abdominal mass associated with signs such as: abdominal pain (17.5%), impaired general condition (14%) and jaundice (5.3%). 63.2% of children were not vaccinated against

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hepatitis B. We found hepatomegaly in 79% of cases. The liver was normal in 25 children. Only 4 children received a dose of alpha fetoprotein returned positive in 3 cases.

Table 1
Malignant tumours.

Malignant tumours		n (total = 61)
Primitive	Burkitt's lymphoma	23
	Hepatoblastoma	1
	Hepatocarcinoma	1
	Kuppferian sarcoma	1
Secondary	Burkitt lymphoma	15
	NHL	7
	NEphroblastoma	8
	Neuroblastoma	2
	Rhabdomyosarcoma	2
	Rétinoblastoma	1

It was malignant in 61 cases, benign in 3 cases (hepatic peliosis: 1; hemangiopericytoma: 1; cavernous angioma: 1) and undetermined in 2 cases. The lymphoma of Burkitt was the most frequent diagnosis in 38 cases, of which 23 were primary tumours; the next nephroblastoma (minor site) in 8 cases.

As for therapeutic methods, 39 children received chemotherapy, 3 of chemotherapy and surgery, 1 with surgery and 23 children received no treatment. The protocols used were COP/COPAD in lymphomas SIOP6 in nephroblastoma, OPEC in hepatocellular, VAC/VAD in sarcomas. Tolerance and treatment compliance was poor in 32 children. The evolution was marked by a high death rate of 44% (Figure 1).

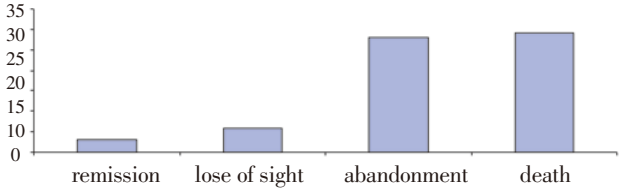

Figure 1. Evolution of cases.

4. Discussion

The epidemiological characteristics of our samples are compared with what we know of Burkitt's lymphoma which is the dominant cancer in our series[4]. Clinical aspects are also classic: abdominal mass, pain, impaired general condition[5]. Although we note a high rate of children not immunized against hepatitis B, cancers that may result from an infection with hepatitis B remain rare. Another cause of liver cancer in Africa is aflatoxin[6,7]. In practice, we don't encounter many cases. However, the diagnosis of these tumours requires technical means not always available or expensive tests (alpha fetoprotein, markers of viral hepatitis B, part biopsy pathology)[8].

In all cases we observe that in primitive forms and secondary the lymphoma of Burkitt predominates. The Burkitt primary liver is considered to be exceptional[5]. In clinical reality, it is difficult to distinguish between primitive and secondary location. It is clear that tumours such as hepatoblastoma and hepatocellular carcinoma are relatively rare and/or under diagnosed[9-16].

The lymphoma of Burkitt proves its position as the leading childhood cancer in the south of the Sahara including liver tumours. The prognosis remains to be improved because it is a curable cancer.

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