SECOND BURKITT LYMPHOMA (BL), ABOUT 15 CASES OBSERVED IN THE PEDIATRIC ONCOLOGY UNIT OF CHU-YO IN BURKINA FASO

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INTRODUCTION

BL is the most frequent non Hodgkin lymphoma in sub-Saharan Africa. It represents 1/3 of the childhood cancers seen in Ouagadougou Pediatric Oncology Unit (a GFAOP unit) in Burkina Faso[1]. Thanks to the GFA LMB protocols the survival of BL patients in French-speaking units in sub-Saharan Africa is around 60%[2]. Recurrences are usually early within the first year of treatment and become exceptional after 2 years of remission.

The aim of this paper is to describe cases of second Burkitt disease, occurring long after the first episode, in patients treated at Ouagadougou.

PATIENTS AND METHOD

We carried out a retrospective description of all patients who developed a second Burkitt disease, more than one year after the first episode. This study concerned 15 patients between April 2009 and January 2022.

These patients were treated according to GFA recommendations, either Cyclo-Burkitt with Cyclophosphamide infusions and intra-thecal injections, or GFA-LMB2009 including methotrexate at 3 g/m^2 in induction and consolidation, with intra-thecal injections, alkaline hyperhydration and folinic acid in rescue[2].

RESULTS

- Fifteen patients were enrolled: 6 females and 9 males. Mean age was 9 years [5-14] at first diagnosis and 13 years [7-18] at second episode.
- At the first episode, diagnostic was made by tumor cytology in 12 and histology in 1 cases respectively, on bone marrow in 1 case and 1 patient was treated based on clinic status. In the 2nd episode, diagnostic was confirmed for 11 patients by cytology, which was not contributive in 3 cases and no sampling was performed for the last patient.

Table I: Repartition of involved sites during the 2 episodes

	Number =15	Number = 14**
Facial	8	5
Abdomen	11	13
BM*	2	5
CNS	4	2
Testicle	0	1
Foot	0	1

*BM was not assessed for 8 patients during 1st episode vs 1 in 2nd
** one patient had an incomplete work-up

- At the first episode, there were 1 stage 1, 2 stages 2, 7 stages 3 and 5 stages 4 (2 BM and 3 CNS involvements)
- At the second episode , there were 1 stage 2, 7 stages 3 and 6 stages 4 (4 BM, 1 CNS and 1 BM and CNS involvement) ; 1 incomplete workup.
- At 1st diagnosis, 2 patients received cyclophosphamide + MTX IT and 13 received GFA-LMB09 polychemotherapy as all 14 treated patients in the 2nd episode. Patients outcome is summarized in figure 1.
- At 1st episode, 13 patients completed treatment, one missed a consolidation course and one the final maintenance course. At end of treatment 6 patients had a residual masses which was not explored (PR1)
- Median duration of 1st remission was respectively 4.25 years [2.4-7] for patients in complete remission (CR1) and 2.65 years [1.4-4.4] for those in PR1.

Figure 2 gives the duration of survival for the 6 CR2 patients. Another one lost to follow-up at the end of the second treatment.

- One patient has just completed treatment for a 3rd Burkitt's episode, 5 years after the 2 nd one.

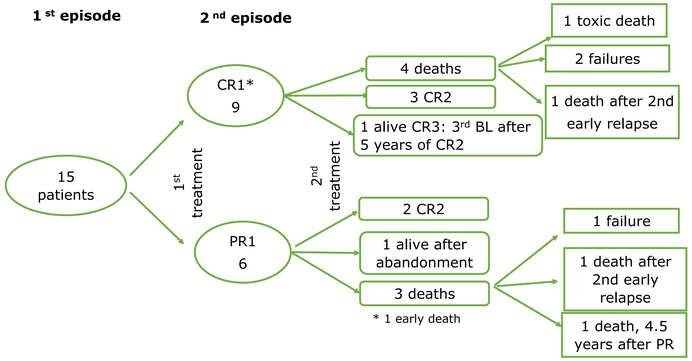

Figure 1: Summary of patient outcome

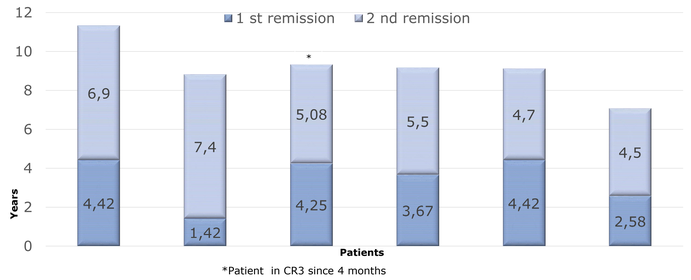

Figure 2 : Survival duration in years of 6 CR2/3 patients

COMMENTS

Although the incidence is difficult to assess, 15 cases in 18 years is not negligible for a center that receives around 50-60 cases a year with survival rate around 50-60%[1, 2]

- Patients have been treated with LMB09 GFAOP, an adapted protocol. Of the 15 patients with second disease, 9 were previously in CR1.
- The center's diagnostic resources are limited. Only cytology of the tumor is feasible in most cases. It has not been possible to carry out biological studies to see whether the 2 successive tumors were clonally different.

In the literature, there are case reports of 2 successive BL, which, when biologically studied, showed that they were biologically different lymphomas (mutation in VDJ region, heterozygous truncating c.5791CTFANCM mutation)[3, 4]. These 2 nd BL occurred several years after the 1st. In most cases, there was a background of immune deficiency (XLP1 or HIV) but not in all[5, 6]. In our series, we did not detect any HIV+ patients, but were unable to test other hypotheses. Could EBV, or the context of high malaria endemicity, play a role?

- Six patients had residual masses at the end of 1st treatment. These cases raise the question of a late re-evolution of their residual mass, but no answer is possible.

The question of treatment for these 2 nd BL is raised. In our series, patients were able to be retreated and cured using the same therapeutic approach as described in some articles[4].

CONCLUSION

Without biology, it is not possible to distinguish between recurrence or real second BL. The presence of a residual mass after the first treatment in some patients might suggest a late progression of the initial disease, while in others, the long delay suggests "second primary" BL.

SOURCES

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