

TOLERANCE TO THE BEAM PROTOCOL BEFORE AUTOLOGOUS HEMATOPOIETIC STEM CELLS TRANSPLANTATION IN CHILDREN TREATED FOR HODGKIN'S LYMPHOMA



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Introduction

Hodgkin's lymphoma is a malignancy of the lymphatic system observed especially in young adults, adolescents and younger children. Patients refractory to the first line of treatment or in relapse, received the BEAM conditioning regimen (carmustine, etoposide, cytarabine, melphalan) followed by transplantation of hematopoietic stem cells. The aim of the study is to define the characteristics of patients who received this protocol, evaluate its effectiveness, and analyse the tolerance in relation to the carmustine, a cytotoxic agent responsible for many side effects.

Materials and methods

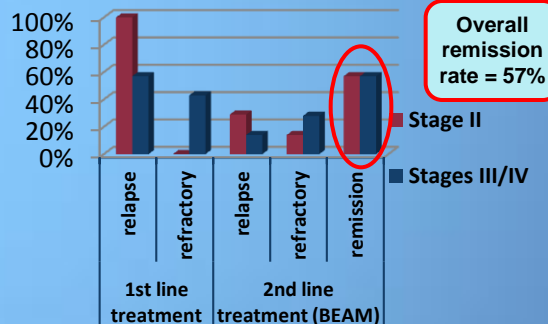
We conducted a retrospective study on patients who received this treatment between January 2001 and September 2011 in the paediatric haematology oncology ward. A data collection document was created to list the patients' characteristics and information related to the protocol (tolerance, efficacy and previous chemotherapy).

Results

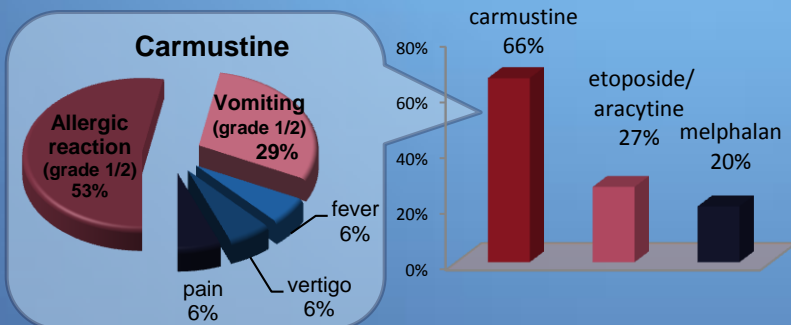
Evolution according to the disease stage

Patients' characteristics	
n	15
Age at diagnosis : median (years) (min – max)	14 (5 – 17)
Sex (M/F)	8/7
Pathology	
Hodgkin's lymphoma	14
Stage II	7
Stage III	2
Stage IV	5
Non Hodgkin's lymphoma	1

- Mean time to relapse after the first line treatment :
 - stage II : 14 months
 - stage III/IV : 5 months
- Consolidation by a second transplantation : 6 patients
- One patient died as a result as the disease (median hindsight : 64 months)



Frequency of adverse effects during the infusion



Main adverse effects after autologous hematopoietic stem cells transplantation Day 1 to Day 90 :

- Nausea/vomiting; grade 1/2/3 (n=10)
- Fever; grade 1/2 (n=8)
- Mucositis; grade 2 (n=4)
- Hémorrhages; grade 1 (n=3)
- Sepsis; grade 4 (n=2)
- Productive cough; grade 2 (n=2)
- Interstitial lung disease (n=1)

Adverse effects in the longer term (>J90) :

- Pneumotisis (n=2)
- Pulmonary tuberculosis (n=1)
- Shortness of breath with exercise (n=1)

Conclusion

This protocol resulted in remission in approximately two thirds of the cases regardless of the disease stage. The overall tolerance was relatively good, despite some severe pulmonary damage probably related to the toxicity of the carmustine. In view of these results, the BEAM protocol could be used widely in children with relapsed or refractory Hodgkin's lymphoma. Nevertheless, more hindsight and a higher number of patients would be required to get more specific data.