Treatment of Mediastinal Gray Zone Lymphoma After Progression on First-Line Therapy Including Rituximab: Treatment With High-Dose Therapy, Nivolumab and Ipilimumab

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Introduction

Mediastinal gray zone lymphoma (MGZL) is a rare non-Hodgkin lymphoma occurring predominantly in young men. This disease is situated at the border between mediastinal classical nodular sclerosis Hodgkin disease and primary mediastinal diffuse large B-cell lymphoma, with different responses to the first-line treatment schedules. Gray zone lymphoma also expresses programmed cell death ligand-1 (PD-L1), making it a probable target for immune checkpoint inhibitors.

Aim

To evaluate the role of high-dose chemotherapy combined with both nivolumab and ipilimumab in progressed gray zone lymphoma and the impact on both response rate and progression-free survival.

Objectives

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Methods

We included 12 patients known to have mediastinal gray zone lymphoma confirmed by a reference lab. All patients progressed during and/or after the completion of first-line chemotherapy including anti-CD20 monoclonal antibodies. Patients were aged 18–38 (median, 27 years); 3 were female and 9 were male. PET-CT demonstrated high SUV after the first-line therapy, ranging between 7.8 and 18 (median, 11.3). All patients were treated with 6 cycles of the new chemotherapy regimen ACEP (day 1: doxorubicin 75 mg/m2 + cyclophosphamide 1,200 mg/m² + etoposide 300 mg/m2; days 1–5: prednisolone 60 mg/m2) followed by 4 cycles of ifosfamide (day 1: ifosfamide 4 g/m2), given after the completion of the first 6 cycles of ACEP. Nivolumab 240 mg and ipilimumab 10 mg/kg were given every 3 weeks for a total of 10 cycles.

Results

We documented partial responses in nine patients (75%), and complete responses were documented in three patients (25%) at the end of the third cycle. After the end of therapy, complete response wase documented in six patients (50%). Progression was documented in 2 patients after the end of study; 1 patient only progressed at the end of the 6 cycles. The progression-free survival at 18 months was 86% (95% CI: 75–90). The main toxicities included profound neutropenia and renal toxicity.

Summary

Dose dense chemotherapy along with immune check piint inhibitors are promising in relapsed Gray zone lymphoma

Discussion

: Chemotherapy with a dose-dense schedule and immune checkpoint inhibitors seems to offer effective management in patients with gray zone lymphoma demonstrating early progression on first-line therapies.

References

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