Open Journal of
Clinical & Medical
Case Reports

Volume 9 (2023)
Issue 14

Case Report ISSN: 2379-1039

Fifteen-year remission in a patient with follicular lymphoma after high-dose chemotherapy with autologous stem cell transplantation as a first-line treatment

Anna K Smolyaninova*; Nelly G Gabeeva; Ekaterina S Nesterova; Evgeniy E Zvonkov

***Corresponding Author: Anna K Smolyaninova**

Department of Hematology, National Research Center for Hematology, Ministry of Health of Russia, 4 Novyi Zykovskiy Proezd, Moscow 125167, Russia.

Email: annmo8@mail.ru

Abstract

We present a description of a clinical case of the use of high-dose therapy with autologous stem cell transplantation in the first line of therapy in a patient with FL. The patient achieved long-term molecular remission and potentially cure of the tumor.

Keywords

Follicular lymphoma; Autologous stem cell transplantation; Advanced stage; Very long responders.

Abbreviations

HDT: High-Dose Therapy; ASCT: Autologous Stem Cell Transplantation; FL: Follicular Lymphoma; CT: Computed Tomography; IgV: Immunoglobulin Variable Region; POD24: Progression of Disease Within 24 Month; PFS: Progression-Free Survival.

Introduction

Long-term follow-up have showed that HDT with ASCT provides long-term 25–30-year remissions in patients with FL, and over 50% of FL patients can probably achieve a biological cure of the tumor [1-3]. Currently, it is considered that the optimal time for the ASCT is the first early relapse of FL, i.e. second-line therapy. Very few reports on the recent studies published the effect of ASCT as the first-line therapy of FL. We present a rare case of long-term complete remission in a patient with advanced FL who received HDT with ASCT as the first-line therapy.

Case Presentation

A 45-year-old woman presented with peripheral lymph nodes enlargement up to 5 cm, night sweats, and weakness in 2008. Abdominal CT showed multiple lymphadenopathy in conglomerates up to 9 cm. High blood beta2-microglobulin (3.1 mg/l) and lactate dehydrogenase (310 U/l) were noted. Based on the histopathological and FISH tests with the cervical lymph node biopsy, grade 1-2 t(14;18)+ follicular lymphoma was diagnosed. Bone marrow biopsy showed a massive infiltration with tumor cells. Consensus PCR for the IgV genes in bone marrow, blood and lymph node identified an identical clonal tumor cell population. Thus, an advanced follicular lymphoma with a large tumor burden and a high risk of FLIPI/FLIPI2 was diagnosed. The treatment included 4 courses of R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone) with a partial response. Tumor lesion in the bone marrow and retroperitoneal lymphadenopathy persisted. Subsequently, the patient underwent 2 courses of R-DHAP (rituximab, cisplatin, cytarabine, dexamethasone) therapy. Follow-up CT and bone marrow biopsy with a test for IgHV showed a complete antitumor response. Next, stem cells ($2.34*10^6$) were harvested after a high-dose cyclophosphamide treatment. ASCT was performed after conditioning using R-BEAM regimen (carmustine, etoposide, cytarabine, melphalan, rituximab). The patient remains in the first complete molecular remission for 15 years after transplantation, with no late toxicity (including secondary tumors).

Discussion

Guidelines on the treatment of FL are designed mainly for older patients, the main population for FL. However, they are not always suitable for young FL patients with advanced tumor and multiple risk factors. Although remission occurs in 80% of patients receiving standard ICT (R-CHOP/R-B), it is not curative in FL. Advanced FL often relapses after front-line chemoimmunotherapy, and many patients will eventually require subsequent therapy. Elderly patients may die from non-lymphoma- related events. While young patients usually receive several lines of therapy, and die predominantly from the tumor-related causes [4].

In 20% of FL patients, the disease progresses within 24 months after the standard ICT (the POD24 group). Patients with POD24 have a very poor prognosis: high risk of refractory disease, tumor transformation, and early tumor-related mortality. It is impossible to determine the risk of POD24 before the start of treatment [5,6].

HDT with ASCT as the first-line treatment in FL is proved to provide a significantly higher PFS vs. conventional therapy: 13-year PFS after ASCT and after R-CHOP is 59.1% and 28.8%, respectively ($p<0.001$) [7]. Therefore, due to the use of HDT with ASCT, it is possible to increase the number of "very long responders" i.e. FL patients with PFS longer than 10 years after the end of therapy [8].

In two independent studies by Metzner B. et al. and A. Jiménez-Ubieto et al. compared ASCT as the first, second, and subsequent lines of treatment and demonstrated that the most effective high-dose chemotherapy is "upfront", the first-line therapy [9,1]. Modern ASCT regimens (BEAM, BeEAM) are usually well tolerated and do not cause delayed complications [10].

In the presented case, remission was not achieved in a patient with high-risk FL after standard R-CHOP courses, suggesting the very high probability of relapse within the next few years. Considering the young age of the patient, the high-dose chemotherapy was selected and provided a rapid and complete antitumor response. Over a 15-year period, there were no signs of tumor relapse, which allows us to speak with some confidence about a curative effect.

Conclusion

Compared with traditional treatment regimens in FL, ASCT is more expensive, complex, and long-term treatment with a high rate of complications and stress for the patient. However, in young patients, the possibility of long-term PFS after only 1 line of therapy can obviously outweigh all these disadvantages. Therefore, indications for HDT plus ASCT in young patients with FL should be assessed individually, considering all risk factors and the patient's preferences.

References

1. Jiménez-Ubieto A, Grande C, Caballero D, Yáñez L, Novelli S, et al. Autologous Stem Cell Transplantation for Follicular Lymphoma: Favorable Long-Term Survival Irrespective of Pretransplantation Rituximab Exposure. Biol Blood Marrow Transplant. 2017; 23: 1631-1640.

2. Jiménez-Ubieto A, Grande C, Caballero D, Yáñez L, Hernández-Garcia MT, et al. Secondary malignancies and survival outcomes after autologous stem cell transplantation for follicular lymphoma in the pre-rituximab and rituximab eras: a long-term follow-up analysis from the Spanish GELTAMO registry. Bone Marrow Transplant. 2018; 53: 780-783.

3. Puckrin R, Chua N, Chin K, Peters A, Duggan P, et al. Long-term follow-up demonstrates curative potential of autologous stem cell transplantation for relapsed follicular lymphoma. Br J Haematol. 2023; 201: 319-325.

4. Cartron G, Trotman J. Time for an individualized approach to first-line management of follicular lymphoma. Haematologica. 2022; 107: 7-18.

5. Casulo C, Dixon JG, Le-Rademacher J, Hoster E, Hochster HS, et al. Validation of POD24 as a robust early clinical end point of poor survival in FL from 5225 patients on 13 clinical trials. Blood. 2022; 139: 1684-1693.

6. Casulo C, Byrtek M, Dawson KL, Zhou X, Farber CM, et al. Early Relapse of Follicular Lymphoma After Rituximab Plus Cyclophosphamide, Doxorubicin, Vincristine, and Prednisone Defines Patients at High Risk for Death: An Analysis From the National LymphoCare Study. J Clin Oncol. 2015; 33: 2516-2522.

7. Bruna R, Benedetti F, Boccomini C, Patti C, Barbui AM, et al. Prolonged survival in the absence of disease-recurrence in advanced-stage follicular lymphoma following chemo-immunotherapy: 13-year update of the prospective, multicenter randomized GITMO-IIL trial. Haematologica. 2019; 104: 2241-2248.

8. Passucci M, Assanto G, Pulsoni A. Achieving the cure of follicular lymphoma: is it time to finalize treatment strategies to reach this goal in a subset of patients? Mediterr J Hematol Infect Dis. 2023; 15: e2023018.

9. Metzner B, Pott C, Müller TH, Casper J, Kimmich C, et al. Long-term outcome in patients with follicular lymphoma following high-dose therapy and autologous stem cell transplantation. Eur J Haematol. 2021; 107: 543-552.

10. Hahn L, Lim H, Dusyk T, Sabry W, Elemary M, et al. BeEAM conditioning regimen is a safe, efficacious and economical alternative to BEAM chemotherapy. Sci Rep. 2021; 11: 14071.

Manuscript Information: Received: March 15, 2023; Accepted: April 21, 2023; Published: April 27, 2023

Authors Information: Anna K Smolyaninova*; Nelly G Gabeeva; Ekaterina S Nesterova; Evgeniy E Zvonkov
Department of Hematology, National Research Center for Hematology, Ministry of Health of Russia; 4 Novyi Zykovskiy Proezd, Moscow 125167, Russia.

Citation: Smolyaninova AK, Zvonkov EE, Gabeeva NG. Fifteen-year remission in a patient with follicular lymphoma after high-dose chemotherapy with autologous stem cell transplantation as a first-line treatment. Open J Clin Med Case Rep. 2023; 2025.

About the Journal: Open Journal of Clinical and Medical Case Reports is an international, open access, peer reviewed Journal focusing exclusively on case reports covering all areas of clinical & medical sciences.
Visit the journal website at www.jclinmedcasereports.com
For reprints and other information, contact info@jclinmedcasereports.com