

Use of Azacitidine and Venetoclax Combination in the Treatment of Relapsed Acute Myeloid Leukemia: Experience of Two Clinical Cases

A.S. Suleimenova¹, V.M. Kemaykin¹, B.A. Adusheva¹, S.D. Dossaeva¹, A.A. Musakhanova¹, S.M. Eskendirova¹

¹LLP 'National Scientific Oncological Center', Astana, Republic of Kazakhstan

Proceedings of III International Scientific and Practical Conference "Current Issues of Bone Marrow Transplantation and Hematology", October 11-12, 2025, Astana, Kazakhstan

Corresponding author's email:
aizatik507@gmail.com



This work is licensed under a Creative Commons Attribution 4.0 International License

Introduction

Relapse of acute myeloid leukemia (AML) is associated with a poor prognosis, particularly in patients who are not eligible for intensive chemotherapy. The combination of azacitidine and venetoclax has demonstrated efficacy in inducing remissions; however, clinical experience in Kazakhstan remains limited.

Clinical cases

Patient K., born in 1992, diagnosed with AML in 2022. She received two induction courses, two consolidations, and three courses of maintenance therapy, followed by a haploidentical transplantation (September 15, 2023). Remission was maintained for one year; however, relapse was documented in December 2024. Therapy with azacitidine + venetoclax was initiated. Treatment was complicated by severe pneumonia and sepsis, requiring prolonged mechanical ventilation. After infection control, remission was achieved (0.5% blasts in the myelogram). Considering significant pulmonary changes, further therapy was continued at her place of residence.

Patient A., born in 1996, diagnosed with AML in 2017. She underwent "7+3" induction therapy and haploidentical transplantation (August 18, 2017). After 7 years, she developed a late relapse. FISH analysis revealed no significant mutations. Treatment with azacitidine + venetoclax was administered. The therapy was well tolerated, with no complications or transfusion dependence. Remission was achieved after the first cycle; subsequent cycles are being administered on an outpatient basis. Cellular therapy is planned for discussion.

Objective

To present the clinical experience of using the azacitidine + venetoclax regimen in patients with relapsed AML.

Materials and methods

Two clinical observations of patients with relapsed AML who received azacitidine (75 mg/m² × 7 days) in combination with venetoclax (400 mg/day).

Results

In both cases, remission was achieved after the first cycle. The first patient experienced severe infectious complications, which were managed with intensive therapy; residual pulmonary sequelae persist. The second patient had no serious complications, remains in remission, and continues therapy.

Conclusions

The combination of azacitidine and venetoclax is an effective and tolerable therapeutic option for patients with relapsed AML, including those after transplantation. This experience supports the need for broader implementation of this regimen in clinical practice.