diagnoses. Modern treatment approaches, particularly multi-agent chemotherapy regimens such as the BFM protocol, have significantly improved 5-year survival rates, reaching up to 96%. However, the toxicity of chemotherapy regimens, particularly late effects, negatively impacts long-term quality of life and clinical outcomes. These adverse effects include cardiotoxicity, secondary malignancies, endocrine dysfunction, and neurological damage. Given the limitations of conventional treatment protocols, exploring less toxic and more effective therapeutic strategies is of critical importance.

Objective:

- To identify the late effects of chemotherapy in pediatric patients treated for ALL.
- To propose effective strategies for the early detection and management of these effects.
- To compare the BFM protocol applied in Azerbaijan with international experiences.

Materials and methods: This study includes 120 pediatric patients diagnosed with ALL and treated at the National Hematology Center of Azerbaijan between 2020 and 2023. A retrospective analysis of patient records was conducted. The evaluation of late chemotherapy effects was performed using internationally standardized methodologies:

- Cardiotoxicity: Echocardiography and pro-BNP biomarker measurements.
- Neurotoxicity: Clinical neurological assessment and electrophysiological testing.
- Endocrine dysfunction: Thyroid function tests, insulin resistance evaluation, and growth hormone monitoring.
- Secondary malignancies: Long-term follow-up and biomolecular analyses.

Results: Among the analyzed patients, 38% exhibited various late-onset adverse effects. The incidence rates of key toxicity types were as follows: **Conclusion:** This study demonstrates the significant late effects of chemotherapy in pediatric patients treated with the BFM protocol in Azerbaijan. The findings emphasize the importance of implementing routine monitoring mechanisms, particularly for cardiotoxicity and endocrine dysfunction. International literature suggests that incorporating novel therapeutic agents, such as CAR-T cell therapy and targeted therapies like blinatumomab, into treatment regimens may improve clinical outcomes.

Toxicity Type	Incidence Rate (%)
Cardiotoxicity	12%
Neurotoxicity	11%
Endocrine Dysfunction	25%

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Adult Hematology Abstract Categories

Acute myeloid leukemia

OP 03_Case report

REAL WORLD OUTCOMES OF HYPOMETHYLATING AGENTS AND VENETOCLAX COMBINATION THERAPY IN ACUTE MYELOID LEUKEMIA AND MYELODYSPLASTIC SYNDROME- SINGLE CENTER EXPERIENCE FROM A RESOURCE LIMITED COUNTRY

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Objective: In this study, we aim to evaluate the safety, efficacy and response rates of venetoclax and HMA combination therapy in patients with AML and MDS. This study provides outcomes from a tertiary care center in Pakistan, giving insights into the outcomes and impact of this therapeutic regimen in a resource-limited country. **Methodology:** We conducted a retrospective analysis on 96 patients of which 54 patients had AML and 42 had MDS. All the patients received venetoclax combined with HMA at a single center from January 2020 to December 2024. The primary outcomes measured for AML were Overall Survival (OS), Progression Free Survival (PFS) and response rates (Complete Remission [CR], Partial Remission [PR], Stable Disease [SD] and No Response [NR]) while for MDS response was assessed as per IWG criteria. **Results:** AML cohort (n = 54) had a male-to-female ratio of 2:1, median age of 52 (IQR:37–62.2). Risk stratification showed good risk in 3 (5.6%), intermediate in 37 (68.5%) and poor risk in 14 (25.9%) patients. Treatment was given in first line in 41 (75.9%). Indications for first line treatment were age or frailty in 27 (50%), infections in 3 (3.9%) and cardiotoxicity in 2 (3.8%). Total 44 (81.5%) patients received azacytidine and 10 (18.5%) decitabine. Overall Response Rate (ORR) after cycle 1, cycle 2 and EOT was 26 (48.1%), 34 (63%) and 36 (66.7%), CR rate was 15 (27.8%), 27 (50%) and 30 (55.6%) respectively. High dose cytarabine consolidation and venetoclax maintenance were given to 5 (9.3%) and 10 (18.5%) patients respectively. Seven (12.9%) patients underwent HSCT of which 5 (71.4%) received allogenic, 1 haploidentical and 1 received autologous transplant (28.5%). ORR at last follow-up was 27 (50%) of which 24 (88.8%) had CR and 3 (11.1) had CRi. There was no response in 14 (25.9%) and disease relapse in 10 (18.5%) patients. The OS of AML cohort was 77.4% with median 1250 survival days (95% CI 139–2360) and DFS was 52.8% with median survival 438 days (95% CI 65–761). The MDS cohort (n = 42) had a male-to-female ratio 9.5:1 with 51-years median age (IQR: 36.5–57.5). Genetic mutations were present in 3 (7.3%) of which TP53 mutation, del7q were

present in 1 each whereas 1 patient had ASXL1, TET2 EZH2, RUNX1 and STAG2 mutations. The median R-IPSS and IPSS scores were 5 (IQR: 4.2–6) and 1.5 (IQR: 0.75–2) respectively. Thirty-one (73.8%) patients received azacytidine and 11 (26.2%) decitabine. ORR at cycle 1, cycle 2 and EOT was 12 (28.6%), 21 (51.2%), 18 (42.9%) with CR rates of 2 (4.8%), 11 (26.2%) and 11 (26.2%) respectively. Febrile neutropenia was observed in 23 (54.8%) and cycles were interrupted due to cytopenia's in 23 (54.8%) patients. Seven (17.1%) patients received allogenic HSCT and 2 (4.9%) received haploidentical HSCT. Five (12.2%) patients received venetoclax maintenance. Eight (21.1%) patients had disease relapse. The OS of MDS cohort was 59.5% with median 907 survival days (95% CI 386–1424) and The DFS was 44.4% with median survival 528 days (95% CI 336–719). **Conclusion:** Venetoclax in combination with HMA represents an effective therapeutic strategy for AML and MDS in the real-world setting, even in resource limited settings.

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OP 04_Case report

THE ROAD NOT-TAKEN: EXPLORING NON-TRANSPLANT OPTIONS IN DE NOVO PHILADELPHIA - POSITIVE ACUTE MYELOID LEUKEMIA

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Background: Philadelphia chromosome-positive acute myeloid leukemia (Ph+AML) is a rare and aggressive subtype of AML, characterized by the BCR::ABL1 fusion gene. It has historically been considered a high-risk leukemia, with allogeneic Hematopoietic Cell Transplant (HCT) recommended in the first remission. However, the emergence of targeted therapies, particularly potent Tyrosine Kinase Inhibitors (TKIs), has led to reconsideration of this approach. Drawing from advances in Philadelphia-positive acute lymphoblastic leukemia (Ph+ALL), where HCT omission has been explored successfully, this study examines whether a similar strategy can be applied in select Ph+AML cases. **Objective:** To evaluate the feasibility of a non-HCT approach in Ph+AML by analyzing a case where transplant was omitted, and the patient achieved sustained remission. **Methods:** We present a case of a 30-year-old male diagnosed with de novo Ph+AML, identified through cytogenetics and molecular testing. The patient received induction chemotherapy with cytarabine and anthracycline (3+7) along with a TKI. Due to complications, his initial TKI was switched to ponatinib, and consolidation therapy consisted of azacytidine, venetoclax, and ponatinib. Disease monitoring was performed using quantitative Polymerase Chain Reaction (qPCR) for BCR::ABL1 and Next-Generation Sequencing (NGS). **Results:** The patient achieved a complete Molecular Response (MR 4.5) after the first cycle of consolidation therapy. Over 12-cycles of treatment, he maintained MRD negativity without emerging mutations. At 30-months post-diagnosis, he remains in sustained remission without undergoing HCT. Key factors that may have contributed to his favorable outcome include the absence of additional cytogenetic abnormalities, early achievement of deep molecular remission, and the use of a third generation TKI with activity against T315I mutations. **Conclusion:** This case suggests that a transplant-free approach may be a viable option for select patients with Ph+AML. While HCT remains the standard of care, the use of targeted therapies such as ponatinib in combination with venetoclax and azacytidine may provide an alternative pathway to long-term remission. Further studies are needed to validate patient selection criteria and assess long-term efficacy and safety of this approach.

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Adult Hematology Abstract Categories

Cellular therapy

OP 05_Case report

CORRELATION OF CD10+ B-LYMPHOCYTES AND PLASMA CELLS WITH OUTCOME IN BREAST CANCER

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Objective: Bone Marrow (BM) is poorly understood from the point of view of the prognostic role of hematopoietic cells and subpopulations of lymphocytes in patients with Breast Cancer (BC). In recent years, more attention has been paid to the study of the innate immune system, which includes B-lymphocytes. They produce IgM antibodies, which play an important role in the induction of apoptosis. **Methodology:** Study was carried out in 107 BC patients' stage I–II. Adjuvant chemotherapy – 65.4% of patients, radiation therapy – 49.8%, hormone therapy – 84% of patients. Her2/neu"-" 80%, Her2/neu"+"-18%, TNBC-12%. The duration of the follow-up period after surgery was 8-years. Multiparameter flow cytometry was used, FACSCANTO II. Studies of BM lymphocyte subpopulations were carried out in the gate of CD45++ cells: CD19, CD20, CD5, CD38, CD10, CD45, HLA-DR, CD27. Radical resection -38.3% of patients, mastectomy – 59.7%. **Results:** B1-cells was higher in B-Her2"+", stage IIA, with 2 affected lymph nodes. B1-cells correlated with plasma cells. The total percentage of B-cells in BM was significantly associated with the prognosis of BC. B1 cells were associated with progression-free and disease-free survival. Disease progression was observed at low levels of B1 cells. In cases more than 10% B-lymphocytes in the BM of BC patients' Overall Survival (OS)