HEMATOLOGY, TRANSFUSION AND CELL THERAPY

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Oral Presentations

Adult Hematology Abstract Categories

Acute Lymphoblastic Leukemia

OP 01_Case report

RISK OF DEVELOPING ONCOHEMATOLOGICAL DISEASES IN INDIVIDUALS INFECTED WITH HEPATITIS C AND B VIRUS

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Objective: There are data in the literature on the possible etiologic role of Hepatitis C Virus (HCV) in the development of some hematological malignancies. However, these studies were heterogeneous, for example, the control groups varied from blood donors to patients with other hematological malignancies and healthy individuals. In addition, most studies included a relatively small number of patients, which did not allow for unambiguous conclusions. Based on the above, the aim of this study was to identify a possible association between hepatitis B, C and hematological malignancies. **Methodology:** 797 patients of the National Center of Hematology and Transfusiology with various forms of malignant blood diseases and positive Hepatitis B (HbAgS) and C (anti-HCV) markers at the time of the diagnosis were analyzed. As a control group were used positive hepatitis B and C blood donors from the Central Blood Bank. The association between malignant blood diseases and infectious hepatitis was estimated using the Relative Risk (RR) and Odds Ratio (OR) with a 95% Confidence Interval. Differences were considered significant at $p < 0.05$. Statistical analysis was performed using SPSS software. **Results:** The study revealed a positive association between a positive anti-HCV status and the risk of developing Non-Hodgkin Lymphoma (NHL) (RR/OR = 11.7/13.3, p = 0), Acute Lymphoblastic Leukemia (ALL) (RR/OR = 6.76/7.22, p = 0), Chronic Lymphoid Leukemia (CLL) (RR/OR = 5.9/6.24, p = 0), Multiple Myeloma (MM) (RR/OR = 3.94/4.08, p = 0.008752) and Acute Myeloid Leukemia (AML) (RR/OR = 4.7/4.91, p = 0.000001). In cases of Myeloproliferative Neoplasms (MPN), a statistically significant association could not be determined. Hepatitis B was statistically significantly associated with NHL (RR/OR = 5.27/5.56, p = 0.000465), CLL (RR/OR = 5.31/5.61, p = 0.000001), MM (RR/OR = 5.31/5.61, p = 0.000001) and MPN (RR/OR = 4.3/4.48, p = 0.000570). **Conclusion:** Thus, it can be concluded that hepatitis C and B viruses may play a role in the development of some hematological malignancies, such as leukemia and lymphoma. HBV can contribute to the development of hematological malignancies by changing cell proliferation and causing chronic inflammation, which can disrupt the normal functioning of the immune system. Also, chronic inflammation activates cytokines and growth factors that can increase the risk of cell mutation, which in turn leads to the development of malignant tumors.

https://doi.org/10.1016/j.htct.2025.103916

OP 02_Case report

LONG-TERM AND LATE EFFECTS OF CHEMOTHERAPY IN CHILDHOOD ACLEUKEMIA AND THEIR MANAGEMENT SINGLE INSTITUTION OBSERVATIONUTE LYMPHOBLASTIC

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Introduction: Acute Lymphoblastic Leukemia (ALL) remains the most common malignant disease of childhood, accounting for approximately 26% of pediatric oncology

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%

https://doi.org/10.1016/j.htct.2025.103917

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