OP 02

Blinatumomab therapy in a relapsed acute lymphoblastic leukemia with isolated radius involvement following allogeneic bone marrow transplant: a case report

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Introduction: Treatment of relapsed acute lymphoblastic leukaemia after allogeneic bone marrow transplant can be challenging to clinicians and have a grim prognosis. Relapse sites other than bone marrow are generally central nervous system and gonads. Blinatumomab is a bi-specific T-cell engager(BiTE) antibody that mainly targets leukemic cells CD19 protein. Blinatumomab is effective in relapsed ALL with medullary involvement but in extramedullary relapsed setting its activity is not well-know. Here, we report an effective treatment with blinatumomab in a case of acute lymphoblastic leukaemia that recurred with isolated bone involvement after allogeneic bone marrow transplantation (ABMT).

CASE: A 20-year-old woman diagnosed with a Philadelphia chromosome-negative precursor B cell ALL and remission achieved with HyperCVAD/MA regimen. While in remission after two cycles of HyperCVDAD/MA regimen, 100% compatible sibling donor allogeneic bone marrow transplant was performed. İmmunosupresive therapy continued after six months of a transplant due to chronic GVHD that affects eye and skin. The patient presented with pain in the right elbow three years after the transplant. F-18 fluorodeoxyglucose (FDG) positron emission tomography/computed tomography (PET/CT) imaging revealed increased signs of FDG uptake in the right radius. There was no recurrence in aspirate and biopsy from the iliac bone marrow. In the biopsy taken from the right radius, leukemic cell infiltration was detected. Blinatumomab therapy was started. No side effects were observed. After two cycles of blinatumomab therapy, pet/ct showed total metabolic response and remission.

Discussion: In acute lymphoblastic leukemia, Blinatumomab therapy may be an effective salvage treatment in patients with extramedullary relapse.

Keywords: Relapsed acute lymphoblastic leukemia, blinatumomab, allogenic bone marrow transplantation.

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CHRONIC LEUKEMIAS

OP 03

Cardiovascular risk reduction in chronic myeloid leukemia patients treated with the tyrosine kinase inhibitors

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Objective: To identify factors that should be taken into account for the assessment of the necessity the cardiovascular (CV) risk reduction for chronic myeloid leukemia (CML) patients treated with BCR-ABL1 tyrosine kinase inhibitors (TKIs) in the decision making for strategy prevention.

Case report: CV risk reduction is an important consideration in patients with CML based on the necessity to improve prognosis in such a group of patients. The success and high effectiveness of TKIs have increased the focus on survivorship and late toxicity include CV toxicity in CML patients. Survivorship in CML patients depends on CV disease prevention, given its prevalence in the general population. The separate clinical guidelines for CML patients treated with TKIs for CV risk reduction are absent in clinical practice.

Methodology: We observed clinical trials expected TKIs effectiveness and toxicity (we especially focused on cardiotoxicity and hepatotoxicity), clinical guidelines on CV disease prevention for the general population. We also analyzed TKIs and HMG-CoA reductase inhibitors biotransformation, drug-drug interaction TKIs and HMG-CoA reductase inhibitors.

Results: TKIs demonstrated high effectiveness in CML patients based on the published clinical trials. Nilotinib and ponatinib have been linked to the development of vascular occlusive events, CV disease. Type 2 diabetes mellitus development can be associated with nilotinib treatment and as a result, could enhance CV disease. Dasatinib has been associated with pleural/pericardial effusions and pulmonary hypertension. Dasatinib based on clinical trial data is the most liver safe TKI, bosutinib, nilotinib, ponatinib have higher risks of hepatotoxicity in CML patients (ENESTnd trial, BELA Trial, DASISION trial, PACE study). The individual CV risk of the patient and the necessity of CV risk reduction should be based on the personal scores assessment with the cardiac risk score calculator, ASCVD algorithm based on the clinical guidelines on CV disease prevention for the general population. TKIs for CML treatment is the group of drugs that required liver biotransformation through CYP 3A4 cytochrome enzyme and are the inhibitors of CYP 3A4. Atorvastatin and simvastatin are required liver biotransformation with the CYP 3A4. Rosuvastatin and pravastatin are not required CYP 3A4 for their

biotransformation. As a result, if atorvastatin or simvastatin are use with TKIs for CV risk reduction the HMG-CoA reductase inhibitors exposure increase and it should be taken into account in patients with abnormal liver tests due to TKIs using. Rosuvastatin or pravastatin exposure does not change due to simultaneous treatment with TKIs and could be a beneficial role for CV disease prevention.

Conclusion: The decision for the necessity of the CV risk reduction for CML patients treated with TKIs through strategy prevention should be based on the assessment the next factors: individual CV risk of the patient and the necessity of CV risk reduction, liver function, the metabolism peculiarities of TKIs using for CML treatment, the metabolism peculiarities of the HMG-CoA reductase inhibitor potential recommended for CV risk reduction, drug–drug interactions TKI and HMG-CoA reductase inhibitor.

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CHRONIC MYELOPROLIFERATIVE DISEASES

OP 04

Analysis of demographic and clinical characteristics of primary myelofibrosis and post-polycythemia vera/essential thrombocythemia myelofibrosis patients

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Objective: Myelofibrosis (MF), could be de novo (primary myelofibrosis [PMF]), as well as developing in the clinical course of polycythemia vera (PV) or essential thrombocythemia (ET). PMF and post-PV/ET MF have many common features with clinical course and laboratory findings. However, there are insufficient studies showing the etiological or morphological differences between these patients. In this context, the aim of this study was to contribute to the literature by comparing PMF and PV/ET patients who developed MF.

Case report: . . .

Methodology: This retrospective study included 31 patients who were diagnosed with PMF and post-PV/ET MF in the Hematology Department of Dışkapı Yıldırım Beyazıt Training and Research Hospital between 2008–2019. The diagnosis of PMF was made according to the WHO criteria and the IWG-MRT group criteria were used for the diagnosis of PPV-MF and PET-MF. The two groups were compared in terms of demographic and clinical features. The diagnosis date, demographic and clinical features, physical examination findings, mutation analyses, treatment management and follow-up times of all the patients were recorded. Hematological parameters including Hb, hematocrit (Hct), leukocyte (WBC), neutrophil, lymphocyte, monocyte, platelet, platelet distribution width (PDW), mean platelet volume (MPV), LDH, ferritin and Vitamin B12 levels were examined.

Results: Evaluation was made of a total of 31 patients, including 16 PMF and 15 post-PV/ET MF. The mean follow-up period was 31.1 months [1–107.5]. JAK-2 V617F gene mutation was detected 10 (62.5%) PMF patients and 12 (80%) post-PV/ET MF patients. Splenomegaly was detected at the time of diagnosis in all PMF and post-PV/ET MF patients. When the size of the spleen was examined, there was no statistically significant difference between the two groups.JAK-2 V617F gene mutation was detected 10 (62.5%) PMF patients and 12 (80%) post-PV/ET MF patients. In terms of JAK-2 V617F mutation positivity, there was no statistically significant difference between the two groups. JAK-2 V617F mutation, and allele burden of ≥60% was detected in 70% of PMF patients and in 90% of post-PV/ET MF patients. The allele burden was not determined to affect OS in patients with MF. Hydroxyurea was most frequently used as the first line treatment in PMF (81.3%), while ruxolitinib was preferred in post ET/PV MF (53.3%). Throughout the follow-up period, thromboembolic complications developed in 12.5% of PMF patients and in 13.3% of post-PV/ET MF patients. There was no statistically significant difference between the two groups in terms of thromboembolic complications. Acute myeloid leukemia transformation was observed in 1 (6.25%) patient from the PMF group during the follow-up period. The OS of patients was mean 63.6 months in the PMF group, and mean 78.3 months in the post-PV/ET MF group. As a result of the Log Rank test, no significant difference was observed between the two groups in terms.

Conclusion: The results of this study demonstrated that PMF and post-PV/ET MF patients showed similar demographic, clinical and prognostic features in general. Therefore, patients with ET and PV should be closely monitored for MF development and should be managed as PMF if MF develops.

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OP 05

Incidence in PH-negative myeloproliferative neoplasms in armenia from 2005 to 2019

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Objective: Enhancements of laboratory diagnostics and the emergence of new therapies had a significant impact on incidence, prevalence and survival of patients with MPN. Published epidemiology data are scarce, and multiple sources are needed to assess the disease burden.

Case report: The aim of our work was to identify the patterns and trends of incidence, prevalence and survival of patients with MPN in the Republic of Armenia for the period 2005–2019.

Methodology: The data from Hematology Center blood diseases register, Oncological Center cancer register, as well as the data from death registration were basis of our research. Demographic data were obtained from National Statistical Office PA (http://www.armstat.am). The calculation of standardized indicators has been based upon the data from the Demographic compendium of Armenia from 2005 to 2019.