

Long-term renal functions of the patients were investigated. **Results:** 80.3% of the patients with a median age of 9.8 years were male. The most common histopathological subgroup was BL (77.5%), while the majority of patients (76.7%) had advanced disease. Clinical TLS (CTLS) was observed in 12.1% of the cases, and isolated laboratory TLS (LTLS) was observed in 18.7%. Hyperhydration±alkalinization and allopurinol were used in first-line treatment and prophylaxis. A significant correlation was found between young age, advanced stage, high lactate dehydrogenase level at presentation and LTLS. Bone marrow involvement was found to be significantly higher in the group with CTLS. AKI was observed in 12.1% of the patients. Out of a total of 103 patients whose treatment was completed, 93 (90.3%) patients survived and 10 deaths were observed. No death due to TLS was observed. The mean survival time was  $215.55 \pm 7.502$  months. After an average of 6.9 years, when the glomerular filtration rate values of the patients at the first admission and at the last admission were compared, a mean decrease of 10 mL/min/1.73 m<sup>2</sup> was detected. However, it was not found to be statistically significant. **Conclusion:** In our study, lower age, advanced stage, high LDH level at presentation were found to be risk factors for TLS. Long-term renal function loss was not detected in the survivors, for whom early and careful prophylaxis/treatment approaches were applied for TLS. The survivors are still being followed up.

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## SUPPORTIVE CARE AND PALLIATIVE CARE

### OP 22

#### IMPACT OF COVID-19 PANDEMIC ON DELAY OF CHILDHOOD CANCER DIAGNOSIS AND THE OUTCOMES IN A PEDIATRIC HEMATOLOGY/ONCOLOGY DEPARTMENT

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**Objective:** Restriction of access to healthcare during COVID-19 pandemic is undoubtedly a major problem for patients with cancer. Although childhood cancers are highly curable, it is obvious that diagnostic and treatment disruptions will lead to poor Results. In this study we investigated the effects of pandemic on diagnosis and treatment delays of children with cancer along with their consequences. **Methodology:** We searched all pediatric patients treated for cancer between March 2020 and January 2022 for COVID-19 infection. Data were collected from medical files of patients diagnosed with COVID-19, confirmed by polymerase chain reaction (PCR), who received active antineoplastic treatment. **Results:** Fifty-eight patients developed COVID-19 infection at

different stages of their anticancer treatment. Twenty-five had an asymptomatic COVID-19 infection, twenty-six had mild symptoms, three had moderate symptoms and four had severe disease. All of them recovered from COVID-19 infection. Chemotherapy courses were continued during active infection in four patients and interrupted in other patients. **Conclusion:** While strict measures are required to control the pandemic, patients with severe critical illness such as cancer should be carefully evaluated and treatment delays that may have vital consequences should be avoided. In pediatric patients with cancer whom infected by COVID-19, continuation of anticancer treatment may be considered by evaluating the clinical status of the patient.

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## TUMOR BIOLOGY, IMMUNOLOGY AND IMMUNOTHERAPY

### OP 23

#### INTRAPLEURAL THERAPY TO DISRUPT IL-6/IL-8 JUXTACTINE SIGNALLING TO BLOCK TUMOR EMT AND TO DRIVE SYSTEMIC ANTI-TUMOR IMMUNITY

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**Objective:** The goal of this study was to determine whether antiIL-6Rα block (tocilizumab) will alter the pleural secretome and will diminish tumor-specific immune responses. **Methodology:** Pleural T cells were isolated from freshly drained pleural effusions (n=6). Autologous pleural tumor was expanded in vitro using the Mammary Epithelial Growth Medium (Lonza). Pleural T cells were stimulated using anti-CD3/CD28 Dynal beads and low dose IL-2 (60 Cetus U/ml) for 2,4,7, 14 or 21 days in the presence of tocilizumab for the last 48h (0, 0.35, 0.72, 1.43, 2.86 and 5.72ug/ml). Pleural T cell effectors were counted and plated on tumor targets at 12.5:1 E:T in the presence of tocilizumab. **Results:** Ex vivo expanded pleural T cells were effector-memory phenotype (CD45RA-CD27-) and were highly cytotoxic against autologous tumor (89-100%). The majority of CD8+ T cells were central memory (CD45RA-/CD27-) or effector memory (CD45RA+/CD27-); the majority co-expressed granzyme B, perforin, 20-60% expressed PD-1. Most CD4+ co-expressed granzyme B and perforin and were PD-1+, suggesting cytotoxic CD4+ T cells. The presence of tocilizumab reversed tumor EMT but did not alter cytotoxicity. **Conclusion:** We show that the IL-6/IL-6Rα axis is prominent in MPE, drives tumor growth and inhibits anti-tumor immunity. Pleural T cells are neither exhausted nor dysfunctional but are suppressed by the pleural environment. Ex vivo expanded MPE CD8 and CD4 T cells are highly cytotoxic against

autologous tumor. Anti-IL-6R $\alpha$  block reverses tumor EMT but does not inhibit effector responses.

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## OP 24

### NIVOLUMAB EXPERIENCE IN PEDIATRIC MALIGNANT TUMORS

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**Objective:** Nivolumab is a human monoclonal antibody to programmed cell death receptor 1 (PD-1) that acts as an immune checkpoint inhibitor and is used in the immunotherapy of various types of advanced or metastatic cancer. The aim of this study is to evaluate the efficacy of nivolumab in pediatric patients with various highly malignant tumors and to share the experience of Ankara University Pediatric Oncology Department. **Methodology:** Eight patients were included in the study. Median age at diagnosis is 11.3 years (min 4.9- max 13.9). Treatment indications were malignant mesothelioma<sup>(1)</sup>, rectal adenocarcinoma<sup>(1)</sup>, malignant melanoma<sup>(1)</sup>, ewing sarcoma<sup>(2)</sup>, osteosarcoma<sup>(1)</sup>, non-hodgkin lymphoma<sup>(1)</sup> and hodgkin lymphoma<sup>(1)</sup>. **Results:** Four patients died due to progressive disease. Complete remission was achieved in four patients diagnosed with malignant mesothelioma, rectal adenocarcinoma, malignant melanoma and Hodgkin lymphoma. **Conclusion:** Immune checkpoint inhibitors are one of the greatest advances in oncological therapy and improve the overall survival of patients with advanced and resistant malignancies. More studies are needed to evaluate the efficacy of immune checkpoint inhibitors in pediatric tumors.

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## PEDIATRIC LEUKEMIAS

### OP 25

#### MRD IN BLASTIC PLASMACYTOID DENDRITIC CELL NEOPLASM

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**Objective:** Blastic plasmacytoid dendritic cell neoplasm (BPDCN) is an extremely rare disease with an aggressive course. Plasmacytoid dendritic cells (PDCs) are a component of the innate immune response: they secrete large amounts of type I interferons. There are several fractions of PDC in normal bone marrow: (CD123+CD4+CD56+) and (CD123+CD4+CD56-). PDC fraction CD123+CD4+CD56+ is a non-tumor analogue in BPDCN. Normally, the ratio of CD56+PDCs to CD56-negative PDCs is 0.129 $\pm$ 0.144. **Methodology:** AIM. Determination of the principles for assessing minimal residual disease (MRD) in the bone marrow by flow cytometry in BPDCN. **Materials and methods:** In the following case, the diagnosis of BPDCN with lesions of the skin, bone marrow, and spleen was established using the IHC study of the skin biopsy, morphological, flow cytometric studies of the bone marrow, as well as CT of the chest and abdomen. In a diagnostic flow cytometric study of the bone marrow, tumor cells expressed CD56, CD4, CD123. **Results:** At the end of the treatment stages, MRD was determined by flow cytometry. Isolation of CD56-positive PDCs was carried out on the basis of light scatter parameters, nucleotropic dye SYTO41, weak expression of CD45, co-expression of CD4, CD56, CD123. In the analysis, the ratio of CD56-positive PDCs to CD56-negative PDCs increases from 0.063 to 8.9, while the number of blasts (1.2%) and the proportion of CD56-positive PDCs among myelokaryocytes (0.06%) changes slightly. One month later, the relative content of CD56-positive cells was 81.2% of the PDCs, while the morphological study showed an increase in the number of blasts to 5.2%. One more month later, blast cells numbered 85% in the bone marrow punctate. **Conclusion:** In the described case, the dynamics of the ratio between CD56-positive and CD56-negative PDCs showed an increase in the tumor clone in the relapse of the disease. The change in this ratio became noticeable in the analysis of hypocellular bone marrow in the absence of an increased number of blasts in the morphological study of this sample. Measurement of the ratio of CD56+CD123+CD4+ cells to CD56-CD123+CD4+ cells is an effective strategy for objective assessment of tumor burden and the likelihood of bone marrow tumor recurrence of blastic plasmacytoid dendritic cell neoplasm.

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### OP26

#### EVALUATION OF MICROBIOLOGICALLY DOCUMENTED BLOODSTREAM INFECTIONS IN PEDIATRIC HEMATOLOGY/ONCOLOGY PATIENTS: RESULTS OF TEN YEARS

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