cohort as proof of concept. **Methodology:** Through collaboration with Chris Hani Baragwanath and Donald Gordon Hospitals, Johannesburg, South Africa, we performed patient sample collections of n=80. Collected patient samples include Acute myeloid leukaemia (AML) (n=7), Chronic lymphocytic leukaemia (CLL) (n=4), Chronic myeloid leukaemia (CML) (n=30), Multiple Myeloma (n=40) and health donor (n=5). For each patient sample, peripheral blood mononuclear cell (PBMC) isolation was performed and cryopreseved in liquid nitrogen. **Results:** Our preliminary demographic analysis results show that we can group patients based on diagnosis, staging, exclusion and inclusion criteria. From our demographic analysis, we have also identified highly frequent chemotherapy drugs used in the cohort. Further, we can identify the most frequent chemotherapy drugs given as medication to the patient cohort. We then selected 30 drugs that are relevant for leukemia and multiple myeloma for Ex vivo drug sensitivity screening test. **Conclusion:** Using our results we will then select effective drugs for monotherapy and also drug combinations. Selected drug combinations will then be validated on patient samples using our ex vivo drug sensitivity test. These results will be analyzed using our statistical capabilities and developed as a packaged product of preclinical information for precision clinical trials. Thus, we are progressing our cutting-edge translational platform from technology readiness level (TRL4) to TRL6 on blood cancer.

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PP 04

IBRUTINIB RELATED NEUROPATHY: A CASE REPORT

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Case report Introduction: Chronic lymphocytic leukemia (CLL) is the most common leukemia seen in adulthood and mostly affects the older age group. The treatment of CLL has completely changed in recent years with the discovery of new agents. Today, ibrutinib, an oral inhibitor of the Bruton kinase signaling pathway, has become one of the commonly used agents in the treatment of CLL. Ibrutinib, a generally well tolerated agent, has manageable side effects. However, life-threatening side effects such as major bleeding, AF, and infections can be seen. Here, we present a case of CLL who developed peripheral sensorimotor neuropathy during ibrutinib treatment. **Case Report:** A 62-year-old female patient who was diagnosed with CLL 5 years before her admission was followed up in remission after R-FC chemotherapy. The patient, who received his last chemotherapy about 2 years ago, applied to the polyclinic with complaints of weakness and pallor for 2 weeks. Hepatosplenomegaly and diffuse (cervical, axillary, inguinal) lymphadenopathies were found in the outpatient clinic examination. In his abdominal ultrasonography, the liver was 16 cm, and the spleen was 14 cm. There were paratracheal and mediastinal LAPs on thorax tomography. Bicytopenia was detected in whole blood examination.The patient was thought to have CLL recurrence and Ibrutinib treatment was started at a dose of 420 mg/day. The patient presented with the complaint of weakness in the legs that started after ibrutinib treatment and continued to increase 3 weeks later. There was no significant finding in the patient's lumbar MR imaging. EMG examination of the patient revealed motor sensory axonal neuropathy. Ibrutinib was discontinued due to neuropathy thought to be related to ibrutinib. Neuropathy symptoms regressed in the patient's follow-up. After about 6 weeks, the patient's neuropathic symptoms regressed. Venetoclax treatment was started in the patient with persistent lymph nodes and B symptoms. The patient, whose neuropathic symptoms regressed, continues to be followed up. **Discussion:** With the introduction of new agents in the treatment of CLL, the chance of treatment in relapsed refractory patients has increased. In the treatment of CLL, standard R-FC (Rituximab-Fludarabine, Cyclophosphamide), and R-Bendamustine regimens were previously used as first-line therapy. Today, these treatments have been replaced by BTK inhibitors (Ibrutinib, Acalabrutinib), PI3K protein inhibitors (Idelalisib), BCL-2 inhibitors (Venetoclax) and CD-20 antibodies (Obinituzumab, Ofatumumab). The reason for this drastic change in the CLL treatment algorithm is that the newly discovered agents have less side-effect profiles, ease of use, and positive effects on mortality. Although these new treatments have less side effect profile, each newly reported side effect is very important for the follow-up of patients after treatment. Ibrutinib is a Bruton Tyrosine kinase inhibitor and is the first-line therapy for CLL. Among the side effects of ibrutinib, diarrhea, cough, nausea, HT, AF, major bleeding can be counted. It is mentioned in the literature that ibrutinib may cause neuropathy. In our case, motor neuropathy also developed, and symptoms regressed after discontinuation of the drug. The side effect of motor neuropathy should also be considered in patients given ibrutinib, and if this side effect develops, the treatment plan should be reconsidered.

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PP 05

RİCHTER SYNDROME TRANSFORMATİON UNDER VENETOCLAX TREATMENT: A CASE REPORT OF A 51-YEAR-OLD FEMALE WİTH CLL

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Background: Richter syndrome (RS) is typified by the emergence of an aggressive lymphoma in individuals who have been previously or simultaneously diagnosed with chronic lymphocytic leukemia (CLL) or small lymphocytic lymphoma

(SLL). Although it is relatively rare, appearing in 2% to 10% of CLL patients, RS often proves to be lethal due to its rapid progression and the scarcity of specific therapies. Venetoclax, a BCL2 inhibitor, has demonstrated efficacy in CLL but its role remains less explored in RS. Hence, there is a paucity of information regarding the direct employment of Venetoclax in the treatment regimen for RS. This study presents a case of Richter transformation being managed under treatment with Venetoclax. **Case report: Case:** A 51-year-old female patient, diagnosed with CLL with negative 17p deletion following investigations in 2015 due to autoimmune immune thrombocytopenia (ITP) and lymphocytosis, was given 6 cycles of FCR (fludarabine, cyclophosphamide, rituximab) due to steroid-resistant autoimmune thrombocytopenia, and complete response (CR) was achieved according to iwCLL criteria. After remission, the patient was monitored without treatment, and in 2020, full blood count, biochemical analysis, and peripheral smear were performed due to fatigue symptoms. The complete blood count showed leukocytes: 44600/mm3, lymphocytes: 39000/mm3, MCV: 86 fl, and hemoglobin: 9.5 g/dL. The patient, with no signs of hemolytic anemia, had no nutritional (Fe, B12, folate) deficiency, and normochromic normocytic anemia was detected. There were no mutations in the immunoglobulin heavy chain variable region (IGHV) genes. The patient, evaluated as relapsed stage 3 disease, was started on venetoclax-rituximab treatment. In the 11th month of the treatment, due to symptoms of fatigue, fever, night sweats, and weight loss, a bone marrow biopsy was performed after pancytopenia was observed, and a diagnosis of diffuse large B-cell lymphoma was made. Due to Richter transformation, DA-R-EPOCH (dose-adjusted rituximab, etoposide, prednisolone, vincristine, cyclophosphamide, doxorubicin) treatment was initiated. After 4 cycles of DA-R-EPOCH treatment, single-agent ibrutinib was started due to treatment-resistant disease and an ECOG performance score of 2. The patient, whose disease continued to progress under ibrutinib treatment, died from septic shock. **Conclusions:** This case underscores the complexities in treating Richter syndrome, particularly with venetoclax, and emphasizes the need for careful monitoring and understanding of potential transformations. The development of Richter transformation under venetoclax treatment highlights an area that requires further investigation and consideration in the management of CLL. Prospective studies and a comprehensive approach are vital to enhancing treatment strategies and improving outcomes for patients with this aggressive form of lymphoma.

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Adult Hematology Abstract Categories

Chronic Myeloproliferative Diseases
PP 06

BIOMEDICAL ANALYSIS OF RED BLOOD CELLS IN POLYCYTHEMIA VERA, APPLICATION OF RAMAN SPECTROSCOPY

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Objective: Polycythemia vera (PV) is a chronic myeloproliferative neoplasm characterized by increased red blood cell mass. Excess erythrocytosis leads to elevated hematocrit, resulting in increased blood viscosity, a condition that promotes thrombosis. For years, red blood cells (RBCs) in PV were considered to be morphologically and functionally normal. This analysis aimed to check whether there are biochemical alterations in RBCs in PV that may be associated with thrombotic complications. **Methodology:** We included 5 patients with PV and 5 healthy individuals in the preliminary analysis of the biochemical properties of isolated RBCs focused on different forms of hemoglobin and heme. The analysis was conducted using Raman spectroscopy. **Results:** The results of the Raman spectra obtained from isolated RBCs suggest a larger contribution of ferrous heme iron in the sample of a patient with PV compared to a control sample. In the PV sample, a greater contribution of the high-spin heme iron, a molecular state typical for deoxyhemoglobin, was observed, which stays in line with higher ferrous content. The effect may indicate a weaker linkage of the protein with oxygen. **Conclusion:** Our analysis suggests the occurrence of biochemical alterations in RBCs in PV, together with RBC overproduction. Changes in the structure of hem and hemoglobin affect oxygen affinity. Our future study will focus on determining if described alterations in RBCs may contribute to the pathogenesis of thrombotic complications in PV.

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PP 07

DISCONTINUATION OF TYROSINE KINASE INHIBITORS IN TUNISIAN CHRONIC MYELOID LEUKEMIA PATIENTS

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Objective: Some patients who achieve deep molecular remission (DMR) can successfully discontinue tyrosine kinase