patients are dead, 2 of them are in remission and 1 of our patients is still under treatment. **Results:** FLT3 gene mutations are strongly associated with leukocytosis and poor prognosis in patients with AML(1-3). Patients with any of these mutations have a higher risk of recurrence and a lower survival rate[3]. All of our patients had leukocytosis at the time of diagnosis. Four of our patients relapsed and all of these patients were refractory to chemotherapy. Our patients who were refractory to treatment had a high mortality rate (50%) and a lower survival time (8-12 months). **Conclusion:** FLT3 signaling inhibitors have been used both alone and in combination to improve clinical outcomes in patients with AML with FLT3 mutations. While inhibitor monotherapy provides clinical response, its efficacy is usually temporary and resistance develops rapidly. Various combination therapies are used to enhance efficacy and prevent or overcome resistance. More studies are needed to evaluate its efficacy and explain the development of resistance.

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PP 11

EXPERIENCE OF GLASDEGIB IN PATIENTS WITH ELDERLY ACUTE MYELOID LEUKEMIA

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Aim: Acute myeloid leukemia (AML) is characterized by the increase of high levels of myeloid cells in the bone marrow. In general, AML is a disease of older adults. Many adults with AML are unable to receive intensive chemotherapy because of its toxicity.In this study, it was aimed to retrospectively evaluate patients with AML who were treated Glasdegib-based regimens in our center. **Case 1:** A 75-year-old male patient was diagnosed with congestive heart failure + AML, and idarubicin and cytarabine chemotherapy protocol was started. The patient started to receive covid treatment due to covid lung involvement. The patient, whose treatment was interrupted for 1 month, received the second course as LDAC + glasdegib. In the bone marrow biopsy performed after the 5th cycle, it is observed in remission. **Case 2:** An 82-year-old male patient was diagnosed with chronic renal failure. With a diagnosis of AML intermediate risk LDAC+glasdegib treatment was given to the patient who did not go into remission after 4 cycles of decitabine treatment. The patient, who was followed in remission after 4 cycles, died due to pneumonia. **Case 3:** A 76-year-old male patient has a diagnosis of cerebrovascular disease. The patient, who was followed up in remission after 2 courses of azacitidine with a diagnosis of medium risk AML, was approved for glasdegib in the 3rd course of treatment, and he is being followed up with the 3rd course of LDAC+glasdegib therapy. **Material and method:** The data of the patients who were treated Glasdegib-based regimens with the diagnosis of AML in the Bozyaka Training and Research Hospital Department of Hematology were scanned retrospectively from their files. **Results:** In our 3 patients, 1 person died due to pneumonia, but the patient was being followed in remission. Our other 2 patients are still being actively followed up with LDAC + glasdegib treatments. **Discussion:** In 2018, the FDA approved glasdegib, a Hedgehog signaling pathway inhibitor, in adults 75 years of age or older with a diagnosis of AML or those with comorbidities that preclude the use of low-dose cytarabine plus intensive induction chemotherapy. Approval is based on interim results from the phase 2 BRIGHT 1003 study evaluating glasdegib in combination with LDAC or LDAC alone. The median OS was 4.9 months for LDAC versus 8.8 months in patients treated with glasdegib+LDAC. This difference represented an approximately 50% reduction in mortality in patients treated with glasdegib+LDAC. The final result of the BRIGHT 1003 study confirmed that glasdegib LDAC significantly improved OS compared to LDAC alone (hazard ratio, 0.495 [95% CI, 0.325-0.752]; P =0.0004). Also, the addition of glasdegib to LDAC did not cause a significant increase in adverse events.

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CHRONIC LEUKEMIAS

PP 12

SYNTHETIC BIOLOGY MEETS PRECISION MEDICINE: DRUG REPURPOSING FOR BLOOD CANCER PRECISION MEDICINE

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Objective: Optimizing Drug discovery and Translation is one of the key tracks in Global Challenges Annual meeting 2019 and is the critical factor in achieving UN Sustainable Development Goals 3 Good Health and Well Being. WHO reports Cancer is the second leading cause of death globally. The aim of the proposal is to establish robust drug screening platform which can identify drugs and drug combinations that are effective in precision medicine for relapsed individual South African Leukemia patients. **Methodology:** Here, cancer cell will be either directly analyzed using high-throughput drug screening or single cell drug screening will be performed using flow cytometry /microfluidics to provide datasets on drug sensitivity for individual patientsI. WP1: Establishing the culture setting for CLL/MM and high-throughput drug screening on CLL/MM.II. WP2: “Signaling pathway-only” limited drug screening for CLL/MMIII. WP3: Establishing setting for Precision Microfluidics-driven single cell drug screening; **Results:** Expected Results are using full-library drug screening results, we will identify effective drugs and drug combinations that inhibit cancer cell proliferation either through cytostatic or cytotoxic effects. These results will provide the basis for identifying effective drug combinations using our predictive analytics, which will be packaged as preclinical information for a precision clinical trial. Thus, we would establish cutting-edge platform that can handle blood cancer and also solid tumor. **Conclusion:** Using this pipeline, we aim to identify drug combinations that can overcome relapse stage and ultimately provide tailored-specific therapy options for

Cancer patients. Our intention is to develop technologies that provide clinically relevant drug combinations information to oncologists within a timeframe of 7 days. The development and validation of the screening pipeline will incorporate the first CSIR platforms for cancer translational research with respect to identifying effective cancer drugs.

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PP 13

AVASCULAR NECROSIS IN CHRONIC MYELOID LEUKEMIA: A REVIEW OF PATHOPHYSIOLOGY, PATIENTS' CHARACTERISTICS, AND CLINICAL OUTCOMES

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Objective: The exact incidence of avascular necrosis (AVN) in chronic myeloid leukemia (CML) is still unknown as the number of cases is limited. AVN was reported as an initial presenting manifestation in few CML patients. On the other hand, AVN was linked to medications used in CML treatment, specifically interferon-alpha (IFN-α) therapy and tyrosine kinase inhibitors (TKI). Our review aims to describe the pathophysiology, patients' clinical characteristics, and outcomes of AVN in CML. **Methodology:** We searched PubMed and Google Scholar for the case reports and series of patients with CML who developed AVN from inception to July 2021. We found 21 cases of AVN in CML patients,17 cases with AVNFH, and four cases with ONJ. Articles in the grey literature and non-English language publications were excluded. Patient characteristics, hematological parameters, management, and outcomes of AVN were extracted from those articles. **Results:** The median age was 39 years with an almost equal distribution between males and females. WBC counts were strikingly elevated in patients who initially presented with AVNFH (above 10,0000 in most cases). AVN related to CML management has been linked to TKIs and standard IFN-α therapies. Only 6 (out of 17) patients who developed AVNFH eventually required a hip replacement, and one (out of 17) developed a recurrent episode of AVNFH. All the reported cases of CML with ONJ were associated with TKIs **Conclusion:** Given the lack of data, we could not conclude whether AVN has an adverse prognostic effect on CML. However, the overall prognosis is comparable with AVN associated with other conditions. Clinicians should consider AVN in CML patients with either hip or jaw pain because early detection and management are essential to decrease morbidity and long-term disability in such patients. A further prospective study with a larger sample size is needed to clarify the different aspects of AVN in CML patients.

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PP 14

SECONDARY CHRONIC MYELOID LEUKEMIA FOLLOWING RADIOACTIVE IODINE (I131)

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Objective: Radioactive iodine (RAI) with I131 has an established role in managing differentiated thyroid carcinoma, namely papillary thyroid carcinoma (PTC) and follicular thyroid carcinoma. However, concerns have been raised about its possible carcinogenic effects. Papers of t-CML following I131 are increasingly reported, and thus this review is dedicated to highlighting it. **Methodology:** All reports from the 1960s to date related to CML following RAI therapy were searched on Google Scholar and PubMed. Different search terms with Boolean function to search for the relevant articles. **Results:** We identified ten articles reporting 12 cases, as presented in table 1. We found that most of the reports were for men (8/12) under the age of 60 years (10/12), and the primary tumor was of PTC characteristics (5/12 were PTC, and 3/12 were mixed papillary-follicular carcinoma). The dose of I131 ranged between 30 millicuries (mCi) to 850 mCi; the mean dose was 331 mCi. Also, t-CML developed within the first ten years (9/12), mainly between 4-7 years post-exposure. **Conclusion:** A few reports found a statistically significant increased risk of leukemia following RAI therapy; some suggested a relative risk of 2.5 for I131 vs. no I131. Observed findings from these studies include a linear relationship between the cumulative dose of I131 and the risk of leukemia, doses higher than 100 mCi were associated with a greater risk of developing secondary leukemia, and most of the leukemias developed within the initial ten years of exposure.

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CHRONIC MYELOPROLIFERATIVE DISEASES

PP 15

CONCOMITANT LATENT POLYCYTHEMIA VERA AND MGUS.

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Objective: With the introduction of changes in the diagnostic criteria for polycythemia vera (PV) in the 2016 WHO classification, it became necessary to revise the diagnosis in some patients. Cases with latent (masked) polycythemia vera (LPV) were identified. Bone marrow trepanobiopsy takes one of the most important place in the differential diagnosis of LPV with other myeloproliferative diseases.We describe a case with coexistence of LPV and MGUS in a patient at the onset of the disease. **Case report:** Patient F.I., aged 62, was admitted with complaints of burning sensation in both feet, pain in the left lower extremity, back pain, nocturia 2-3 times per night and