HEMATOLOGY, TRANSFUSION AND CELL THERAPY

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Poster Presentations

Adult Hematology - Categories

Acute Lymphoblastic Leukemia

PP 01_Case Report

A FUSION OF NUP214 TO ABL1 ON AMPLIFIED EPISOMES IN T-CELL ACUTE LYMPHOBLASTIC LEUKEMIA: CASE REPORT AND LITERATURE REVIEW

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Objective: We describe a NUP214::ABL1 fusion identified in a case of T-cell Acute Lymphoblastic Leukemia (T-ALL). **Methodology:** The clinical data of a NUP214::ABL1 fusion gene-positive T-ALL patient were retrospectively analyzed. **Results:** A 13-year-old girl was admitted to our hospital complaining of lower limb edema and leukocytosis. She displayed recurrent edema of both thighs accompanied by cough. A peripheral blood examination showed the following counts: White Blood Cell Count (WBC) 352.5×10^9/L, Neutrophil count 267.91×10^9/L, Lymphocyte count 83.19×10^9/L, Red Blood Cell Count (RBC) 2.2×10^{12}/L, hemoglobin 67g/L, platelet count 79×10^9/L, and C-Reactive Protein (CRP) 12.52 mg/L. Leukemic blasts accounted for 90% of the bone-marrow cells. The patient demonstrated a T-cell phenotype, and showed expression of CD2, CD3(dim), CD4, CD5, CD7 (bri), CD10, CD34, CD38, CD99 and cCD3. A G-band-staining chromosomal analysis revealed normal karyotype. A Fluorescence In Situ Hybridization (FISH) analysis revealed ABL1 amplification (Fig. 1). A ph-like ALL33 fusion gene screening analysis discovered NUP214::ABL1 fusion. In conclusion, the child definitive diagnosed T-ALL with NUP214::ABL1 fusion. Complete remission was achieved after T-ALL induction therapy with vincristine, dexamethasone, PEG-L-asparaginase, daunorubicin, cyclophosphamide, cytarabine, mercaptopurine and dasatinib. To follow-up date, the patient's condition was stable in consolidation therapy phase. **Conclusions:** NUP214::ABL1 fusion is present in 6% of T-ALL cases in both children and adults, it is cryptic by conventional cytogenetics but detected by FISH using a ABL1 probe. FISH analysis reveals multiple extrachromosomal ABL1 sites in metephase cells and amplified ABL1 signals in interphase cells. The amplified signals or episomes are the result of the excision of the 9q34 region between the ABL1 and NUP214 breakpoints followed by circularization of the fragment. NUP214::ABL1 fusion T-ALL represents a distinct form of high-risk leukaemia with early replase and poor prognosis. Because the ABL1 fusions are sensitive to Tyrosine Kinase Inhibitors (TKIs), the strategy of conventional chemotherapy with TKIs can improve outcome in NUP214::ABL1 fusion T-ALL.

Keywords: NUP214::ABL1, ABL1 amplification, T-ALL, FISH.

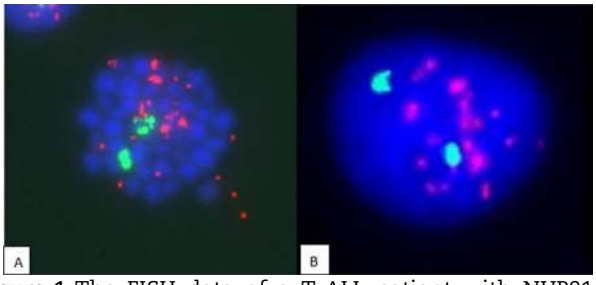

Figure 1 The FISH data of a T-ALL patient with NUP214::ABL1. The red signals indicate copies of ABL1, and the green signals indicate copies of BCR using FISH with a dual-color probe for the detection of the BCR::ABL1 fusion. No fusions are present in these cells. (A) In the metephase cell, multiple red ABL1 sites outside of chromosome. (B) In the interphase cell, the cluster of red signals indicates the amplification of ABL1.

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PP 02_Case Report

A NEW LOOK AT THE TREATMENT OF PATIENTS WITH ACUTE LEUKEMIA

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Objective: For the first time, we had to organize an induction period for the treatment of acute leukemia in an outpatient setting. The reason was the problems that arose during the hospitalization of patients during COVID-19 infection. to study the effectiveness of the obtained results and to find out the possibility and importance of widespread use of this tactic in the future. **Methodology:** The study group included 25 patients diagnosed with acute leukemia. Among them, 21 patients had lymphoblastic leukemia (19 patients with B-cells, 4 patients with T-cells), 2 patients with myeloblastic leukemia (1 patient with M2, 1 patient with promyelocytic leukemia M3). The age range of the patients was from 2 years to 2 months to 15 years (median = 8.5-years). The male/female ratio was 10/15. Treatment of acute lymphoblastic leukemia was carried out according to the Moscow-Berlin-2015 program, the B-ImRG protocol was used in 15 patients, the A-SRG protocol in 2 patients, Bt(12:21) in 2 patients, the T-Low protocol in 1 patient and protocol T-ImRG in 3 patients. In one of the patients with Myeloblastic leukemia (M2), the "7+3" protocol was used, in the other (M3) the APL-.2000 protocol was used. **Results:** Obtained showed that the induction period of treatment for patients with acute leukemia can be carried out completely on an outpatient basis. The organization of treatment in the "day hospital + night outpatient" format made it possible to carry out both the main treatment (chemotherapy) and concomitant therapy in a timely and without problems. Replacing intravenous "flush therapy" with oral fluids did not cause serious problems, including "lysis syndrome". The initial leukocyte count (10.6–116 × $10^{9/l}$), as well as the level of blastemia (4%–99%) and blastosis (45.4%–96.8%) did not cause serious concern in any patient, despite the standard of concomitant therapy. Biochemical parameters, including nitrogen metabolism parameters, fluctuated within normal limits in all patients. In all patients, the induction course was carried out to the end and ended in complete remission. **Conclusion:** The results showed the possibility and prospects of further expansion of outpatient treatment of patients with acute leukemia.

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PP 03_ Case report

CYTOGENETIC FEATURES OF B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA WITH INTRACHROMOSOMAL AMPLIFICATION OF CHROMOSOME 21

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Objective: To investigate the cytogenetic features and prognosis of B-ALL with iAMP21. **Methodology:** Retrospective analysis of data from 15 children diagnosed with B-ALL and iAMP21 seen in the Department of Hematology, Union Hospital, Tongji Medical College HUST from 2021 to 2024. Screened patients ranged in age from 1 month to 18-years. All were diagnosed with B-ALL using standard morphological and immunophenotypic criteria. Patients in this study were classified as iAMP21 using the criteria of 5 or more RUNX1 signals per cell and by a ratio of RUNX1 to tel 21q signals exceeding 1. **Results:** In this study, 15 patients demonstrated 5 or more RUNX1 signals per interphase nucleus. Compared to RUNX1, all cases showed fewer subtelomeric signals in interphase cells, ranging from 1 to 5. The accurate interphase distinction of iAMP21 was made by calculating the ratio of RUNX1 to subtelomeric signals; the minimum and maximum values were 1.67 and more than 10, respectively. Metaphase FISH data were recorded if available. Of the cases, 5 of 15 demonstrated 3 or more extra copies of RUNX1 on a single abnormal chromosome 21 with the morphology of mar,r(21)c and add(21)c. Using MLPA, 4 of 15 cases showed gene deletion, including IKZF1, CDKN2A/B, ETV6, BTG1, and RB1. All cases received chemotherapy according to CCCG-ALL-2020. Induction regimens included a combination of vincristine, prednisone, and pegaspargase with daunorubicin. High-Dose Methotrexate (HD-MTX) and 6-Mercaptopurine (6-MP) were incorporated into consolidation regimens. Maintenance regimens were based on a backbone of daily 6-MP and weekly methotrexate with periodic vincristine and prednisone. 14 achieved remissions, and MRD remained negative; 1 did not achieve remission, and MRD was > 0.01%. **Conclusion:** iAMP21 is a primary cytogenetic abnormality located in the same region of amplification as the RUNX1 gene and a common region of deletion at the telomere. Some patients display other genetic abnormalities in addition to iAMP21. iAMP21 is associated with inferior outcomes, and patients with this abnormality require more intensive therapy.

Summary of Cases of B-ALL With iAMP21

Case No.	Age, y/ Sex	WBC Count, × 10^9/L	*RUNX1* copies/ cell	tel 21q copies/ cell	*RUNX1*/tel 21q ratio	*RUNX1* copies/ iAMP21 chromosome	MLPA	Remission
1	8/F	1.3	>10	1	>10	>10/mar3	N	Yes
2	8/M	2	5	1	5	NP	N	Yes
3	7.4/M	5	8	4	2	NP	N	Yes
4	8.6/M	5.2	5~12	3~5	2.04	>5/r	N	Yes
5	7/M	12	5~8	1	6.5	NP	N	Yes
6	5.7/F	10	6~8	2	3.5	NP	*IKZF1* detetion	Yes
7	10.5/F	300	7~10	3~5	2.17	4~5/add(21)(q22)	N	Yes
8	4/M	60	5	1	5	NP	N	Yes
9	7/F	1.2	5	3	1.67	NP	*CDKN2A/B, ETV6, BTG1, RB1* detetion	Yes
10	6/M	12	5	3	1.67	4/add(21)(q22)	N	Yes
11	11/F	3	5~7	3~4	1.71	NP	*RB1, ERG* detetion	No
12	8/F	4.8	>10	5	>2.4	NP	N	Yes
13	14/M	10	5	3	1.67	NP	N	Yes
14	8/F	19	9~10	1	9.5	NP	N	Yes
15	11/F	1.8	6	2	3	5/add(21)(q22)	*CDKN2A, IKZF1* detetion	Yes

N,normal; NP,not performed.

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PP 04_Case Report

IMMUNOPHENOTYPIC CHARACTERISTICS AND TREATMENT OUTCOME OF T-ACUTE LYMPHOBLASTIC LEUKEMIA IN ADULTS; AN IRAQI CENTER EXPERIENCE

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Objective: About 25% of Acute Lymphoblastic Leukemia (ALL) express T-cell antigens which being considered a predictive of high-risk group. This study was conducted to find out the immunophenotypic characteristics of T-cell Acute Lymphoblastic Leukemia (T-ALL) in young and adult Iraqi patients. Also, to determine the association of treatment outcome with the immunophenotype and the treatment regimen used. **Methodology:** The study was conducted using the laboratory data of the Central Flowcytometry Department at Baghdad Medical City between 7 January 2019 and 3 May 2020. The immunophenotypic records revealed 35 young and adult patients (age of 14-year or older) with T-ALL. The patients were classified into early (immature) T-cell Precursor (ETP) and Mature T-cell Precursor (MTP). Correlation of the patients' outcome according to age, gender, and immunophenotypic expressions with the type of therapy used were evaluated. **Results:** Thirty-five patients were diagnosed with T-ALL with a mean age of 28.1±12.3, and 74.3% were males. The stratification of patients according to the stage of leukemic T-cells maturation showed more frequent mature phenotype (cortical and medullary) than the immature (68.6% vs. 31.4%). The MTP markers expression showed a statistically significant higher rate in patients aged < 20-year ($p = 0.03$) or male ($p = 0.01$). Most patients received hyperCVAD 26 (74.3%) protocol, and UKALL was administered in the remaining (25.7%). Remission was achieved in 82.9%, while 11.4% failed to respond and 8.7% died during induction. Remission was maintained in 54.3% with 5-months of median follow-up, and relapse was found in 11.4%. The Overall Survival (OAS) at one year was 55%, with a mean survival of 13.8+1.7 months without an association with the type of therapy, subtype of T-cell, and myeloid antigenic expression. Despite a higher remission rate and lower death rate among UKALL group compared to HyperCVAD, the difference is non-significant ($p = 0.81$). The better response of MTP compared to ETP lineage was the only significant value with the outcome ($p = 0.045$). **Conclusion:** T-ALL is more commonly encountered in males. Remission was maintained in more than half of the patients with a better response and survival of the patients with MTP than those with the ETP subtype. The outcome was not affected by age, gender, or the treatment protocol.

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PP 05_ Case report

DYNAMIC BALANCE EVALUATION IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA UNDERGOING CONSOLIDATION THERAPY

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Objective: This study aims to clinically assess the dynamic balance performance in children with Acute Lymphoblastic Leukemia (ALL) undergoing consolidation therapy by comparing their performance with normative data, thereby identifying potential treatment-related impairments in this population. **Methodology:** This descriptive study was conducted at Dokuz Eylül University, Faculty of Physiotherapy and Rehabilitation in Turkey. Fifteen children with ALL were enrolled and divided into the following age groups: 6–7 years (n = 8), 8–9 years (n = 4), 10–11 years (n = 1), 12–13 years (n = 1), and 14–15 years (n = 1). All participants underwent the Limit of Stability (LOS) test using a Balance Master NeuroCom system, which quantifies key parameters including Reaction Time (RT), Movement Velocity (MVL), Directional Control (DCL), Maximum Excursion (MXE), and Endpoint Excursion (EPE). Given the minimal sample sizes in the 10–11, 12–13, and 14–15 years groups, the primary analysis focused on the 6–7 and 8–9 years groups. Normative data for each parameter were extracted from previous studies using the Balance Master LOS test in healthy children. **Results:** In the 6–7 years group, the average RT was 1.05 seconds (norm: 0.79s), and MVL was 4.31°/s (norm: 4.64°/s). In contrast, DCL was 62.25% (norm: 52.50%), MXE reached 88.0% (norm: 83.3%), and EPE was 66.5% (norm: 64.54%). In the 8–9 years group, the average RT was 1.06 seconds (norm: 0.82s), and MVL was 3.7°/s (norm: 5.42°/s), while DCL was elevated at 73.50% (norm: 60.20%). Both MXE (88.0%) and EPE (79.75%) in this group were comparable to their respective normative values (83.2% and 69.2%). **Conclusion:** Our findings demonstrate that postural control is compromised in children with ALL undergoing consolidation therapy. Elevated sway speeds on firm surfaces suggest diminished balance performance, while the mixed results on foam conditions highlight difficulties with sensory integration. These preliminary observations underscore the need for targeted interventions and further research with larger samples to clarify the mechanisms behind these deficits.

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PP 06_ Case report

INVESTIGATION OF POSTURAL CONTROL IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA

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Objective: Children with leukemia may face balance impairments due to somatosensory, motor, muscular, and cognitive deficits that can persist into adulthood and increase fall risk. This study aimed to evaluate postural control in children with Acute Lymphoblastic Leukemia (ALL) undergoing consolidation therapy by comparing their performance with normative data to identify potential treatment-related impairments in sensory integration and balance. **Methodology:** Thirteen children with ALL were recruited at Dokuz Eylül University, Faculty of Physiotherapy and Rehabilitation in Turkey, and divided into two age groups: 6–7 years (n = 9) and 8–9 years (n = 4). Static balance was evaluated using the modified Clinical Test for Sensory Interaction on Balance (mCTSIB) with the Balance Master system. The test assessed postural control under four conditions: Eyes Open-firm surface (FirmEO), Eyes Closed-firm surface (FirmEC), eyes open-unstable (foam) surface (FoamEO), and eyes closed-unstable (foam) surface (FoamEC). The center of gravity's average sway speed (°/s) was measured for each condition, with higher values indicating reduced balance capability. Normative data for each condition were obtained from previous studies on healthy children. **Results:** In the 6–7 years group, sway speeds during FirmEO and FirmEC were 0.92 s and 0.97 s, respectively, compared to norms of 0.70s and 0.92s. Under foam conditions, FoamEO reached 1.31s (norm: 1.20s), while FoamEC was 1.81s, nearly identical to the normative 1.80s. In the 8–9 years group, FirmEO was 0.55s (norm: 0.40s) and FirmEC was 0.65s (norm: 0.53s). FoamEO measured 0.82s (norm: 0.89s), whereas FoamEC was 1.70s (norm: 1.47s). Overall, these results suggest that children with ALL generally exhibit elevated sway speeds – particularly under firm conditions – implying impaired postural control and potential challenges in sensory integration. **Conclusion:** Our findings demonstrate that postural control is compromised in children with ALL undergoing consolidation therapy. Elevated sway speeds on firm surfaces suggest diminished balance performance, while the mixed results on foam conditions highlight difficulties with sensory integration. These preliminary observations underscore the need for targeted interventions and further research with larger samples to clarify the mechanisms behind these deficits.

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Adult Hematology Abstract Categories

Acute Myeloid Leukemia

PP 07_Case report

PROGNOSTIC VALUE OF CD56 EXPRESSION IN CHILDREN WITH ACUTE MYELOID LEUKEMIA

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Introduction: Expression of lymphoid markers (CD2, CD3, CD5, CD7) in Acute Myeloid Leukemia (AML) is an important prognostic factor that affects the clinical outcome of these patients. CD56 antigen is a NK cell marker that is expressed in several lymphohematopoietic neoplasms, including AML. The presence of CD56 antigen on blast cells can affect the duration of Complete Remission (CR), and is also associated with short overall survival and resistance to therapy. We studied a cohort of children diagnosed with AML treated from 2022–2024 and assessed the association of CD56 expression with therapy outcomes. **Methodology:** To determine the frequency of CD56 by flow cytometry in children with AML and to study the prognostic significance of this marker. Materials and Methods: The study included 31 patients aged 0–16 years diagnosed from January 2022 to December 2024. The study was conducted on a BD FACS CANTO flow cytometer using an 8-color panel of monoclonal antibodies. Marker expression on blast cells of more than 20% was considered positive. **Results:** CpeThe total observation period was 31 months. The patients were divided into 3 age groups: 0–5-years – 5 (16%), 5–10-years – 12 (38.7%), 10–16 years – 14 (45%) patients, male – 17 (54.8%), female – 14 (45%). In the general observation group, 19 (62%) patients were in complete clinical and hematological remission, 10 (34%) patients had bone marrow relapse, 4% had resistance to therapy. In 7 (23%) cases, positive expression of CD56 was observed, of which 3 (9.6%) cases of AML with signs of maturation, 1 (3%) case of promyelocytic, 3 (9.6%) cases of myelomonoblastic leukemia. Among CD56 positive AML patients, mutations such as t(8;21)(q22;q22), ct(15;17), t(11q23), inv(16) were detected. Survival analysis was performed using the Kaplan-Meier method. The achievement of complete remission in response to induction chemotherapy between CD56-positive and CD56-negative groups was almost identical (85% and 81%). Relapse-free survival between CD56 positive and negative variants was significantly different (67% vs. 48%). Among children with AML with CD56-positive, higher relapse and mortality rates were observed than in the CD56-negative group ($p < 0.05$). **Conclusion:** We consider CD56 expression as an independent prognostic factor. It is recommended to keep in mind that the presence of this

marker is associated with some cytogenetic abnormalities. CD56 is a potential factor for poor prognosis in groups of children with AML and should be taken into account when stratifying risk groups.

Keywords: Submit Feedback, Sidebars, History, Saved.

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PP 08_ Case report

LOW DOSE CYTARABINE PLUS SORAFENIB IN AN ELDERLY PATIENT WITH ACUTE MYELOID LEUKEMIA

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Introduction: Acute Myeloid Leukemia (AML) is the most common acute leukemia in adults and is generally associated with a poor prognosis. The failure of therapeutic approaches in AML treatment is attributed to various clinical characteristics of patients, disease biology, and treatment intensity. Mutations in the Fms-Like Tyrosine kinase-3 (FLT3) receptor have been reported in approximately one-third of AML cases. The most common FLT3 mutation is Internal Tandem Duplication (ITD), which has been identified in approximately 25% of adult AML patients and in 3%–5% of newly diagnosed Myelodysplastic Syndromes (MDS). FLT3-ITD is associated with high White Blood Cell (WBC) counts, elevated Lactate Dehydrogenase (LDH) levels, increased percentages of blast cells in the blood and bone marrow, and poor clinical outcomes. However, it does not appear to significantly affect the ability of adult patients to achieve Complete Remission (CR). **Objective:** This case report presents the response of a 71-year-old AML patient to low-dose Cytarabine (Ara-C) combined with sorafenib treatment. **Case presentation:** A 71-year-old female patient presented in February 2024 with complaints of excessive thirst, fatigue, weakness, and loss of appetite. At diagnosis, leukocytosis, anemia, and thrombocytopenia were observed. Peripheral blood smear analysis revealed blast cell infiltration, and immunophenotypic studies identified markers consistent with the AML M5 subtype: CD34+/− (3.4%), CD123+, CD33+, CD13+, CD14+, CD36+, CD64+, HLA-DR+, and cMPO+. Conventional karyotyping was normal, whereas molecular analysis detected FLT3-ITD (51%, 27 bp mutant). Given the patient's overall health status, a treatment regimen of low-dose Ara-C (20 mg BID on days 1–10) and sorafenib (400 mg on days 11–28) was initiated. Due to hematologic toxicity, dose reductions were necessary during treatment. After four cycles, bone marrow aspiration revealed a blast percentage of 0.8%, FLT3-ITD mutation was no longer detectable, and Minimal Residual Disease (MRD) negativity was achieved, confirming Complete Remission (CR). This treatment protocol was selected based on the patient's clinical condition, leading to a successful outcome. **Results:** FLT3-ITD-positive AML patients may benefit from low-dose Ara-C and sorafenib therapy, particularly when carefully selected based on clinical criteria. However, further comprehensive randomized prospective studies are required to better evaluate the efficacy and safety of this approach. **Discussion:** This case highlights the efficacy of low-dose cytarabine and sorafenib combination therapy in an elderly AML patient with FLT3-ITD mutation. FLT3-ITD mutation is a well-established marker of poor prognosis in AML and is associated with resistance to conventional therapies. In elderly AML patients, treatment decisions are often challenging due to comorbidities and reduced tolerance to intensive chemotherapy. The standard approach for geriatric AML patients includes hypomethylating agents combined with BCL-2 inhibitors, with the addition of FLT3 inhibitors when indicated. However, given the patient's high frailty index, a decision was made to initiate low dose cytarabine and sorafenib therapy, resulting in complete remission and MRD negativity. It is important to note that hematologic toxicity may require dose adjustments during treatment, as observed in this case. Macdonald et al. conducted a Phase I/II study in 21 patients with MDS and AML, reporting a complete response rate of only 10% with low dose cytarabine and sorafenib therapy. Although this outcome may seem discouraging, our case demonstrates that this combination remains a viable option for selected elderly AML patients with FLT3-ITD who are ineligible for intensive chemotherapy. Nevertheless, larger scale randomized controlled trials are necessary to further assess the efficacy and safety of this treatment approach. In the future, investigating the combination of this regimen with other targeted agents, such as venetoclax, may expand treatment options. Additionally, long-term follow-up data and quality-of-life assessments will be essential to understanding the real-world effectiveness of this therapeutic strategy.

Keywords: AML M5, FLT3-ITD mutation, Low-dose Ara-C, Sorafenib.

Patient Monitoring Summary.

Timepoint	WBC ($\times 10^9$/L)	HGB (g/dL)	PLT ($\times 10^9$/L)	Bone Marrow Blast Percentage	Peripheral Blood Blast Percentage	FLT3-ITD Mutation
At Diagnosis	102	9.8	50	Not performed	67%	51% (27 bp mutant)
Post-4th Cycle	3.14	10	228	0.8%	Absent	Negative

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PP 09_ Case report

OUTCOMES OF ALLOGENEIC STEM CELL TRANSPLANTATION IN PATIENTS WITH ACUTE MYELOID LEUKEMIA: A SINGLE-CENTER EXPERIENCE

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Objective: The aim of this study is to evaluate the allogeneic hematopoietic stem cell transplantation data performed in our transplant center for patients diagnosed with Acute Myeloid Leukemia (AML). **Materials and methods:** Between 2016 and 2024, a retrospective evaluation was conducted on 176 patients who underwent allogeneic hematopoietic stem cell transplantation at the Adult Stem Cell Transplant Unit of Private Emsey Hospital due to AML diagnosis. **Results:** The retrospective analysis of AML patients who underwent allogeneic transplantation revealed an average age of 43.2 years. A total of 130 patients received a related donor transplant, while 46 underwent unrelated donor transplantation. The Turkish National Bone Marrow Donor Bank (TÜRKÖK) was the only source for unrelated donors. HLA allele mismatch (1 allele) was present in 29 donors, and 80 transplants were performed between different genders. The average time for neutrophil engraftment was 17.7 days, and for platelet engraftment, it was 19.5 days. The 100-day mortality rate was determined to be 20%. **Conclusion:** AML is a hematologic malignancy that can be treated with allogeneic stem cell transplantation. Unrelated donor transplantation is a critical option for patients without a suitable family donor who require allogeneic transplantation. Our center's AML transplant patient demographic data aligns with the findings in the literature. **Case report:** Acute Myeloid Leukemia (AML) is the most common clonal hematopoietic stem cell disorder in adults. Prognosis is assessed based on age, gender, performance status, and cytogenetic mutations. Hematopoietic Stem Cell Transplantation (HSCT) is a widely used treatment method, particularly for hematological malignancies. Allogeneic HSCT offers curative potential for many hematologic malignancies. Transplantation is performed in AML patients to reduce the risk of relapse. A fully HLA-matched related donor is the preferred choice for allogeneic HSCT. However, only about 25% of patients have a fully HLA-matched related donor. In such cases, an allogeneic transplant from an unrelated HLA-matched donor may be performed. This study presents data on allogeneic HSCT procedures performed in our transplant center for AML patients. **Methodology:** A retrospective analysis was conducted on allogeneic hematopoietic stem cell transplantations performed between 2016 and 2024 in the Adult Stem Cell Transplant Unit of Private Emsey Hospital for AML patients. **Results:** A total of 176 AML patients who underwent allogeneic transplantation were retrospectively analyzed. The median patient age was 43.2 years (range: 16–72), with 53% (n = 94) being male and 47% (n = 82) female. Two patients (1%) had previously undergone autologous stem cell transplantation, and seven patients (4%) had a history of prior allogeneic transplantation. Among the patients, 130 (74%) underwent HLA-Matched Sibling Donor (MSD) transplantation, while 46 (26%) received an unrelated donor transplant. All unrelated donors were obtained from the Turkish National Bone Marrow Donor Bank (TÜRKÖK). Among the 176 stem cell donors, 29 (16%) had a one-allele HLA mismatch (9/10), while 147 (86%) were fully HLA-matched (6/6 and 10/10). A total of 80 transplants (37%) were performed between different genders. The median age of donors was 39.5 years (range: 14–82). As a conditioning regimen, 107 patients (61%) received myeloablative conditioning, 57 patients (32%) received a non-myeloablative regimen, and 12 patients (7%) received a Reduced-Intensity Conditioning (RIC) regimen. Peripheral blood stem cells were used for all patients, with an average of 6.59×10^6/kg (range: 2.86 -15.5×10^6/kg) stem cells infused. Eighteen patients (10%) experienced graft failure, while the remaining 158 patients achieved engraftment, with neutrophil engraftment occurring at a median of 17.7 days (range: 10–32) and platelet engraftment at a median of 19.5 days (range: 10–34). Among the 158 patients who achieved engraftment, chimerism analysis could not be performed in 18 cases. In the remaining 140 patients, chimerism levels ranged from 10% to 100%, with an average of 94%. Full donor chimerism (100%) was observed in 46 patients (33%). Within the first 100 days, 35 patients (20%) died. Among patients who achieved engraftment, 17 (11%) died. The median time to death was 48.2 days (range: 8–94). **Conclusion:** Despite intensive chemotherapy, 10%–40% of AML patients fail to achieve remission. Even among young adult patients who reach remission, relapse occurs in approximately 50% of cases. In this high-risk group, allogeneic HSCT represents a curative treatment option. Unrelated donor transplantation is particularly valuable for patients requiring allogeneic HSCT who lack a suitable related donor. Our center's AML allogeneic HSCT patient and donor characteristics, conditioning regimens, engraftment times, and 100-day mortality rates are consistent with findings in the literature.

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PP 10_ Case report

EXPERIENCE WITH TOTALLY IMPLANTABLE VENOUS ACCESS PORTS IN PATIENTS WITH HEMATOLOGICAL MALIGNANCIES

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Objective: Totally Implantable Venous Access Ports (TIVAP) are widely preferred for oncology patients requiring chemotherapy.[1] The most common cause of port removal in hematological malignancy patients is infection, followed by dysfunction.[2,3] The aim of this study is to evaluate single center experience of TIVAP in patients with hematologic oncology. **Methodology:** 126 patients who were followed up in the hematology-oncology department of the tertiary oncology hospital and who had port catheters inserted in the interventional radiology unit between January 2019 – January 2022 was evaluated retrospectively. Post-procedure control radiographs of the patients were evaluated for early complications and localization suitability. Additionally, patients' port catheter follow-ups were evaluated for infection and dysfunction. **Results:** 68 (54%) of the patients were male and 58 (46%) were female. The age range of the patients was 18–65, and the average age was calculated as 41.3. 60 (48%) patients were

followed up with a diagnosis of acute myeloid leukemia, 30 (24%) with acute lymphocytic leukemia, 24 (19%) with non-Hodgkin lymphoma, 10 (8%) with Hodgkin lymphoma, and 2 (1%) with multiple myeloma. In the control radiograph examination taken after the procedure, the port location was appropriate in 124 patients and the port catheter ended in the right ventricle in 2 patients. No early complications were observed in any of the patients. Port catheter dysfunction was observed in 8 patients (6%) during follow-up. The average duration of dysfunction development was calculated as 17.25 weeks. Port infection developed in 14 patients (11%) and the average time to develop port infection was calculated as 3.4 weeks. Port infection rates are higher in hematological malignancy patients compared to other malignancy patient groups. **Conclusion:** Although the use of port catheters is common in patients with hematological malignancy, caution should be exercised in terms of possible port infection.

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Adult Hematology Abstract Categories

Cellular Therapy

PP 11_Case report

VALIDATION OF LONG-TERM HANDLING AND STORAGE CONDITIONS FOR HEMATOPOIETIC STEM CELL PRODUCTS FOR AUTOLOGOUS TRANSPLANTS

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Objective: Hematopoietic Stem Cells (HPSCs) are multipotent stem cells that can differentiate into lymphoid and myeloid progenitors, giving rise to White Blood Cells (WBCs), Red Blood Cells (RBCs), and platelets. HPSCs are a widely used treatment for many hematological non-malignant and malignant disorders. HPSCs can be used in the fresh or cryopreserved state for future use. Fresh HPSCs are typically stored at 2–6°C for up to 72 hours and are primarily used for allogeneic transplants or autologous transplants in myeloma and lymphoma patients. However, in some cases of autologous donations, HPSC transplantation is delayed more than three days after collection. In such situations, the cells are thawed after short-term preservation, resulting in a 35% cell viability loss. This study aimed to investigate the quality of HPSCs products after long-term storage exceeding 72 hours. **Methodology:** Between July 11, 2021, and February12, 2022, the bone marrow and stem cell transplant center at King Fahad Specialist Hospital (KFSH-D) collected 12 autologous mobilized PBHSCs according to established procedures. All participants provided written informed consent to participate in this study. The study design protocol was approved by the Institutional Review Boards. This study was conducted under the principles of the Declaration of Helsinki. Following PBHSC collection, samples for quality testing were obtained from the PBHSC bags as a control. Under sterile conditions and using a class II A2 biosafety cabinet, 5–15 mL of the PBHSCs product bag was transferred to a sterile transfer bag using a bag spike or a sterile connecting device. All products were stored in a continuously monitored refrigerator set at a temperature between 2–6° C. Viability, CD34+ enumeration, and Total Nucleated Cells (TNC) count were subsequently determined at 0, 72, and 120 hours. Product sterility was also evaluated at 0 and 120 hours. **Results:** Twelve PBHSCs products were prepared in the transfer bags. All products contained a minimum of 287.9 cells/μL based on the CD34+ counts. Of the 12 products collected, 66.7% were from male autologous donors, and the remaining 33.3% were female donors. During hypothermal storage at 2–6°C, a gradual loss of total cell viability, CD34+ cell recovery, and TNC recovery were observed, but these losses were not significant. Total cell viability cells decreased by 2.18%±1.84% after 72 hours and by 7.40% ± 4.12% after 120 hours. The mean recovery of CD34+ reached 83.83% ± 5.35% after 120 hours. The mean TNC recovery was 89.93% ± 8.39% after 72 hours and 76.18% ± 14.09% after 120 hours. The stability characteristics of the PBHSC products stored for different intervals (72 hours and 120 hours). No significant differences were observed between the fresh PBHSCs and those stored for 120 hours of hypothermal storage. Blood culture was used to evaluate the sterility of the PBHSCs on the collection day and 120 hours after hypothermic storage. All products tested negative for bacterial contamination. **Conclusion:** Extended hypothermal storage for up to 120 hours has little to no impact on the quality of PBHSCs. Future research should focus on investigating the extended storage of hematopoietic stem cells from other sources, such as bone marrow and cord blood, and use a larger sample size, given that cellular components may vary from different sources. Quality assessment should also include TNC counts and sterility testing, in addition to CD34+ count and viability. The inclusion of in-vitro assays as part of functionality testing could further enhance the quality assessment of stored PBHSCs products.

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Adult Hematology Abstract Categories

Chronic Lymphocytic Leukemia

PP 12_Case report

CLINICO-BIOLOGICAL PROFILE AND MANAGEMENT OF CHRONIC LYMPHOCYTIC LEUKEMIA

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Objective: Nearly 60%–70% of patients with Chronic Lymphocytic Leukemia (CLL) are oligosymptomatic at diagnosis. The objective of the study was highlighting the clinical evolution and hematological patterns, as well as the assessment of short- and long-term results of treatment of patients with CLL. **Methodology:** We realized a prospective and cohort study. The clinical-hematological features of CLL, the short- and long-term results of therapeutic management were studied in 62 patients, who were treated and followed up in the Institute of Oncology of Moldova between 2019–2024. The study was related to the outpatient and hospitalized care. The diagnosis was proved according to the IWCLL criteria based on the complete blood count with the detection of lymphocytosis ≥ 5 × 10^9/l, bone marrow aspiration with lymphocytic infiltration ≥ 30% and immunophenotyping. The study was carried out on a basis of the data collected from the outpatient records and from the observation sheets of the patients according to the questionnaire drafted for the achievement of the settled objective. All patients were staged according to Binet and RAI Classifications. **Results:** There were 25 (40.3%) males and 37 (59.7%) females in the study group. The age of the analyzed group was between 53 and 87-years (average age – 55.2-years). Forty-two (67.7%) patients with CLL belonged to the age category of 60–79 years. The ECOG-WHO score at diagnosis was 2-3. Most of the patients (34% or 54.8%) were referred to hematologist in stage A. Twenty-three (37.1%) patients were diagnosed in stage B and 5 (8.1%) – in stage C. Nine (39.1%) cases of autoimmune hemolytic anemia and 8 (34.8%) cases of metaplastic anemia were revealed in stage B. Leukocytosis varied between 88.7–325.0 × 10 /l (average value – 161.2 × 10 /l). Lymphocyte count ranged between 81%–97% (average value 89%). Bone marrow aspiration in stages A and B revealed lymphocyte expansion of 33%–91%. The respiratory bacterial infections turned out to be frequently diagnosed (29 patients, or 46.8%): acute pneumonia in 10 (16.1%), acute bronchitis in 7 (11.3%), relapse of chronic bronchitis in 11 (17.7%), and tuberculosis in 1 (1.7%) patient. The patients with progressive stage A, stage B and C disease received combined immuno-chemotherapy. Under the antineoplastic treatment, the ECOG-WHO score improved to 0–1. Overall survival over 3 and 5 ears was 100%. **Conclusion:** Our prospective study of CLL proved a predominance of female gender, patients of 60–79 years old and stage A at diagnosis. The prognosis emerged to be relatively favorable, with the overall survival rates sustained at 100% within 3 and 5 years.

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PP 13_ Case report

UNEXPECTED SPONTANEOUS REGRESSION IN CLL AFTER LETROZOLE TREATMENT: COINCIDENCE OR CONNECTION?

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Introduction: According to iwCLL guidelines, remissions are divided into two groups: Complete Remission (CR) and Partial Remission (PR). CR in Chronic Lymphocytic Leukemia (CLL) is defined by having peripheral blood lymphocytes less than 4 × 10^9/L, no significant lymphadenopathy (lymph nodes < 1.5 cm), no splenomegaly or hepatomegaly, absence of disease-related constitutional symptoms, and blood counts showing neutrophils ≥ 1.5 × 10^9/L and platelets ≥ 100 × 10^9/L, while PR requires at least two parameters from group A (lymphoid tumor load and constitutional symptoms) and one parameter from group B (hematopoietic system) to improve if previously abnormal. Hence, we present a case with Spontaneous Regression (SR) of CLL right after letrozole treatment. **Case presentation:** A 74-year-old female was admitted to the hematology clinic in 2018 due to lymphocytosis. The complete blood count of the patient showed a leukocyte count of 9.9 10^9/L with 6 10^9/L lymphocytes, a hemoglobin concentration of 15 g/dL, and 194 10^9/L platelets. The flow cytometry revealed 23% of lymphocytes displayed CD5+, CD20+, CD22+, CD19+, CD23+, Anti-Kappa+, CD38-, HLA DR+ immunophenotypes. In the physical examination, there was no splenomegaly or lymphadenomegaly. The patient was classified as Rai stage 0 CLL and managed with observation. In 2023, the patient had a mass on the left breast. Since they had a family history of breast cancer, the patient was referred to general surgery. The breast biopsy showed invasive lobular carcinoma. The breast cancer profile was T2cN0M0 (IB), estrogen and progesterone receptors were above 95%, cErbB2 (–), and low ki-67 index (13%). The patient was administered to the oncology for treatment. The patient received letrozole 2.5 mg/day and radiotherapy, respectively. One month after letrozole initiation, the peripheral blood lymphocyte count was observed within normal limits (Table 1). Throughout the one-year follow-up period before this case was reported, the levels remained within normal limits. The last flow cytometry still presented CLL, except atypic B-cells' count decreased to 10%. The patient's malignancies are considered under remission and the follow-up continues. **Discussion:** SR of CLL is rare and not fully understood. Estrogen is known to influence B-cell function and

survival, particularly through its interaction with Estrogen Receptors (ER). The study by Ladikou et al.[1] highlights that estrogen receptors are expressed in B-cell malignancies, including CLL, and predominantly involve the ERβ isoform, which has antiproliferative effects when selectively activated. Importantly, the disruption of estrogen-mediated pathways may lead to reduced proliferation and enhanced apoptosis of malignant B-cells. To the best of our knowledge, this is the second case of SR of CLL after letrozole treatment in the literature.[2] Future studies need to focus on the genetic causes of SR of CLL.

Keywords: Chronic lymphocytic leukemia, Letrozole, Spontaneous regression.

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Table 1 Peripheral lymphocyte counts of the patient.

Date	Lymphocyte Count	Letrozole
September 2018	7.02	-
January 2020	8.58	-
August 2022	10.45	-
December 2023	8.11	-
February 2024	1.49	+*
July 2024	2.37	+
November 2024	2.8	+
January 2025	3.37	+

*Letrozole 2.5 mg/day was initiated in January 2024.

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Adult Hematology Abstract Categories

Chronic Myeloid Leukemia

PP 14_Case report

ANALYSIS OF RESPONSE TO FIRST-LINE THERAPY WITH IMATINIB IN AZERBAIJANI CML PATIENTS

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Objective: Imatinib mesylate is a selective tyrosine kinase inhibitor that has become the prototype for targeted therapy in hematologic malignancies. The introduction of Imatinib (IM) for the treatment of Chronic Myeloid Leukemia (CML) has significantly altered the natural course of the disease. The drug is specifically designed to inhibit the expansion of cells expressing the BCR/ABL1 fusion gene and receptors for stem cell factor, c-kit tyrosine kinases, and platelet-derived growth factors. To evaluate the response of Azerbaijani patients in the chronic phase of Chronic Myeloid Leukemia (CML) to treatment with imatinib mesylate (400 mg/day), monitored via Real-Time Quantitative Polymerase Chain Reaction (RT-qPCR). **Methodology:** This study spans from January 2015 to December 2019 and includes 242 patients in the chronic phase of CML. A total of 1,187 samples were collected from these patients at specific intervals: 3–5 months, 6–11 months, 12–17 months, 18–23 months, and ≥24-months after the initiation of IM therapy. Among them, 69 patients had samples analyzed at all time points. The quantification of BCR/ABL1 was performed using RT-qPCR, with ABL1 serving as the control gene. The BCR/ABL1 ratio results were expressed as a percentage according to the International Scale (IS). **Results:** The molecular response profile of patients with samples from all time intervals (n = 69) showed that during the first interval (3–5 months), 73.9% (51/69) of patients exhibited a 1-log reduction in BCR-ABL1IS transcript levels. At 12–17 months, monitoring indicated that 92.7% (64/69) of patients achieved at least a 1-log reduction, while 72.4% (50/69) attained at least a 2-log reduction. This observation did not apply to the second group, as initial molecular testing for some patients was only performed at 12–18 months or later after starting IM therapy. **Conclusion:** Unsatisfactory responses can be attributed to improper drug use due to side effects, non-adherence to therapy, delayed monitoring, or secondary resistance to the drug. Proper adherence to treatment and consistent monitoring play crucial roles in therapeutic outcomes. These findings reaffirm the necessity of regular monitoring every three or six months. This study demonstrates that the response to IM in Azerbaijani CML patients in the chronic phase aligns with the responses reported in randomized international studies.

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Adult Hematology Abstract Categories

Aggressive B-cell lymphoma

PP 15_ Case report

OUTCOMES OF DIFFUSE LARGE B-CELL LYMPHOMA IN OLDER ADULTS TREATED IN RESOURCE-CONSTRAINED SETTINGS

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Objective: Treating Diffuse Large B-Cell Lymphoma (DLBCL) in elderly patients is challenging. There is limited data available from Low- and Middle-Income Countries (LMICs) on elderly DLBCL. We analyzed the presentations and survival outcomes of patients with DLBCL according to their socioeconomic status. **Methodology:** This was a multicenter retrospective study conducted from 2015 to 2023. We included 176 patients aged 60 years or older. The variables examined were age, gender, subtype, resource environment and treatment received. Kaplan-Meier curve was created for the entire patient cohort; t-test was utilized to compare means, Disease-Free Survival (DFS) and Overall Survival (OS), with a significance level of $p < 0.05$. Analysis was performed using SPSS version 29. **Results:** The median age was 66 years (range: 60–89 years). Ninety-three (57%) patients were treated in limited resource settings, while 43% had enhanced resources. ECOG performance scores between 2 and 3 were present in 71%. Median IPI score was 3. RCHOP regimen was administered to 51% (n = 81) patients, and CHOP regimen to 20% (n = 32) patients. In 21% (n = 38) salvage treatment was given due to relapsed/refractory disease. None of the patients in this group received consolidation with autologous stem cell transplant. The entire cohort's OS was 12-months, while DFS was 8-months. OS (33.9% vs. 8.2%; $p = 0.00$) and DFS (29% vs. 5.9%; $p = 0.00$) were better in patients with enhanced resources. The median DFS of patients treated in enhanced settings was 1.3-years versus 0.4-years in limited resource settings ($p < 0.0001$) **Conclusion:** Survival rates were lower for patients receiving treatment in resource-limited settings. Outcomes can be improved with early referral and inclusion of Rituximab. Enhanced geriatric assessments along with better supportive care is essential.

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PP 16_ Case report

METHOTREXATE-ASSOCIATED STEVENS-JOHNSON SYNDROME AND TOXIC EPIDERMAL NECROLYSIS: TWO CASE REPORTS

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Objective: Stevens-Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN) are rare but severe mucocutaneous diseases. These conditions are mostly drug-induced and have high mortality rates. They are primarily characterized by skin and mucosal involvement. In addition to supportive treatments, plasmapheresis and immunosuppressive drugs are used in treatment. We present our experience with 2 cases of SJS/TEN that developed after high-dose Methotrexate use in the treatment of two different hematological malignancies. **Case report 1:** A 58-year-old male was diagnosed with Primary Central Nervous System (CNS) Lymphoma in August 2024. The patient started on MATRIX (Methotrexate 3000 mg/m^2/day, Cytarabine 1000 mg/m^2/day, Rituximab 375 mg/m^2/day) therapy. On September 2, 2024, the first cycle of treatment was administered. On the 8th day, erythematous rashes appeared on the palms and soles. The patient was consulted with dermatology and received local treatment for a suspected drug reaction. The lesions resolved. During the second cycle of MATRIX therapy on September 30, 2024, the patient received four doses of intrathecal Methotrexate 12 mg and Cytarabine 100 mg by October 3, 2024. On the fourth day of treatment, the creatinine level rose to 3.05 mg/dL (baseline 0.9 mg/dL). Suspecting toxic nephropathy, hydration therapy was initiated under nephrology consultation. On the 10th day of treatment, the patient developed a fever above 38°C, accompanied by erythematous lesions on the skin, particularly in the oral mucosa. Following the recommendation of the Infectious Diseases Department, treatment with Cefoperazone/Sulbactam and Micafungin was initiated. During the same period, the patient developed diarrhea (6–8 times per day) and was given symptomatic treatment. On the 13th day of treatment, as skin rashes increased, Prednisolone (1 mg/kg) was initiated. However, the skin lesions continued to progress. On the 15th day of treatment, with a creatinine level of 1.8 mg/dL, the patient developed absolute neutropenia. Filgrastim (G-CSF) therapy was started. The patient was consulted with the Dermatology Department due to the skin lesions. Pale erythema on the skin and erythematous patches with targetoid vesicles on the extremities were observed. The body surface area involvement was estimated to be approximately 10%–30%. A skin biopsy was performed, and the findings were reported as Stevens-Johnson Syndrome/Toxic Epidermal Necrolysis (SJS/TEN). Based on the current findings, the patient was diagnosed with SJS/TEN Overlap Syndrome, and pulse Prednisolone 500 mg was initiated for 3 days. Due to elevated acute phase reactants and absolute neutropenia, the Infectious Diseases Department recommended discontinuing Cefoperazone & Sulbactam treatment. The patient was then started on Meropenem and Daptomycin. On the 23rd day of treatment, as the skin lesions continued to progress, Cyclosporine A therapy was considered. However, due to ongoing Acute Renal Failure, Tacrolimus infusion was initiated instead. Concurrently, plasmapheresis (1:1) was performed. On the 25th day of treatment, the patient remained in absolute neutropenia (neutrophil count: 0), and IVIG (0.4 g/kg/day) was started. On the 26th day, the patient developed desaturation and was transferred to the intensive care unit, where elective intubation was performed. The patient was connected to a mechanical ventilator, but unfortunately, on the 27th day of treatment, the patient died due to multiorgan failure. **Case report 2:** A 34-year-old female patient was diagnosed with Acute Lymphoblastic Leukemia (B-ALL) in December 2024. The patient, who was Philadelphia chromosome-negative, received the first cycle of Hyper-CVAD therapy (Cyclophosphamide 2×300 mg/m^2/day for 3 days, Vincristine 2 mg/day, Adriamycin 50 mg/m^2/day, Decort 40 mg/day for 4 days). Remission was achieved, and a total of 3 doses of intrathecal Methotrexate 12 mg and Cytarabine 100 mg were administered. On January 6, 2025,

the second cycle of Hyper-CVAD therapy (Methotrexate 1000 mg/m^2/day, Cytarabine 2 × 3000 mg/m^2/day for 2 days, Prednisolone 2 × 25 mg/m^2/day for 3 days) was initiated. On the 4th day of treatment, the creatinine level was found to be 3.96 mg/dL. At the beginning of the treatment, the patient's creatinine level was 0.77 mg/dL. The patient was consulted with Nephrology, and acute renal failure due to toxic nephropathy was considered. Emergency dialysis was not deemed necessary. Hydration and symptomatic treatment were recommended for follow-up. On the 6th day of treatment, the patient developed a fever above 38°C. Considering the presence of neutropenia, Cefoperazone & Sulbactam treatment was initiated upon the recommendation of the Infectious Diseases Department. On the 8th day of treatment, the patient experienced a sudden speech disorder accompanied by dizziness. Brain CT and Diffusion MRI showed no signs of bleeding or ischemia. No findings suggestive of ALL involvement were observed in the contrast-enhanced Brain MRI. The CSF cytology was normal. Due to suspicion of ALL involvement, a dose of intrathecal Methotrexate 12 mg and Cytarabine 100 mg was administered. Neurology consultation suggested the possibility of an atypical epileptic seizure. Antiepileptic treatment was initiated. As the creatinine level decreased to 1.96 mg/dL and no other pathological condition explaining the existing neurological findings was identified, CNS involvement of ALL was considered, and Radiotherapy (RT) was planned. Consultation with Radiation Oncology led to the initiation of CNS radiotherapy, with a total of 4 RT sessions administered. On the 10th day of treatment, Filgrastim (G-CSF) was started for the patient who was in absolute neutropenia. On the 11th day of treatment, erythematous rashes developed on the extremities and genital area, along with vesicular rash lesions on the back. The patient was consulted with Dermatology, and considering the possibility of Toxic Epidermal Necrolysis (TEN), a skin biopsy was performed. The biopsy result confirmed TEN. The patient was started on pulse prednisolone 1000 mg for 3 days. Along with steroids, plasmapheresis (1:1) was administered. On the 13th day of treatment, the patient developed a fever over 38°C, and based on the recommendations of the Infectious Diseases Department, the cefoperazone & sulbactam treatment was discontinued. As the creatinine level decreased to 1.1 mg/dL, Colistin and Imipenem were started. The patient's total bilirubin level increased to 7.68 mg/dL (with a predominance of direct bilirubin) compared to the previous day's total bilirubin level of 1.96 mg/dL. Due to the lack of significant improvement in skin lesions, a second session of plasmapheresis (1:1) was performed on the 15th day of treatment. On the 16th day of treatment, the patient's total bilirubin level increased to 17 mg/dL. Concurrently, the patient developed hypernatremia (Na: 166 mmoL/L), and emergency hemodialysis was planned upon the recommendation of Nephrology. A 2-hour hemodialysis session was performed. At the end of dialysis, the patient experienced respiratory arrest. The patient was electively intubated and transferred to the intensive care unit. Despite high-dose positive inotropic support, the patient developed cardiac arrest and died on the 17th day of treatment due to multiorgan failure. **Conclusion:** Stevens-Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN) are clinical conditions with high morbidity and mortality, often triggered by medications. The most common culprits include sulfonamides, anticonvulsants, Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), and beta-lactam antibiotics. Clinically, SJS/TEN presents with fever, along with skin and mucosal membrane lesions. When vesicular lesions cover less than 10% of the body surface, it is considered SJS; when over 30%, it is classified as TEN, and if between 10%–30%, it is considered SJS/TEN overlap syndrome. In our first case, the involvement was between 10%–30%, leading to the diagnosis of SJS/TEN Overlap Syndrome. In the second case, as the lesions involved more than 30% of the body surface, the diagnosis of TEN was made. Methotrexate, widely used in various diseases, is associated with side effects such as nephrotoxicity, hepatotoxicity, bone marrow toxicity, and mucositis. Dermatological side effects, including urticaria, maculopapular rashes, mucositis, erythema, TEN, SJS, and psoriatic rashes, have also been reported. Methotrexate-induced SJS/TEN in the literature is attributed to direct cellular toxicity, hypersensitivity, or drug interactions, such as with NSAIDs. There is ongoing debate about whether the resulting epidermal necrolysis is due to dose-dependent toxicity or an allergic reaction. In our two cases, high-dose methotrexate was administered due to primary hematologic malignancies. Adequate doses of folic acid were provided 24 hours after Methotrexate administration. Both cases initially developed nephrotoxicity following methotrexate use, subsequently leading to skin involvement. Early treatment strategies, including steroids, Intravenous Immunoglobulin (IVIG), and supportive care as recommended in the literature, were implemented. However, both patients developed complications related to absolute neutropenia due to high-dose chemotherapy combined with methotrexate. SCORTEN scores were determined to be very high, at 5 or above. Unfortunately, both of our cases were lost due to the development of multi-organ failure. In conclusion, patients undergoing high-dose methotrexate therapy require close monitoring for nephrotoxicity and skin reactions to mitigate potentially fatal outcomes.

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PP 17_ Case report

RITUXIMAB WITH INVOLVED FIELD IRRADIATION FOR EARLY-STAGE DIFFUSE LARGE CELL LYMPHOMA

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Objective: Efficacy and safety of Involved Field (IF) radiotherapy in combination for anti-CD20 antibody Rituximab (MabThera) and Involved field Radiotherapy for early-stage Diffuse Large Cell lymphoma (DLBCL) in a prospective, single-arm

multicenter study. **Methodology:** Forty-five stage I–II FL patients received 8 cycles of Rituximab (375 mg/m^2) and IF irradiation (30/40 Gy). Progression-Free Survival (PFS) 1-year from treatment start is the primary endpoint. Secondary endpoints were complete response rates, toxicity, quality of life with protocol defined visits up to month 15. **Results:** For the primary endpoint, PFS at 1-year was 85% for the intention-to-treat set. Long-term data were captured in selected sites and evaluated as post hoc analysis in the Per Protocol (PP) set: PFS was 78% at 1-year with a median follow-up of 15 months, respectively. There were 17/45 recurrences in the PP set, of which 14 were outside the radiation volume only. There were 9 serious adverse events (3 related to the therapy) during the first 15 months. **Conclusion:** IF radiotherapy combined with Rituximab is well tolerated and highly efficient with low rates of recurrence in the first years in early-stage DLBCL. The efficacy is comparable with more aggressive therapy approaches without compromising the quality of life and maintains for an extended follow-up of more than 3 years.

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Adult Hematology Abstract Categories

T-Cell Lymphoma

PP 18_Case report

CASES OF PRIMARY CUTANEOUS ANAPLASTIC LARGE CELL LYMPHOMA TREATED WITH SYSTEMIC OR LOCAL THERAPY

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Introduction: Primary Cutaneous Anaplastic Large Cell Lymphoma (PC-ALCL) is a CD30+ peripheral T-cell lymphoproliferative disorder without systemic involvement. It accounts for approximately 8% of cutaneous lymphoma cases. Most patients with PC-ALCL present with slow-growing, solitary or grouped skin nodules, and in some cases, regional lymph node involvement is observed. **Case-1:** A 61-year-old male patient presented to our clinic with swelling and edema of the right lower lip, along with a 57 cm draining ulcerative skin lesion in the suprasternal region. The patient had previously received six cycles of treatment for T-cell lymphoma at an outside center. A PET-CT scan identified a soft tissue lesion in the skin/subcutaneous tissue at the level of the right thyroid lobe and isthmus, measuring 57*15*52 mm, with a maximum SUV of 34. Biopsies taken from the lower lip and suprasternal skin were reported as primary cutaneous anaplastic large cell lymphoma. CD30 expression was found to be 95%. The patient was started on brentuximab vedotin along with the GDP protocol. After two cycles of treatment, improvement in the skin lesions was observed. **Case-2:** A 61-year-old male patient presented to our clinic with a complaint of a lesion on the anterior surface of the right tibia, measuring approximately 10*10 cm. The biopsy taken from the lesion was reported as CD30+ primary cutaneous anaplastic large cell lymphoma. A PET-CT scan revealed moderately hypermetabolic lymph nodes with thick cortices in the right iliac and inguinal lymphatic chains. Radiotherapy was applied to the area of the primary lesion and the regional lymph nodes, and improvement in the skin lesions was observed with treatment. **Discussion:** We aimed to discuss the outcomes of applying localized radiotherapy or systemic treatment to two patients with PC-ALCL who presented to our clinic: one with a relapse and the other with a new diagnosis. Brentuximab vedotin is effective in this disease. Since disease control could not be fully achieved with localized radiotherapy alone, we believe that the combination of systemic therapy and radiotherapy may be an important treatment option for these patients. Further large-scale case series are needed to guide treatment.

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Adult Hematology Abstract Categories

Myelodysplastic Neoplasms

PP 19_Case report

CLINICAL PRESENTATION AND OUTCOMES OF PATIENTS WITH MYELODYSPLASTIC SYNDROME INTRODUCTION

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Objective: Myelodysplastic Syndrome (MDS) is a clonal hematopoietic disorder that is characterized by dysplasia along with anaemia, thrombocytopenia or neutropenia and a risk of progression to Acute Myeloid Leukaemia (AML). In the United States, the yearly incidence of MDS is approximately 4 per 100 000 people, notably higher among older population rising tenfold by the age of eighty (80) years. Prognostic systems, such as the revised International Prognostic Scoring System (IPSS-R), offer rationally accurate estimates of survival at the population level. The goals of treatment in individuals having lower-risk MDS includes improving quality of life and minimizing Red Blood Cells (RBCs) and platelet transfusions. Therapeutic goals in patients having Higher-Risk MDS (HR-MDS), include decreasing the risk of transformation to AML and increasing survival. Haematopoietic Cell Transplantation (HCT) has the potential to cure MDS, but less than 10% of affected people undergo this treatment. Improvements in the understanding of MDS has resulted in newer management strategies for these patients. As a result, the treatment landscape for MDS patients is changing. All these advancements are expected to improve the survival rate of patients suffering from MDS. There is limited data on presentation and outcomes of MDS

patients in Low Middle Income Countries (LMICs). The Aim of our study is to assess the clinical presentation and treatment outcomes in patients with MDS in a low middle income country. **Methodology:** This is a single-centre retrospective cohort study with analytical design, which was approved by the hospital ethics committee (IRB-017/AFBMTC/Approval/2022). The study was conducted at the Armed Forces Bone Marrow Transplant Centre, a tertiary care facility located in Rawalpindi, Pakistan and included all consecutive patients having age > 15-years diagnosed with MDS as per revised WHO 2016 criteria from January 2019 till December 2023. The data of 128 patients was collected, followed-up and analyzed for disease and survival outcomes. Patients lost to follow up in the first 12 weeks of diagnosis or with insufficient extractable data were excluded from the study. The initial demographic and clinical information collected included age, gender, clinical presentation and laboratory parameters. Bone Marrow (BM) morphology and cytogenetics were used to establish the diagnosis of MDS. Subclassification was done using revised World Health Organization (WHO) 2016 classification of hematopoietic and lymphoid tumors. Patients were risk stratified using International Prognostic Scoring System (IPSS) and Revised-IPSS (R-IPSS) scoring as per available data. Initial treatment was stratified depending upon the aim of treatment (palliative, definitive), supportive treatments given were blood products and antibiotics. For palliative intent treatments included growth factors, immunosuppressants, lenalidomide, low dose cytarabine. For the purpose of study, definitive treatment was Hypomethylating Agents (HMA), venetoclax, intermediate/high dose cytarabine and Stem Cell Transplantation (SCT). Response to treatment was documented as per recommendations of the International Working Group (IWG) 2018 for low risk and IWG 2023 for high risk MDS. For non-transplant patients OS was defined as duration from date of diagnosis till death/last follow up and DFS as duration after being transfusion independent or complete remission till any event(death/relapse) or last follow up, while for transplant patients OS was calculated as duration from date of transplant till death/last follow up and DFS as duration from date of transplant till death, relapse or last follow up percentage and frequency was calculated for categorical variables and mean ± standard deviation or median with Interquartile Range (IQR) for the continuous variables. Survival statistics were calculated using Kaplan Meier analysis. Univariate and multivariate regression was used to document significant factors affecting survival. **Results:** This study evaluated the clinical outcomes of 128 patients (mean age: 52.5 ± 17.01 years; range: 16–90) with a male-to-female ratio of 3:1. Treatment intent was categorized as palliative (81 patients, 63.3%) or definitive (47 patients, 36.7%). Patients receiving definitive treatment had a mean age of 45.85 ± 14.45 years, whereas those in the palliative group had a mean age of 56.60 ± 17.23 years ($p = 0.0001$). Chemotherapy regimens included Hypomethylating Agents (HMA) plus venetoclax (27.3%), Low-Dose Cytarabine (LDAC) (5.5%), LDAC plus venetoclax (1.6%), and other combinations. Among those receiving curative intent treatment, 14.8% received AZA+VEN, 10.9% received decitabine+VEN, and 5.5% underwent upfront transplant. Complete Response (CR) was achieved in 11% of definitively treated patients, while 22% showed no response. Palliative treatments included erythropoietin (30.5%), ciclosporin (7%), lenalidomide (3.9%), and supportive care (14.8%). Among palliative patients, 7% achieved hematologic improvement (NTD), while 36.7% showed no response. Seventeen patients (13.3%) underwent Hematopoietic Stem Cell Transplantation (HSCT), with 11 receiving cytoreductive therapy pre-transplant. The stem cell source was Bone Marrow Harvest (BMH) for 13 patients and BMH plus Peripheral Blood Stem Cells (PBSC) for four patients. Myeloablative Conditioning (MAC) was used in 12.5%, and Reduced-Intensity Conditioning (RIC) in 0.8%. The median CD34 dose was $2.76 \times 10\text{^}6$. Neutrophil engraftment occurred at a median of 13 days, while platelet engraftment averaged 21.4 ± 3.82 days. Post-transplant complications included febrile neutropenia (12.5%), mucositis (10.2%), and Graft-Versus-Host Disease (GVHD) (acute: 3.1%, chronic: 5.5%). The Overall Survival (OS) rate was 42.5% with a median survival of 440 days (95% CI 161.7–718.2). OS varied by risk group, with very low-risk patients achieving 75% OS and very high-risk patients 0% ($p = 0.01$). Patients receiving MAC conditioning had a 56% OS rate ($p = 0.01$). Disease-Free Survival (DFS) was 22.7%, with a mean DFS of 456 days. Patients achieving Non-Transfusion Dependency (NTD) had an 80% DFS, whereas those with complete response had 50% ($p < 0.001$). The DFS for MAC recipients was 50%, while RIC patients had 0% ($p = 0.01$). Chronic GVHD was associated with improved DFS (57%) ($p = 0.02$). **Conclusion:** This study examined the clinical presentation and outcomes of MDS patients, following them until June 30, 2024, to assess Overall Survival (OS), Disease-Free Survival (DFS), and transplant-related complications, including Graft-Versus-Host Disease (GVHD). The study population had a mean age of 55.5-years, with a male-to-female ratio of 3:1, consistent with prior studies. Anemia was the most common presenting symptom (85.9%), with infections (27.3%) and bleeding (20.3%) also observed. Comparisons with existing literature revealed similar trends in demographic distribution and symptomatology. Low-risk MDS treatment included erythropoietin, thrombopoietin receptor agonists, lenalidomide, and hypomethylating agents, while high-risk patients were candidates for allogeneic Hematopoietic Stem Cell Transplantation (HSCT). Palliative treatment was given to 51.6% of patients, with 7% achieving non-transfusion dependency. In contrast, 33.6% received curative therapy, achieving an 11% Complete Response (CR) rate, aligning with reported outcomes. HSCT was performed in 17 patients, with neutrophil and platelet engraftment occurring at medians of 13 and 21 days, respectively. Acute GVHD was noted in 3.1% of patients, lower than reported rates, while chronic GVHD was seen in 5.5% of cases. OS in the study cohort was 37.5%, with DFS at 21.1%. Literature comparisons demonstrated variable survival rates depending on risk stratification and treatment modality, with OS ranging from 12.1% in high-risk MDS to 75% in low-risk patients. The study's limitations included its geographically specific population encompassing all MDS subtypes and varied treatment approaches, with follow-up durations ranging from 6 to 54 months. Larger, more controlled studies are

recommended to improve result reliability and clinical applicability.

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PP 20_ Case report

A CASE OF FAMILIAL PORFIRIA

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Introduction: Porphyria is a group of metabolic diseases caused by hereditary defects in the enzymatic system of heme biosynthesis. We present three cases of familial porphyria in two sisters (50 and 45-years-old) and a brother (39-years-old). The clinical symptoms of these patients were analyzed, and it was found that all patients have the same symptoms of the disease since childhood: constantly dark urine, burn-like changes on the skin of the face and ears, long-lasting wounds, moderate splenomegaly, and deformity of the joints on the fingers. **Clinical case:** Here, we present the some clinical and laboratory data one of the three patients. This patient was initially diagnosed with scleroderma, but due to the splenomegaly, she was referred to a hematologist to clarify the diagnosis. It was found that since childhood she had black urine, poorly healing wounds, and burn-like changes on the face and on the hands, which most often appeared after exposure to the sun. A physical examination revealed splenomegaly (+2–3 cm). The urine was initially intensely yellow-colored – when exposed to bright sunlight, the color changed to a dark yellow color. Total porphyrins in daily urine were 1.93 mg/L (norm 0–0.15 mg/L), uroporphyrinogen in single probe urine is 13 mg/L (norm 0–2 mg/L), and δ-aminolevulinic acid is 16.7 mg/L (norm 0.1–4.5 mg/L). The patient's sister and brother also were examined for quantitative tests for porphyrins in the urine. Both had similar porphyrin samples in their urine: total porphyrins in single probe urine – 1.23–1.3 mg/L, uroporphyrinogen in single probe urine – 12–13 mg/L, δ-aminolevulinic acid – 17.1 mg/L. **Conclusions:** Increased excretion of porphyrin precursors is one of the permanent signs of the disease and is observed not only during acute manifestations of the disease but also during the period of remissions, among the people with the latent form of the disease. Analyzing the results of our discussions, we can draw the following conclusions. Porphyria is a rare disease with very variable clinical symptoms, which causes certain difficulties in its timely diagnosis. To verify the diagnosis, even in the presence of a characteristic clinical picture, it is necessary to study the excretory profile of porphyrin metabolism with quantification of porphyrin precursors and fractions, as well as a comprehensive genetic examination.

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Adult Hematology Abstract Categories

Myeloproliferative Neoplasms

PP 21_ Case report

CHIC2 DELETION-ASSOCIATED HYPEREOSINOPHILIA AND SUBSEQUENT JAK2 V617F POSITIVE THROMBOCYTOSIS

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Background and aim: Myeloid/lymphoid neoplasms with eosinophilia and tyrosine kinase gene fusions (MLN-TK) are myeloid or lymphoid neoplasms driven by rearrangements involving genes encoding specific tyrosine kinases. These BCR::ABL1-negative diseases have long been recognized for their sensitivity to tyrosine kinase inhibitors. Herein, we present an interesting case diagnosed as myeloid neoplasm with abnormality of PDGFRA. **Case presentation:** A 63-year-old female patient with known glaucoma, hypothyroidism, and vitiligo was admitted to our clinic 8-years ago with fatigue. The patient had splenomegaly and eosinophil-predominant (10×10^9/L) leukocytosis (70.8×10^9/L). Secondary causes of eosinophilia (rheumatologic, infectious and immunologic) were excluded. Although not directly attributed to the patient's hypereosinophilia, echocardiographic left ventricular contraction abnormality was observed. Bone marrow aspiration and biopsy were hypercellular and showed 35%–40% eosinophils. With a preliminary diagnosis of hypereosinophilic syndrome, the patient was treated with steroids and then with hydroxyurea. Karyotype analysis was normal and FISH for t(9;22) was negative. The FISH panel revealed a 76% CHIC2 (4q12) deletion, but was negative for abnormalities of PDGFRB, FGFR1, and FIP1L1::PDGFRA fusion. The patient was switched to imatinib treatment. While the patient was followed in hematological remission for a long time with imatinib, thrombocytosis (807×10^9/L) was detected in the patient six months ago. The patient had suppressed erythropoietin level (1.94 mu/mL) and JAK2 V617F mutation. Low-dose hydroxyurea was combined with imatinib. Hematological remission was regained. **Discussion:** The majority of MLN-TK cases associated with PDGFRA rearrangements have cytogenetically cryptic deletion of 4q12 resulting in FIP1L1::PDGFRA. Although FIP1L1::PDGFRA fusion could not be demonstrated in this patient, it was thought that the patient had a myeloid neoplasm with abnormality of PDGFRA class due to CHIC2 deletion and typical clinical findings. The fact that the patient responded to treatment for many years seems to be evidence of this. The detection of JAK2 mutation during follow-up raised the question of whether this clone was present in the patient from the beginning or was acquired later.

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PP 22_Case report

LYSOZYME-INDUCED NEPHROPATHY IN CMML: A RARE BUT SIGNIFICANT COMPLICATION REQUIRING EARLY RECOGNITION AND INTERVENTION

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Background: CMML is a clonal hematopoietic disorder with features of myelodysplasia and myeloproliferation, characterized by monocytosis. Monocytes secrete lysozyme, a cationic protein filtered by the glomerulus and reabsorbed in proximal tubules. Excess lysozyme accumulation causes tubular injury, leading to Lysozyme-Induced Nephropathy (LyN). **Case 1:** A 72-year-old male with CMML that transformed into AML with a TP53 mutation. Laboratory results showed WBC 9×10^9/L, Hb 80 g/Platelets 139×10^9/L, and creatinine 162 μmoL/L. Additional findings included Na 129 mmoL/L, Cl 97 mmoL/L, Mg 0.51 mmoL/L, PO4 1.50 mmoLL, and 24-hour urine protein of 1.20 g/L. LyN was suspected and confirmed with a lysozyme level of 117 mcg/mL (2.7–9.4). He was treated with Azacitidine and Venetoclax, achieving CR and normal renal function. **Case 2:** A 60-year-old male with CMML initially presented with a creatinine level of 139 μmoL/L, Na 130 mmoL/L, K 2.6 mmoL/L, normal Magnesium, and a lysozyme level of 153 mcg/mL. His creatinine normalized with prednisone. He progressed to AML after six cycles of Azacitidine and later received four cycles of Venetoclax, achieving CR. Unfortunately, he passed away 18-months post-diagnosis due to pneumonia and pulmonary hemorrhage. **Case 3:** A 57-year-old female with CMML transformed into AML underwent MSD SCT but relapsed after five months. She initially achieved CR with Aza-Ven, followed by DLI, but relapsed again after four years. She was unresponsive to Aza-Ven but improved with palliative cytarabine. Initially, she had AKI due to TLS, which improved with chemotherapy. During her last relapse, she had creatinine of 154 μmoL/L, lysozyme levels 124 mcg/mL and electrolyte imbalances. Her renal function significantly improved after cytarabine injections. **Discussion/Conclusion:** Most frequent renal complications in CMML are LyN (56%) and renal infiltration by the CMML with incidence of AKI (34.9%) and CKD (7.6%). LyN is a rare and poorly understood complication of CMML. Filtered lysozyme accumulates in the renal cortex, causing severe hypokalemia via kaliuresis or direct tubular injury, potentially leading to kidney failure. In our patient CMML treatment, hydration and steroids restored kidney function. LyN in CMML necessitates early recognition and intervention to improve renal outcomes. Further research is needed to optimize treatment strategies.

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PP 23_Case report

LANDSCAPE OF SOMATIC MUTATIONS OF MYELOPROLIFERATIVE NEOPLASMS IN PAKISTANI PATIENTS

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Objective: This study aimed to screen Myeloproliferative Neoplasm (MPN) patients for four known genetic mutations following their clinical and bone marrow examinations to establish a diagnosis before treatment. **Methods:** This descriptive cross-sectional study was conducted at the Armed forces bone marrow transplant center, Rawalpindi, between January 2018 and January 2021. A total of 159 MPN patients who fulfilled inclusion criteria were enrolled. All patients underwent bone marrow biopsy after providing informed consent, history recording, and examination. Peripheral blood samples were screened for somatic mutations in JAK2 V617F, JAK2 exon 12, CALR, and cMPL genes. The JAK2 V617F and cMPL mutations were analyzed using conventional PCR, and the PCR products were analyzed on polyacrylamide gel electrophoresis. JAK2 Exon 12 and CALR mutations were analyzed using the fragment analysis technique. Positive and negative controls were run with each sample. The final results were analyzed using Gene Mapper 5 Software (Applied Biosystems). The gene scan data was interpreted by analyzing the electropherograms and the genotyping data sheet. The data were analyzed using the Statistical Package for Social Sciences (SPSS) version 25.0. **Results:** A total of 159 MPN patients fulfilled the inclusion criteria, with 104 (65.4%) males and 55 (34.6%) females. The median age of patients was 54-years (IQR: 38–64). Among Philadelphia negative (Ph-ive) MPN patients, 69 (43.4%) were diagnosed with Primary Myelofibrosis (PMF), 60 (37.7%) as Polycythemia Vera (PV), and 30 (18.9%) as Essential Thrombocytosis (ET). The frequency of the JAK2 V617F mutation in PV, ET, and PMF patients was 85%, 51.4%, and 34.5%, respectively. CALR mutation was observed only in 1 PMF and 5 (17.2%) ET patients. Additionally, cMPL mutation was not found among our patients. However, 14 (8.8%) patients were triple negative (negative for the JAK2 V617F, CALR, and cMPL mutations). **Conclusions:** PMF was the most frequent (43.4%) condition among Ph-ive MPN patients, followed by PV 60 (37.7%) and ET 30 (18.9%). The frequency of JAK2 V617F mutation in PV, ET, and PMF patients was 85%, 51.4%, and 34.5%, respectively. CALR mutation was observed only in 5 (17.2%) ET and 1 PMF patient. These five mutations are among the diagnostic criteria established by the World Health Organization, which enable a quick and reliable diagnosis of MPN. **Conclusion:** This study highlights the demographics, diagnosis, and mutations in four genes of MPN patients from a low-income country. PMF was the most frequent (43.4%) among Ph-ive MPN patients, followed by PV 60 (37.7%) and ET 30 (18.9%). The frequency of the JAK2 V617F mutation in PV, ET, and PMF patients was 85%, 51.4%, and 34.5%, respectively. CALR mutation was observed in only 1 PMF and 5 (17.2%) ET patients. These five mutations are among the diagnostic criteria established by WHO for a quick

and reliable diagnosis of MPN. Few lines can be included regarding the need of further studies with larger cohort from multi centers Use of high throughput sequencing techniques for identifying mutations located anywhere else in these genes Shouldn't it be 4?

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PP 24_Case report

A CASE OF THROMBOCYTOSIS AND HEMOTHORAX IN A PATIENT WITH ITP FOLLOWING ROMIPLOSTIM USE

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Introduction: Immune Thrombocytopenia (ITP) is an autoimmune disease characterized by isolated thrombocytopenia and normal to large platelets in the peripheral blood smear. It is an autoimmune disorder that leads to peripheral platelet destruction and decreased platelet production. Romiplostim, a peptide-antibody fusion product, is a thrombopoietin receptor agonist indicated for use in patients with ITP. Romiplostim is indicated for patients with ITP who have had an inadequate response to first-line therapy. Side effects of the drug include increased bone marrow reticulin, reversal of severe thrombocytopenia, thrombocytosis and increased immunoblast proliferation. In this case report, we present a patient with ITP refractory to first-line therapies who was admitted to the intensive care unit for thrombocytosis and haemothorax after a single dose of Romiplostim. **Case:** A 34-year-old female patient, who had been followed in the hematology clinic for ITP for approximately 5-years, was admitted to the clinic because of deep thrombocytopenia and deep anaemia due to menometrorrhagia. On admission, the platelet count was 2000 ($10^3/\mu L$) and the hemoglobin level was 5.4 g/dL, and she was taking eltrombopag 75 mg at the time of admission. He was tachycardic and hypotensive and was given erythrocyte suspension. Clinical and radiological examination revealed no bleeding foci other than menstrual and oral mucosal bleeding. The patient was treated with steroids, IVIG and rituximab during the follow-up period in the clinic. Despite the treatments given, bleeding control could not be achieved and a single dose of 2 mcg/kg Romiplostim was administered to the patient in the 2^{nd} week of hospitalization. The patient's platelet count began to rise rapidly on the 3^{rd} day after treatment and was measured at 1,650,000 ($10^3/\mu L$) on the 5^{th} day. At the same time, the patient developed dyspnea and a chest scan was performed, which revealed a hemothorax. The patient was admitted to intensive care. Drainage was performed with a chest tube. Acquired von Willebrand Factor (vWF) deficiency due to thrombocytosis was considered as the cause of the hemorrhage. The vWF level in the blood was found to be low. The thrombocytosis was controlled by platelet apheresis. After clinical improvement, platelet levels were normalized, and the patient was discharged. **Conclusion:** Romiplostim is a generally well tolerated agent. Current evidence suggests that it increases platelet counts, reduces bleeding, reduces the need for rescue therapy, reduces the amount of corticosteroids required, improves quality of life and, in isolated cases, is associated with remission of ITP. However, it should be used with caution as serious side effects include increased bone marrow reticulin, reversal of severe thrombocytopenia, thrombocytosis and increased immunoblastic proliferation

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Adult Hematology Abstract Categories

Multiple Myeloma

PP 25_Case report

IMPACT OF LENALIDOMIDE MAINTENANCE DOSAGE ON SURVIVAL OUTCOMES IN MULTIPLE MYELOMA

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Objective: This study aimed to assess the impact of lenalidomide maintenance dosing on clinical outcomes and the development of lenalidomide refractoriness in Multiple Myeloma (MM) patients who received maintenance therapy following Autologous Stem Cell Transplantation (ASCT) at our institution. **Methodology:** A retrospective analysis was conducted on 82 MM patients who underwent lenalidomide maintenance therapy on a 21/28-day cycle post-ASCT. Low-dose maintenance was defined as a dose below the maximum allowable level, determined by the patient's Glomerular Filtration Rate (GFR) and hematologic parameters at initiation. The Maximum Tolerable Dose (MTD) was defined as the highest dose a patient could tolerate based on these criteria. **Results:** In the overall cohort, median PFS was 56.0-months (95% CI: 40.15–71.85) and median OS was not reached. However, 88.3% of patients were alive at 60-months and 68.2% at 120-months. A response of ≥ VGPR was observed in 91% of patients receiving low-dose maintenance therapy, compared to 73.3% in those receiving treatment at the maximum tolerated dose ($p = 0.005$). While the median PFS was 56.0-months (95% CI 47.06–64.93) in those receiving low-dose maintenance; the median PFS was 33-months (95% CI 23.36–42.63) in those receiving maintenance at the MTD ($p = 0.166$). Dose reductions during maintenance therapy due to adverse effects were reported in 17 patients (20.7%). Of these, 11 patients (16.9%) were initially on low-dose maintenance, while 6 patients (40%) were on the MTD ($p = 0.42$). The median duration of maintenance therapy was 21 months (6–34) for patients on low-dose maintenance and 11 months (4–24) for those on the MTD ($p = 0.114$). Second-line treatment was administered to 40 patients (48.7%) who experienced progression. The median PFS2 was 25.36-months (95% CI 9.24–41.48), and the median OS2 was 73.23-months (95% CI 42.50–103.95). Median PFS2 was 25.43-months (95% CI 0.20–50.66) and the survival rate was 70% at 60-months in those receiving lenalidomide-based second line therapy, while median PFS2 was 25.36-months (95% CI 6.30–44.42) and the survival rate was 53.8% at 60-months in those receiving lenalidomide free

therapy (p = 0.978, p = 0.902 respectively). Following low-dose maintenance therapy, the median PFS2 was 26.167-months (95% CI 5.571–46.762) in the lenalidomide free therapy group and 25.433-months (95% CI 0.08–50.787) in the lenalidomide-based second line therapy group (p = 0.581). Although median OS2 could not be calculated, at 60-months, the survival rate was 74.5% in patients receiving lenalidomide-based treatment, while it was 62.3% in patients receiving treatment without lenalidomide (p = 0.637). **Conclusion:** This study introduces the concept of low dose versus MTD lenalidomide maintenance. MTD does not confer a survival benefit and is associated with increased toxicity. Our findings support low-dose maintenance as a preferable approach, although lenalidomide refractoriness remains a concern.

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PP 26_Case report

ASSESSMENT OF INTERPHASE FLUORESCENCE IN SITU HYBRIDIZATION (FISH) TEST IN A PATIENT WITH MULTIPLE MYELOMA: EXPERIENCE OF OUR MEDICAL GENETICS DEPARTMENT

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Objective: Multiple Myeloma (MM) is an orphan disorder of end stage plasma cells with acquired genetic abnormalities of clinical importance not captured by conventional cytogenetic analysis because of the low proliferation of malignant plasma cells. Thus, interphase Fluorescence In Situ Hybridization (FISH), performed on sorted plasma cells detected abnormalities independently of a proliferative and infiltrative index. The purpose of this study was to explore, for the first time in our Medical Genetics department the molecular genetics features in a Tunisian patient with multiple myeloma. A 35-year-old Tunisian man, followed-up for MM since two years and received VTD chemotherapy protocol (bortézomib, thalidomide et dexaméthasone). Actually, as part of evaluation of his disease, and in the presence of infectious syndrome, the MM's relapse is suspected. Magnetic cell separation of PCs was performed using the Whole Blood CD138 MicroBeads, Whole Blood Column Kit, and the QuadroMACS Separation Unit (Miltenyi Biotec) according to the manufacturer's protocol. Slides were pretreated according to the manufacture's protocol. The FISH probes used in this study included IGH/FGFR3(4p16/ 14q32; DC.DF)/vysis, TP53/CEP 17(17p11.1-q11.1/17p13.1) FISH probe, Vysis. **Results:** Revealed the presence of three signals of IGH in 75% of nuclei and one signal of TP53 in 96% of nuclei. These results demonstrated the deletion of the short arm of chromosome 17 (del(17p)) and the absence of t(4;14). However, the presence of three signals of IGH indicated either the IGH amplification or the IGH rearrangement involving other partner chromosomes. These results were consistent with patient's relapse. The t(4;14) and del (17p) are high-risk markers associated with adverse prognosis. Patients with these genomic aberrations should be treated with targeted therapy. The detection of the 1q21 'gain could be considered in further studies because it is the most frequent structural abnormality, observed in 35% –40% of the patients with MM which is an independent poor prognostic factor.

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PP 27_ Case report

TREATMENT MANAGEMENT IN MULTIPLE MYELOMA WITH RENAL DISORDER

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Introduction: Multiple Myeloma (MM) is a plasma cell neoplasm characterized by the accumulation of monoclonal plasma cells in the bone marrow, leading to osteolytic lesions, anemia, infections, hypercalcemia, and kidney impairment. This review focuses on managing kidney disease in MM, particularly light chain cast nephropathy. **Case:** A 66-year-old male with progressive fatigue, dizziness, weight loss, and recurrent pneumonia was referred for anemia evaluation on 28.11.2024. Laboratory results showed:

- Hemoglobin: 5.4 g/dL, Hematocrit: 18.3%, Platelets: 56×10^3/uL
- Creatinine: 1.39 mg/dL, Calcium: 9.7 mg/dL, Total Protein: 9 g/L, Albumin: 2.9 g/L
- IgA: 4295 mg/dL, IgG: 141 mg/dL, IgM: < 5 mg/dL

Peripheral smear showed rouleaux formation, and protein electrophoresis revealed a gamma peak. Immunofixation detected IgA-lambda bands, with bone marrow biopsy confirming 70% plasma cell infiltration. The patient was started on VCD chemotherapy (bortezomib, cyclophosphamide, dexamethasone). Neutropenia worsened, requiring G-CSF support. Renal function improved, and zoledronic acid was given for widespread lytic lesions. Due to Febrile Neutropenia (FEN), treatment was switched to VRD (bortezomib, lenalidomide, dexamethasone). After four cycles, symptoms improved, and cytopenia's resolved. Although serum immunofixation remained positive, the patient achieved a Very Good Partial Response (VGPR). A follow-up bone marrow biopsy is planned after four more cycles, with Autologous Stem Cell Transplant (ASCT) scheduled if the response continues. **Conclusion:** Managing MM with renal impairment requires balancing efficacy and toxicity. A four-drug regimen (Dara-CyBorD or Isa-CyBorD) is preferred in fit patients with severe AKI, while a three-drug regimen (Dara-Vd) is recommended for frail patients. If daratumumab or isatuximab is unavailable, CyBorD is an alternative. Bortezomib, daratumumab, and isatuximab can be safely used in kidney dysfunction without dose adjustments. Lenalidomide is avoided in AKI unless refractory. In this case, VCD was chosen initially, and after renal improvement, VRD

was used despite FEN episodes. The patient achieved VGPR and is now planned for ASCT.

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PP 28_ Case report

THE SUCCESS LIES ON CLINICAL SUSPECT: THE SYNCHRONOUS CANCERS PRESENTING AS PULMONARY AND VERTEBRAL MASS LESIONS

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Objective: It is a well-known epidemiological research issue that cancer patients are at high risk for developing multiple primary cancers. The risk increase is more likely among cancer survivors and elderly people. We present a case of synchronous cancers with pulmonary cancer and extramedullary plasmacytoma. A 68-year-old male patient was evaluated for back pain, walking difficulty, and urinary incontinence. MRI showed a vertebral mass lesion on T10–11, with a pre-diagnosis of metastatic bone disorder. A PET-CT scan was performed to find out the primary cancer. This time, two mass lesions were striking: one on the right infrahilar region of the lungs and the other as a large lesion on the vertebras, as seen on MRI, which seemed to be two separate malignant lesions. Two biopsies were decided. The patient's clinical picture deteriorated, and an urgent surgery for decompression and a diagnostic lung biopsy by bronchoscopy were performed. Histology of the vertebral lesion revealed kappa monotypic cell infiltration consistent with plasmacytoma, and histology of the lung revealed non-small cell lung carcinoma. He had a monoclonal gammopaty as IgG kappa with a level of 1.24 g/dL. Further investigation covered bone marrow, which confirmed the diagnosis of solitary plasmocytoma and primary lung carcinoma. Treatment was designed as radiotherapy for plasmocytoma and referral to the oncology unit with a recommendation for three monthly follow-ups for pursuing active myeloma development. **Results:** Multiple cancers comprise two or more primary cancers occurring in an individual originating in a primary site or tissue and are neither an extension nor a recurrence or metastasis. According to the timing of the cancers' diagnosis, the development of different cancers may be differentiated as synchronous or metachronous. The risk for the development of multiple primary cancers may be multifactorial as inherited predisposition to cancer; the lifestyle, cancerogen exposure related with environmental factors; previous cancer and increased survival and surveillance of cancer patients. We highlighted the need for comprehensive epidemiological data collection in cancer patients by publishing this case.

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PP 29_Case report

ACUTE LYMPHOBLASTIC LEUKEMIA DIAGNOSED FOUR YEARS AFTER HSCT IN A BETA THALASSEMIA PATIENT: A CLINICAL CASE

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Introduction: Beta thalassemia is an inherited blood disorder caused by defective synthesis of the beta chains of hemoglobin. This results in the production of ineffective red blood cells, leading to anemia and a severe reduction in the ability to transport oxygen to organs and tissues. In some cases, patients with beta thalassemia, due to prolonged treatment processes and other factors, may develop malignant hematologic disorders. This case presentation describes a patient diagnosed with beta thalassemia major who developed Acute Lymphoblastic Leukemia (ALL) four years after undergoing Hematopoietic Stem Cell Transplantation (HSCT). **Materials and methods:** A patient diagnosed with beta thalassemia major, registered at the Thalassemia Center (TC), underwent allogeneic HSCT in 2020 and was later diagnosed with T-cell Acute Lymphocytic Leukemia (T-ALL) four years post-transplant. **Results:** A 19-year-old male patient was diagnosed with beta thalassemia major at the age of one year. He has been under regular follow-up at the Thalassemia Center since the age of six. At seven years old, he was officially diagnosed with "Beta Thalassemia Major" (HbA2 – 3.9%; HbF – 57.1%) and has since been on a transfusion regimen with chelation therapy. On February 23, 2020, he underwent an allogeneic bone marrow transplantation from his HLA 10/10 matched sibling using the BU/Flu/CY/ATG/TT myeloablative conditioning regimen. Post-transplant chimerism analysis showed 93% donor cells. The patient was regularly monitored at the TC-HSCT outpatient clinic. **Medical history:** The patient was born from his mother's third pregnancy and third delivery.

- Two siblings from previous pregnancies did not survive.
- He was born at term with a birth weight of 3500g.
- He had incomplete routine vaccinations.
- He had a history of measles and chickenpox infections.
- The family denies a history of tuberculosis or venereal skin diseases.
- One healthy sibling lives at home.
- Parents are not consanguineous.
- The father was diagnosed with Hodgkin lymphoma two months ago and started treatment.

On November 5, 2024, the patient presented with extensive bruising and petechiae over his entire body. His general condition was severe, and laboratory findings were:

- Leukocytes (L): $284.32 \times 10^3/\mu L$
- Hemoglobin (Hb): 121 g/L
- Platelets (Tr): $30 \times 10^9/L$
- Blast cells: 80%

The patient was hospitalized and diagnosed with T-ALL.
Flow Cytometry Findings:

- SSC/CD45 analysis revealed 90% blast cells in the CD45 low region.
- Blast cells expressed T-lymphoid markers (CD2+, CD3+, CD5+, CD7+, CD38+).
- Based on clinical and laboratory findings, the case was classified as T-ALL.

Genetic Testing (FISH Panel):

- No abnormalities detected in: cMYC, P16, E2A, TEL/AML1, MLL, BCR/ABL, IGH, P53, CRLF2, MYB, TLX3, TCRB, TLX1, TCRAD analyses.

Between November 7, 2024, and December 13, 2024, the patient underwent two cycles of Hyper-CVAD chemotherapy. By December 10, 2024, the patient achieved clinical and hematological remission with only 4% blast cells remaining in the bone marrow. A multidisciplinary consultation was held, and the treatment protocol was modified. The patient will continue therapy under the ALL IC BFM 2024 protocol with Minimal Residual Disease (MRD) monitoring. Before HSCT, the patient had mild hepatosplenomegaly (liver: 1.5 −2.5 cm, spleen: 2−2.5 cm enlargement). After transplantation, these organs gradually normalized. However, with the transformation to ALL, both organs enlarged again (up to 3.5 cm). **Conclusion:** Genetic mutations likely play a significant role in this patient's family:

- The father has Hodgkin lymphoma.
- Two brothers died due to beta thalassemia.
- The patient carries a homozygous beta thalassemia mutation.
- The T-ALL developed four years post-HSCT from a seemingly healthy sibling donor, indicating potential familial genetic mutations.

The possibility of the donor sibling developing a lymphoproliferative disorder in the future should be considered as a potential scenario.

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PP 30_Case report

INVESTIGATION OF THE RELATIONSHIP BETWEEN COMPASSION AND BURNOUT AMONG HEMATOLOGIST AND ONCOLOGIST

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Objective: Burnout disproportionately affects hematologists and oncologists due to high-stress clinical environments, long working hours, and emotional demands of caring for critically ill patients. While compassion is integral to patient care, the relationship between compassion and burnout has not yet been sufficiently explored. This study investigates the relationship between compassion and burnout in hematologists and oncologists, contextualizing findings within using multivariate linear regression and Pearson's correlation analyses. **Methodology:** A cross-sectional survey of 161 hematologists and oncologists was conducted using validated instruments: the Maslach Burnout Inventory (MBI) to assess burnout (burnout, depersonalization, personal achievement) and the Compassion Scale to measure compassion subdomains (kindness, indifference, common humanity, mindfulness, separation, disengagement). Participants were stratified by practice setting (academic vs. community), gender, and clinical focus. **Results:** While the scores from the Burnout subscale and Depersonalization did not statistically predict the scores of the Compassion Scale ($p > 0.05$) the scores from the Personal Achievement statistically predicted the scores of the Compassion Scale ($\beta = -0.352$; $p < 0.05$). Pearson's correlation analysis revealed statistically significant relationships between the Burnout scores, and Kindness, Common Humanity, Mindfulness, and Disengagement of the Compassion Scale ($p < 0.05$) but not with the Indifference or Separation ($p > 0.05$). A statistically significant relationships was only found between the Depersonalization scores and the Indifference ($p < 0.05$) but not the other components of the Compassion Scale ($p > 0.05$). While strong and positive correlations were found between the Personal Achievement scores and the Kindness and Common Humanity of the Compassion Scale, no significant relationships were observed with Disengagement, Mindfulness, Indifference, or Separation ($p > 0.05$). **Conclusion:** The compassion was not completely corelated with Burnout, but some subscales of Burnout were corelated with some subscales of the Compassion such as personal achievement increases, the levels of kindness, common humanity, and mindfulness also increases. Individuals with higher burnout levels exhibit increased indifference and as indifference increases, the relationship with kindness alsso strengthens.

Keywords: Burnout, Compassion, Hematology, Oncology.

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PP 31_Case report

A RARE CASE OF DIFFUSE LARGE B-CELL LYMPHOMA PRESENTING WITH CHRONIC GASTROINTESTINAL SYMPTOMS: A DIAGNOSTIC CHALLENGE

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Diffuse Large B-Cell Lymphoma (DLBCL) is the most common aggressive non-Hodgkin lymphoma, but primary Gastrointestinal (GI) involvement remains relatively rare. Diagnosing GI

lymphoma is challenging due to its nonspecific symptoms, such as chronic abdominal pain, weight loss, and anemia, which can mimic benign gastrointestinal disorders. This case highlights a patient with persistent GI symptoms who was ultimately diagnosed with DLBCL, underscoring the importance of considering lymphoma in cases of unexplained GI complaints and treatment-resistant anemia. A 45-year-old female presented with eight months of persistent epigastric pain, bloating, and indigestion. Despite undergoing multiple endoscopic and colonoscopic evaluations, no active pathology was identified. Due to persistent symptoms and treatment-resistant anemia, a bone marrow biopsy was performed, which was reported as normocellular. Over the next two months, she experienced unintentional weight loss of 25 kg raising suspicion for an underlying malignancy. FDG-PET/CT was performed, revealing diffuse thickening of the bowel wall in the left abdomen and periumbilical region, increased metabolic activity in mesenteric lymph nodes, mild bone marrow uptake, and abnormal activity in the anal canal. Given the concern for a lymphoproliferative disorder, the patient underwent diagnostic laparoscopy followed by excisional mesenteric biopsy, which confirmed Diffuse Large B-Cell Lymphoma (DLBCL) of non-germinal center B-cell phenotype. This case emphasizes the importance of recognizing lymphoma as part of the differential diagnosis in chronic gastrointestinal complaints, particularly when associated with unexplained anemia and significant weight loss despite normal endoscopic findings. It also underscores the critical role of PET/CT in identifying occult lymphoma and the necessity of excisional biopsy for definitive diagnosis in cases where conventional diagnostic methods fail to reveal a cause. Early recognition and diagnosis of GI-DLBCL are crucial for timely treatment and improved patient outcomes.

Keywords: Anemia, Diffuse Large B-Cell Lymphoma, Gastrointestinal Lymphoma, PET-CT, Weight Loss.

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PP 32_Case report

ACUTE MYELOID LEUKEMIA PRESENTING AS ISOLATED MYELOID SARCOMA: A CASE REPORT

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Myeloid Sarcoma (MS), also known as granulocytic sarcoma or chloroma, is a rare extramedullary tumor consisting of immature myeloid cells. It can occur as an isolated entity, concurrently with Acute Myeloid Leukemia (AML), or as a relapse manifestation. In cases where myeloid sarcoma presents without prior hematologic malignancy and with normal peripheral blood counts, diagnosis can be significantly delayed, leading to disease progression. Recognizing MS as a potential early sign of AML is crucial to initiating timely treatment. A 48-year-old female with a history of hypertension and a prior L1 vertebral compression fracture in 2016 presented with new-onset lumbar pain in 2024. Lumbar MRI revealed a paraspinal soft tissue lesion at the T12–L1 level, prompting further investigation. The patient's hematologic parameters were within normal limits, with a white blood cell count of 8290 μL, hemoglobin of 13 g/dL, and platelet count of 400,000 μL. The lesion was surgically excised, and histopathological examination confirmed myeloid sarcoma. Following this diagnosis, hematology consultation was requested, and bone marrow aspiration and biopsy were performed. Although the blast percentage was only 7%–8%, flow cytometry findings were consistent with AML. PET-CT revealed hypermetabolic activity in the paravertebral region with a maximum SUV of 10.94 and abnormal uptake in both humeri and femurs, suggesting possible bone marrow involvement. The patient was diagnosed with AML and started on 7+3 induction chemotherapy with cytarabine and daunorubicin, along with radiotherapy for local disease control. This case highlights the diagnostic challenge of isolated myeloid sarcoma in the absence of peripheral blood abnormalities and emphasizes the importance of early hematologic evaluation. PET-CT played a crucial role in detecting subclinical bone marrow involvement, guiding treatment decisions. Recognizing myeloid sarcoma as a potential precursor to AML is essential for timely diagnosis and intervention, as early systemic chemotherapy can prevent disease progression and improve patient outcomes.

Keywords: 7+3 Chemotherapy, Acute Myeloid Leukemia, Extramedullary Leukemia, Myeloid Sarcoma, Soft Tissue Involvement.

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PP 33_Case report

COLD AGGLUTININ DISEASE IN A PATIENT WITH WALDENSTRÖM'S MACROGLOBULINEMIA: A DIAGNOSTIC AND THERAPEUTIC CHALLENGE

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Introduction: Cold Agglutinin Disease (CAD) is a form of Autoimmune Hemolytic Anemia (AIHA) caused by IgM antibodies binding to erythrocytes at low temperatures, leading to complement-mediated hemolysis. CAD can be primary (idiopathic) or secondary, often associated with lymphoproliferative disorders, infections, or autoimmune diseases. Waldenström's

Macroglobulinemia (WM), a rare B-cell malignancy characterized by IgM overproduction, is an uncommon but important cause of secondary CAD. This case highlights the diagnostic and therapeutic challenges of CAD in a patient with relapsed WM. **Case presentation:** A 66-year-old female was diagnosed with Waldenström's Macroglobulinemia (WM) in 2012 based on a bone marrow biopsy. She initially received R-CHOP chemotherapy, achieving remission in 2015, followed by Autologous Stem Cell Transplantation (ASCT) in October 2015. After relapse in 2016, she was treated with bortezomib-rituximab followed by bortezomib monotherapy between 2016 and 2018. In October 2023, she started ibrutinib therapy for disease control. During routine blood tests in October 2023, hematologic discrepancies were noted: Hemoglobin (Hb): 7 g/L, Hematocrit (Hct): 13%, which corrected to Hb: 10.5 g/L and Hct: 31.2% after warming the sample to 37°C, raising suspicion for Cold Agglutinin Disease (CAD). Direct Coombs test was positive (1/16 IgM titer), confirming the diagnosis. Given the underlying lymphoproliferative disorder, the patient was started on rituximab therapy for CAD management while continuing ibrutinib for WM. **Conclusion:** This case underscores the importance of considering CAD in patients with hematologic malignancies presenting with unexplained anemia and hemoglobin/hematocrit discrepancies. It highlights the necessity of warming blood samples in suspected cases, preventing misinterpretation of CBC results. Additionally, it demonstrates the crucial role of rituximab in managing CAD secondary to WM by targeting IgM-producing B-cells. Early recognition and treatment of secondary CAD in lymphoproliferative disorders can prevent complications and improve patient outcomes.

Keywords: Autoimmune Hemolytic Anemia, Cold Agglutinin Disease, Hematologic Discrepancy, Rituximab, Waldenström's Macroglobulinemia.

https://doi.org/10.1016/j.htct.2025.103911

PP 34_Case report

REVERSAL OF ACCELERATED PHASE CML WITH HIGH BLAST COUNT FOLLOWING 5+2 CHEMOTHERAPY AND DASATINIB: A CASE REPORT

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Introduction: Chronic Myeloid Leukemia (CML) typically progresses through chronic, accelerated, and blast phases, with most patients responding well to Tyrosine Kinase Inhibitors (TKIs) in the chronic phase. However, patients with Accelerated-Phase (AP) CML who develop high blast counts and TKI resistance are often considered at risk for transformation into Blast-Phase (BP) CML or secondary AML, requiring intensive chemotherapy or stem cell transplantation. This case highlights a patient with AP-CML who achieved full hematologic and molecular remission after receiving 5+2 chemotherapy and dasatinib, despite a high blast count and a prolonged TKI-free period before treatment initiation. **Case presentation:** A 44-year-old male was diagnosed with CML (February 2022) and initially treated with imatinib, followed by dasatinib, bosutinib, and nilotinib due to persistent BCR-ABL positivity and extreme thrombocytosis (> 1 million/μL). By October 2024, disease transformation was suspected due to BCR-ABL levels rising to 85% and bone marrow biopsy showing 17% blasts. Notably, the patient had discontinued dasatinib at least three months before hospitalization, further contributing to disease progression. Given the high blast count and persistent thrombocytosis, 5+2 induction chemotherapy (cytarabine + idarubicin) was administered, followed by a reassessment bone marrow biopsy in December 2024, which was inconclusive. Post-chemotherapy, the patient refused further AML-directed treatment and instead resumed dasatinib therapy. Over the following six months, the patient's hematologic parameters normalized, and repeat bone marrow biopsy confirmed complete remission, demonstrating a remarkable reversal from the accelerated phase. **Conclusion:** This case illustrates the potential for AP-CML with a high blast count to revert to the chronic phase following 5+2 chemotherapy and re-initiation of TKI therapy. It also underscores the risks associated with TKI discontinuation in advanced CML and suggests that targeted therapy with TKIs can remain effective even after transient chemotherapy-induced cytoreduction. This highlights the importance of individualized treatment approaches in advanced CML and the potential for avoiding AML-directed therapies in select cases.

Keywords: 5+2 Chemotherapy, Accelerated Phase, Chronic Myeloid Leukemia, Disease Reversion, Tyrosine Kinase Inhibitor.

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PP 35_Case report

THERAPEUTIC APHERESIS FOR EPIDERMOLYSIS BULLOSA AND SECONDARY THROMBOCYTOSIS IN NORWEGIAN SCABIES: A CASE REPORT

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Introduction: Secondary thrombocytosis is a well-recognized response to chronic inflammation, infections, and systemic disorders, but its association with dermatologic diseases such as Norwegian scabies and epidermolysis bullosa is rare. In severe cases of epidermolysis bullosa, therapeutic apheresis may be used as part of supportive care. This case highlights a young patient with extreme thrombocytosis managed with myelosuppressive therapy and therapeutic apheresis for

epidermolysis bullosa. **Case presentation:** A 20-year-old female with Norwegian scabies and epidermolysis bullosa was admitted due to fatigue and worsening skin lesions. Laboratory findings included severe thrombocytosis (PLT: 947,000 μL), microcytic anemia (Hb: 8.3 g/dL, MCV: 69.6 fL), elevated inflammatory markers (CRP: 118 mg/L, sedimentation rate: 63 mm/h), and positive direct Coombs test. Imaging revealed multiple mildly enlarged lymph nodes (axillary, inguinal, iliac) and hepatosplenomegaly, but bone marrow biopsy showed normocellular marrow with increased megakaryocytes. Molecular testing for JAK2, CALR, MPL, and BCR-ABL mutations was negative, ruling out Essential Thrombocythemia (ET) and Chronic Myeloid Leukemia (CML). Since the patient's thrombocytosis was determined to be secondary to chronic inflammation, she was treated with Hydroxyurea (Hydrea) 2×500 mg/day and aspirin, leading to a gradual decrease in platelet counts, confirming a reactive process rather than a primary hematologic disorder. Concurrent corticosteroid therapy for epidermolysis bullosa resulted in significant improvement in dermatologic symptoms and inflammatory markers. Given the severity of epidermolysis bullosa, therapeutic apheresis was performed as part of supportive treatment, contributing to clinical stabilization and symptom relief. **Conclusion:** This case underscores the importance of differentiating secondary thrombocytosis from primary myeloproliferative disorders and highlights therapeutic apheresis as a supportive intervention in severe epidermolysis bullosa. It emphasizes the role of multidisciplinary management, where targeting the underlying dermatologic inflammation can help control hematologic abnormalities. In complex inflammatory disorders, therapeutic apheresis may serve as an adjunct therapy, improving patient outcomes.

Keywords: Chronic Inflammation, Epidermolysis Bullosa, Norwegian Scabies, Secondary Thrombocytosis, Therapeutic Apheresis.

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PP 36_Case report

TRANSFORMATION OF FOLLICULAR LYMPHOMA INTO DIFFUSE LARGE B-CELL LYMPHOMA AFTER A DECADE OF REMISSION: A CASE REPORT

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Introduction: Follicular Lymphoma (FL) is the second most common subtype of Non-Hodgkin Lymphoma (NHL) and is generally indolent. However, a significant proportion of patients experience histologic transformation to Diffuse Large B-Cell Lymphoma (DLBCL), which leads to a more aggressive clinical course and worsened prognosis. Transformation typically occurs within the first few years of diagnosis, but this case presents a rare instance of transformation after a decade of complete remission, emphasizing the importance of long-term monitoring. **Case presentation:** A 78-year-old male was diagnosed with FL in 2014 following excisional biopsy of a left supraclavicular lymph node. The patient underwent six cycles of R-CHOP chemotherapy, achieving complete remission and remained asymptomatic for 10-years. In 2024, he presented with a rapidly enlarging anterior chest wall mass. A contrast-enhanced CT scan revealed a 46×76 cm pleural-based tumor invading the sternum and pectoral muscle. A tru-cut biopsy confirmed Diffuse Large B-Cell Lymphoma (DLBCL) with CD20 positivity. Notably, there were no systemic B symptoms (fever, weight loss, night sweats), but the rapid extranodal tumor growth raised suspicion for transformation. Given the patient's age and disease aggressiveness, rituximab plus ibrutinib therapy was initiated instead of intensive chemotherapy. The patient's response is being closely monitored. **Conclusion:** This case underscores the importance of long-term surveillance in FL patients, as transformation to DLBCL can occur even after a decade of remission. The presence of a rapidly growing, painless mass should raise suspicion for transformation, particularly in the absence of B symptoms. Extranodal involvement is a critical prognostic factor and often necessitates targeted therapeutic approaches. The use of rituximab and ibrutinib in this elderly patient represents a modern, less intensive treatment option for transformed FL, reflecting evolving lymphoma management strategies.

Keywords: Diffuse Large B-Cell Lymphoma, Follicular Lymphoma, Ibrutinib, Lymphoma Transformation, Rituximab.

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