HEMATOLOGY, TRANSFUSION AND CELL THERAPY

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# Adult Hematology Abstract Categories

## Acute Leukemias

OP 01

### TREATMENT OUTCOMES AND FACTORS AFFECTING SURVIVAL IN PEDIATRIC ACUTE MYELOID LEUKEMIA

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**Objective:** This study aims to analyze the clinical and genetic characteristics of pediatric AML patients, evaluate treatment responses and survival under AML-BFM 2004 and 2012 protocols, identify factors affecting survival, and compare findings with international data to provide context for results. **Methodology:** In this study, 49 pediatric patients under 18 years of age diagnosed with AML at a tertiary university hospital in Turkey between January 2010 and December 2023 were retrospectively reviewed. Demographic data, clinical findings at initial diagnosis, use of leukapheresis, administration of cytoreductive therapy prior to induction, induction response, relapse status, outcomes of stem cell transplantation, and current status (alive/deceased) of these patients were evaluated. Age at diagnosis was stratified into three groups: <2 years, 2–13 years, and ≥14 years. Hemoglobin level (g/dL), leukocyte count (x$10^9$/L), platelet count (x$10^9$/L), and blast percentages in bone marrow aspirate and peripheral smear (%) at diagnosis were recorded. Leukocyte count was categorized as $<50 \times 10^9$/L or $\geq 50 \times 10^9$/L.Patients were treated according to the AML-Berlin–Frankfurt–Munster 2004 and AML-BFM 2012 protocols. In the AML-BFM 2004 protocol, patients are stratified into standard-risk (SR) and high-risk (HR) groups based on their treatment response after induction and genetic features at the time of initial diagnosis. The AML-BFM 2012 protocol also stratifies risk as SR, intermediate-risk (IR), and HR. In addition, patients were compared in two groups: AML M3 (acute promyelocytic leukemia) and non-AML M3 (AML M1, M2, M4-7, biphenotypic, undifferentiated type).The AML-BFM 2004 protocol was used between 2010 and 2015, and the AML-BFM 2012 protocol was used between 2016 and 2023. Treatment efficacy was assessed at the morphological level using bone marrow aspiration at the end of chemotherapy blocks. Complete remission was defined as normocellular marrow with ≤5% blasts, peripheral neutrophil count $\geq 1 \times 10^9$/L, platelet count $\geq 80 \times 10^9$/L, absence of extramedullary disease, and no blasts in the central nervous system. **Statistical Analysis:** Data were expressed as mean ± SD or median (IQR) based on normality. Intergroup comparisons were performed using Chi-square, Fisher's exact, and t-tests. Non-normally distributed data were analyzed using the Mann–Whitney U test. Survival rates were calculated using the Kaplan–Meier method. Receiver operating characteristic (ROC) curve analysis evaluated prognostic prediction performance. Statistical analyses were conducted using IBM SPSS Statistics Data Editor. A p-value <0.05 was considered statistically significant. **Results:** The median age was 12 years, with the most frequent age group being 2–13 years. Twenty-five patients (51%) were female. The most frequent morphological subtype was AML M3 in 16 cases (32.7%). Risk stratification classified 28 patients (57.2%) as SR, 6 (12.2%) as IR, and 15 (30.6%) as HR. The most frequent genetic mutation observed was t(15;17) in 16 patients (32.6%), followed by t(8;21) in 9 patients (18.3%). Seventeen patients (34.7%) were treated under the AML-BFM 2004 protocol, and 32 under the AML-BFM 2012 protocol. Leukapheresis was performed in 8 (16.3%), with all leukapheresis patients achieving a response. Complete remission (bone marrow blasts <5%) after induction was achieved in 40 patients (81.6%). Six patients underwent bone marrow transplantation (BMT), of whom 3 (50%) died due to post-transplant relapse. Thirteen patients (26.5%) experienced relapse: One in the AML M3 group and 12 (24.5%) in the non-AML M3 group. Twelve relapsed patients (92.3%) died. Among BMT recipients, one patient underwent transplantation for HR disease without prior relapse; however, later died due to post-transplant relapse. Overall, 19 patients (38.8%) died. Survival rates were significantly lower in patients with leukocyte counts $\geq 50 \times 10^9$/L (p=0.002). ROC curve analysis revealed an area under the curve (AUC) of 0.744 for leukocyte count ($p < 0.005$), with a cut-off value $>42{,}850 \times 10^9$ /L. Lower hemoglobin levels at diagnosis were associated with reduced survival (p=0.030). The mean overall survival (OS) for AML-M3 patients was 113 months ±%6.8 months (95% CI: 99.3-126.3), whereas the

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median OS for non-AML M3 patients was 28±%17.2 months (95% CI: 0.00-61.8) (p=0.002). Survival duration was shorter in IR and HR groups than the SR group.Cumulative survival rates at 1 and 5 years were significantly longer in AML-M3 patients than non-AML M3 patients. For AML-M3, cumulative survival was 94%±%6 at both time points. In non-AML M3 patients, 1-year and 5-year cumulative survival rates were 73% and 43%, respectively (p = 0.002). In relapsed patients, median OS after relapse was 3±0.8 months (95% CI:1.23-4.76) (p=0.000). No significant difference in survival rates was observed between the AML-BFM 2004 and AML-BFM 2012 protocols. **Conclusion:** In the present study, key factors influencing survival in pediatric AML included risk group, age at diagnosis, induction response at diagnosis, and time-to-relapse. Among relapsed patients, the initial risk group also affected survival. Leukapheresis had no impact on survival. Mortality remains high in non-AML M3 cases. Further research is required to develop genetically defined treatment subgroups in pediatric AML. We recommend more stringent risk stratification for IR patients under the AML-BFM 2012 protocol, and advocate for larger studies aimed at creating standardized, personalized treatment protocols for all patients.

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OP 02

## TP53-Deleted Mixed Phenotype Acute Leukemia with Widespread Nodal Disease: Complete Remission after HyperCVAD plus Azacitidine

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**Introduction:** Mixed phenotype acute leukemia (MPAL) is rare and clinically aggressive, particularly when accompanied by TP53 deletion and complex karyotype. Nodal presentations can mimic lymphoma, delaying definitive therapy. We report a young woman with MPAL (B/Myeloid) and extensive nodal involvement who achieved complete remission (CR) with HyperCVAD plus azacitidine. **Methods:** Single-patient case review of prospectively collected data. Diagnostic work-up included complete blood counts, bone marrow (BM) aspirate/biopsy with immunohistochemistry (IHC), multiparameter flow cytometry, cytogenetics/FISH, PCR panel for recurrent fusions, and FDG PET-CT. Treatment consisted of HyperCVAD combined with azacitidine. Response was assessed morphologically, by PET-CT, and by minimal residual disease (MRD) testing. **Results:** A 37-year-old woman presented with fatigue, bilateral cervical and axillary lymphadenopathy, and pancytopenia. BM was normo−to-hypersellular (cellularity ∼50 −65%) with blast proliferation; reticulin 0−1/4. IHC showed CD34+, CD117+, CD33+, heterogeneous CD3 and rare TdT; PAX5 was positive in marrow sections, while CD20, MPO, and CD13 were negative. Excisional axillary-node pathology revealed blast infiltration (CD34+, CD117+, CD33+, CD3+, CD5+, CD10+, BCL2+, Ki-67 ∼30%; PAX5 and MPO negative), supporting leukemic involvement. Flow cytometry identified a 53% blast population expressing CD33, HLA-DR, and aberrant CD7, negative for CD19, CD10, surface CD3, and MPO—consistent with **MPAL (B/Myeloid)** in the aggregate clinicopathologic context.Cytogenetics demonstrated **complex hyperdiploidy (85−92 chromosomes)** with **trisomy 8** and **tetrasomy 10**; FISH detected **TP53 (17p) deletion**. TEL/AML1, PML/RARA, BCR/ABL, AML/ETO were negative by FISH; PCR for BCR-ABL, PML-RARA, and FLT3 was negative. Baseline PET-CT showed **widespread FDG-avid nodal disease** (cervical, axillary, mediastinal, abdominal, retroperitoneal; SUVmax ∼4 −10) without visceral uptake. First-line **HyperCVAD plus azacitidine** was administered with standard supportive care. End-of-treatment evaluation demonstrated **morphologic CR**, **MRD negativity**, and **metabolic complete response** by PET-CT. The patient remained in remission on early surveillance. **Discussion:** This case highlights three practice points. (1) **Nodal MPAL can masquerade as lymphoma**; integrated BM, node histology, flow, and molecular profiling are essential to prevent misclassification and treatment delay. (2) **TP53 deletion with complex karyotype** portends high risk; nonetheless, **HyperCVAD plus azacitidine** achieved deep response, suggesting potential synergy of epigenetic priming with intensive chemotherapy in adverse-genetic MPAL. (3) Discordant lineage signals (e.g., PAX5 IHC positivity with B-lineage markers absent on flow, and MPO negativity despite myeloid antigen expression) illustrate real-world diagnostic ambiguity in MPAL and the need to rely on the totality of evidence rather than any single assay. **Conclusion:** In TP53-deleted, complex-karyotype **MPAL with extensive nodal disease**, **HyperCVAD plus azacitidine** induced **MRD-negative CR** with metabolic clearance. This experience supports considering epigenetic-augmented intensive regimens in high-risk MPAL and underscores the diagnostic value of coordinated marrow−node evaluation.

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OP 03

## Dasatinib-Induced Progressive Enterocolitis Mimicking Inflammatory Bowel Disease in a Patient with Chronic Myeloid Leukemia: A Case Report

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**Introduction:** Dasatinib is a potent second-generation tyrosine kinase inhibitor widely used in chronic myeloid leukemia (CML) treatment, particularly in patients intolerant to imatinib. While generally well-tolerated, dasatinib can cause various adverse effects including pleural effusions, cytopenias, and gastrointestinal symptoms. However, progressive enterocolitis resembling inflammatory bowel disease (IBD) is rarely reported and poses diagnostic challenges due to clinical and endoscopic similarities to IBD. **Case Report:** A 71-year-old female with a 20-year history of achalasia was diagnosed with chronic myeloid leukemia in 2021 following evaluation

for leukocytosis and typical hematological findings. Initial treatment with imatinib 400 mg daily was discontinued due to severe facial edema. Subsequently, dasatinib 100 mg daily was initiated as second-line therapy. Concurrent with dasatinib initiation, the patient developed new gastrointestinal symptoms previously absent in her medical history, including abdominal pain, intermittent diarrhea, altered bowel habits, and occasional hematochezia. These symptoms progressively worsened over subsequent years despite achieving hematological remission. Physical examination in 2021 revealed stable vital signs with mild diffuse abdominal tenderness without hepatosplenomegaly. Laboratory investigations confirmed BCR-ABL positivity establishing CML diagnosis, with leukocytosis (WBC >50,000/$\mu$L) and normal renal and hepatic function. Hematological remission was maintained throughout 2022-2025 follow-up period. Colonoscopy performed in February 2022 revealed minimal terminal ileal hyperemia with edematous and granular colonic mucosa, raising suspicion for ulcerative colitis or Crohn's disease. Histopathological examination of biopsies showed chronic active colitis with cryptitis, terminal ileitis, and eosinophilic infiltration, but lacked granulomas or specific features diagnostic of IBD. Previous biopsies from November 2021 demonstrated similar chronic active colitis and cryptitis without diagnostic specificity. Despite endoscopic findings suggestive of IBD, the absence of characteristic histopathological features and progressive symptom worsening during dasatinib therapy raised suspicion for drug-induced enterocolitis. In 2025, when gastrointestinal symptoms significantly intensified, dasatinib was discontinued. Remarkably, within approximately two months of dasatinib discontinuation, all gastrointestinal symptoms completely resolved, providing strong evidence for drug-induced etiology rather than IBD. **Discussion:** This case demonstrates a rare but clinically significant adverse effect of dasatinib therapy. While gastrointestinal symptoms are recognized side effects of tyrosine kinase inhibitors, progressive enterocolitis mimicking IBD is uncommon and poses diagnostic challenges. The temporal relationship between dasatinib initiation and symptom onset, progressive worsening during treatment, and complete resolution following discontinuation strongly supports drug-induced etiology. The endoscopic findings, while concerning for IBD, lacked supporting histopathological evidence, which is crucial for IBD diagnosis. The mechanism underlying dasatinib-induced enterocolitis remains unclear but may involve disruption of intestinal epithelial barrier function or immune-mediated inflammatory responses. The eosinophilic infiltration observed in biopsies suggests possible allergic or hypersensitivity reaction. Clinicians should maintain high suspicion for drug-induced enterocolitis in CML patients receiving dasatinib who develop new gastrointestinal symptoms, particularly when symptoms are progressive. Careful correlation between clinical presentation, endoscopic findings, and histopathological examination is essential to avoid misdiagnosis and inappropriate immunosuppressive therapy. **Conclusion:** Dasatinib can cause progressive enterocolitis mimicking IBD in CML patients. Complete symptom resolution following drug discontinuation confirms the diagnosis and highlights the importance of considering drug-induced etiology before initiating immunosuppressive therapy for presumed IBD in patients receiving tyrosine kinase inhibitors.

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## OP 4

## CASE REPORT: A RARE TRIPLE MALIGNANCY – JAK2-POSITIVE POLYCYTHEMIA VERA, CHRONIC LYMPHOCYTIC LEUKEMIA AND EGFR-MUTANT STAGE IIIB NON–SMALL CELL LUNG ADENOCARCINOMA WITH UNUSUAL CLINICAL COURSE

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**Case Description:** A 73-year-old male was first diagnosed with PV (hemoglobin >18 g/dL, hematocrit >55%, JAK2 V617F positive) in 2016. He was managed with low-dose aspirin and phlebotomy; hydroxyurea was added later. In 2019, routine CBC showed persistent lymphocytosis (lymphocytes ~12 × 10^9/L). Flow cytometry demonstrated CD5+, CD19+, CD23+, FMC7− B-cells comprising 68% of lymphocytes, confirming Rai stage I CLL. No active treatment was initiated. In 2020, during evaluation for COVID-like respiratory symptoms, thoracic CT revealed a during evaluation for a COVID-19-suspected cough and dyspnea, thoracic CT revealed a 20 × 14 mm left upper lobe mass with mediastinal lymphadenopathy with mediastinal lymphadenopathy. Bronchoscopic biopsy confirmed adenocarcinoma. EGFR exon 21 L858R mutation was present; ALK and ROS1 were negative. PET–CT staged disease at IIIB. Standard chemoradiotherapy was declined by the patient. Erlotinib treatment was initiated in March 2020. Concurrent progression of CLL with B symptoms prompted introduction of chlorambucil 10 mg daily for 7 days in a 28-day cycle. At 3-month follow-up, CT scan showed near-complete regression of primary lung lesion and mediastinal nodes. CBC normalized. JAK2 V617F mutation, positive in 2016, was undetectable via allele-specific PCR (<1% allele burden). The patient exhibited ECOG 1 and continued erlotinib and chlorambucil with no grade ≥2 toxicity. **Timeline:** • 2016: PV diagnosis (JAK2 V617F+) → aspirin/phlebotomy • 2019: Rai stage IV CLL diagnosis+ chlorambucil • 2020: NSCLC diagnosis (EGFR L858R+), start erlotinib • 2021: Near-complete response, hematologic normalization, JAK2 negativity **Diagnostic Assessment:** Routine labs and molecular assays performed at a reference laboratory confirmed JAK2 mutation status. Flow cytometry was consistent with CLL immunophenotype. NSCLC diagnosis followed standard bronchoscopic sampling; molecular analysis used validated PCR panels and sequencing. **Therapeutic Intervention:** • **Erlotinib**: 150 mg PO daily as standard first-line for EGFR-mutant NSCLC[^3]. • **Chlorambucil**: 10 mg PO daily for 7/28 cycle for symptomatic Rai stage IV CLL, selected for low toxicity in elderly[^4]. **Follow-Up and Outcomes:** • **At 3 Months:** Dramatic radiologic regression; normalization of hematologic parameters; JAK2 mutation undetectable. • Continued stable on erlotinib + chlorambucil with no significant toxicity; quality of life

maintained. **Discussion:** This case is unique in that: • **Sequential triple malignancy**: PV, CLL, and EGFR-mutant NSCLC rarely occur together. • **Therapeutic synergy**: Dual-targeted therapy produced durable responses in both solid and hematological malignancies. • **JAK2 loss**: Post-treatment JAK2 negativity suggests clonal competition or epigenetic remission; parallels have been observed with interferon-alpha in MPN[5]. • **Clinical implications**: Supports feasibility of combinatorial targeted therapy in elderly with multiple malignancies. Clonal hematopoiesis of indeterminate potential (CHIP) and aging likely predisposed this patient to multiple neoplasms [^6]. The "clonal competition hypothesis" posits that dominant clones (e.g., NSCLC with EGFR mutation) may suppress other clones (JAK2+) via shared niche or resource limitation. Limitations include single-patient observation; further genomic investigation (e.g., NGS) could clarify clonal evolution mechanisms. We recommend longitudinal monitoring of allele burden and expanded studies on multi-targeted therapy interactions. **Conclusion:** Conclusion Elderly patients with multiple sequential malignancies can benefit from tailored, low-toxicity targeted therapies. The unexpected disappearance of JAK2 mutation invites further investigation into clonal dynamics and epigenetic remission phenomena. This case enriches our understanding of cancer ecology in aging patients.

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## OP 5

### Autoimmune Hemolytic Anemia as the Presenting Feature of Chronic Lymphocytic Leukemia: Two Contrasting Cases Across Different Age Groups

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**Introduction:** Chronic lymphocytic leukemia represents the most common adult leukemia in Western countries, with autoimmune hemolytic anemia occurring as a complication in 5-10% of cases. AIHA as the presenting feature of CLL is uncommon, particularly in young adults where CLL incidence is extremely rare. The immunophenotypic heterogeneity of CLL, including atypical variants, may influence both clinical presentation and treatment response. **Case Reports:** Case 1: An 84-year-old female presented with progressive fatigue, weakness, and dyspnea. Laboratory evaluation revealed severe anemia (Hb: 9.3 g/dL), marked leukocytosis ($42.36 \times 10^3/\mu$L), and thrombocytopenia. Direct antiglobulin test was strongly positive (3+), confirming warm-type AIHA. Flow cytometry demonstrated classic CLL immunophenotype: CD19+ (93%), CD5+ (95%), CD23+ (84%), CD20+ (52%), with absent CD38 expression suggesting favorable-risk disease. Bone marrow biopsy confirmed CLL/SLL with 50% infiltration. Treatment with prednisolone rapidly resolved hemolysis, followed by ibrutinib therapy for CLL. The patient achieved sustained remission over 12 months with corticosteroid discontinuation after 3 months. Case 2: A 25-year-old male presented with dyspnea, palpitations, and fatigue. Initial workup revealed severe anemia (Hb: 7.8 g/dL), reticulocytosis (6.8%), and elevated LDH with spherocytes on peripheral smear. Direct antiglobulin test was strongly positive (4+). Investigation revealed lymphocytosis (14,200/mm$^3$, 68% lymphocytes) with atypical CLL immunophenotype: CD5+/CD19+/FMC7+/CD23-, distinguishing it from typical CLL while excluding mantle cell lymphoma through negative cyclin D1. TP53 abnormalities were absent. Initial prednisolone therapy provided insufficient response, prompting rituximab monotherapy (375 mg/m$^2 \times 4$ cycles). The patient achieved complete hematologic response with hemoglobin normalization (11.6 g/dL), reticulocyte count resolution, and lymphocytosis improvement. **Discussion:** These cases illustrate important clinical principles in CLL-associated AIHA management. The elderly patient presented with classic CLL immunophenotype and favorable prognostic markers (CD38-negative), supporting the choice of BTK inhibitor therapy appropriate for her age and comorbidities. The young adult case demonstrated atypical CLL immunophenotype (FMC7+/CD23-), representing a variant phenotype that required careful differentiation from mantle cell lymphoma. The treatment approaches differed significantly based on age and disease characteristics. The elderly patient benefited from targeted therapy (ibrutinib) combined with corticosteroids, while the young patient achieved excellent response with rituximab monotherapy after steroid failure. This highlights the importance of individualized treatment selection based on patient factors and disease biology. Both cases emphasize the critical role of comprehensive flow cytometric analysis in patients presenting with unexplained AIHA, regardless of age. Early recognition of underlying CLL enables appropriate targeted therapy and optimal outcomes. The contrasting immunophenotypes demonstrate the heterogeneity of CLL, with both classic (CD5+/CD23+) and atypical (CD5+/CD23-/FMC7+) variants capable of presenting with AIHA as the initial manifestation. **Conclusion:** AIHA may serve as the presenting feature of CLL across diverse age groups with varying immunophenotypic profiles. These cases underscore the importance of systematic flow cytometric evaluation in all AIHA patients and demonstrate that age-appropriate targeted therapies can achieve excellent clinical outcomes in both classic and atypical CLL variants.

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## OP 6

### HHV-8 Positive Kaposi Sarcoma in a Myelofibrosis Patient Treated with Ruxolitinib: A Rare but Clinically Relevant Association

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**Introduction:** Kaposi sarcoma (KS) is a rare vascular tumor strongly associated with human herpesvirus 8 (HHV-8) and typically seen in immunocompromised states such as HIV/AIDS or post-transplant settings. However, with the increasing use of immunomodulatory therapies in hematologic

malignancies, KS has also been reported in patients receiving Janus kinase (JAK) inhibitors. We present a case of HHV-8-positive cutaneous Kaposi sarcoma developing in a patient with primary myelofibrosis under ruxolitinib treatment. **Methods:** A 72-year-old female with a 2-year history of intermediate-2 risk primary myelofibrosis, positive for the JAK2 V617F mutation, was being followed in our hematology department. She had been on ruxolitinib ($2 \times 10$ mg/day) for symptom control, which provided initial improvement in systemic complaints and splenomegaly. However, after 14 months of treatment, she developed painless violaceous plaques and nodules on her lower extremities, raising suspicion for Kaposi sarcoma. Dermatologic examination confirmed the presence of multiple dark purple nodules predominantly on the left lower leg. A punch biopsy was performed, and histopathological examination revealed spindle-cell proliferation consistent with Kaposi sarcoma. Immunohistochemical staining was strongly positive for HHV-8. **Results:** Laboratory evaluation revealed hemoglobin of 9.2 g/dL, white blood cell count of 13,000/$mm^3$, and platelet count of 120,000/$mm^3$. Peripheral smear showed typical findings of myelofibrosis, including teardrop-shaped erythrocytes. HIV, HBV, and HCV tests were all negative. Abdominal ultrasonography confirmed stable splenomegaly (19 cm). The ruxolitinib treatment was discontinued, and hydroxyurea was initiated as an alternative. Given that the Kaposi lesions were localized and the patient remained asymptomatic, systemic chemotherapy was not started. The patient is being followed with close dermatological and hematological monitoring. **Discussion:** This case highlights a rare but clinically significant complication of ruxolitinib therapy in a patient with primary myelofibrosis. JAK inhibition may lead to immune dysregulation, impaired antiviral T-cell responses, and viral reactivation—particularly HHV-8 in susceptible individuals. Although KS is commonly associated with HIV, this patient had no underlying immunodeficiency other than the JAK inhibitor–mediated suppression. The temporal relationship between ruxolitinib exposure and KS onset, combined with HHV-8 positivity and regression of symptoms after discontinuation of the drug, supports a probable causal association. Clinicians should remain vigilant for unusual infections or neoplasms in patients undergoing JAK inhibitor therapy.

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OP 7

## Sequential Autoimmune Hematological Manifestations: From Isolated Lupus Anticoagulant to Post-COVID-19 Autoimmune Hemolytic Anemia

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**Introduction:** Autoimmune hematological disorders can present with variable phenotypes over time, suggesting underlying B-cell dysregulation. We report a unique case of sequential, distinct autoimmune manifestations occurring five years apart in the same patient, highlighting the heterogeneous nature of autoimmune hematological conditions and their potential triggers. **Case Presentation:** A middle-aged woman with no history of systemic autoimmune disease presented in 2019 with incidentally discovered coagulopathy. Routine laboratory evaluation revealed an INR >3 without bleeding symptoms. Further workup showed prolonged PT with normal aPTT, normal liver function, and normal levels of factors VIII, IX, and XI. Lupus anticoagulant testing was positive, while anticardiolipin and $\beta$2-glycoprotein I antibodies were negative. The patient did not meet criteria for systemic lupus erythematosus or antiphospholipid syndrome. Without specific treatment, the coagulation abnormalities spontaneously resolved within three months. Five years later, in 2024, the patient developed fatigue, jaundice, and anemia two weeks after COVID-19 infection. Laboratory findings revealed: markedly decreased hemoglobin, elevated LDH, suppressed haptoglobin, and elevated indirect bilirubin. Direct antiglobulin test (DAT) was strongly positive for IgG. Interestingly, lupus anticoagulant and other antiphospholipid antibodies were negative at this presentation. Bone marrow aspiration showed normocellular marrow with erythroid hyperplasia, excluding malignancy or dysplasia. The diagnosis of COVID-19-associated autoimmune hemolytic anemia (AIHA) was established. Treatment with rituximab 375 mg/$m^2$ weekly for four doses was initiated. The patient demonstrated dramatic response within two weeks, with rapid normalization of hemoglobin, LDH, and bilirubin levels. The DAT became negative, and the patient remains in remission on regular follow-up. **Discussion:** This case illustrates the dynamic nature of autoimmune hematological disorders. The initial presentation of isolated lupus anticoagulant positivity with spontaneous resolution, followed years later by post-viral AIHA, suggests an underlying predisposition to B-cell mediated autoimmunity with variable clinical expression. COVID-19 has been increasingly recognized as a trigger for autoimmune phenomena, including AIHA. The temporal relationship between COVID-19 infection and AIHA development in our patient, combined with the excellent response to B-cell depletion therapy, supports this association. The contrasting immunological profiles between episodes—positive lupus anticoagulant initially versus positive DAT with negative antiphospholipid antibodies later—demonstrates that autoimmune manifestations can evolve independently over time. This heterogeneity poses diagnostic and therapeutic challenges but also provides insights into the complexity of autoimmune regulation. **Conclusion:** Sequential development of distinct autoimmune hematological disorders in a single patient underscores the importance of comprehensive evaluation and long-term monitoring. The dramatic response to rituximab in the second episode highlights the central role of B-cell dysregulation in these conditions. This case emphasizes the need for heightened awareness of post-viral autoimmune complications and the potential for evolving autoimmune phenotypes over time.

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## Lymphoma

### OP 8

### VITREORETINAL INVOLVEMENT IN NASAL CAVITY B-CELL LYMPHOMA: A RARE FORM OF RELAPSE

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**INTRODUCTION:** Non-Hodgkin lymphomas are malignant neoplasms of lymphoid tissue, and a subset present with extranodal involvement. The head and neck region represents one of the clinically relevant localizations. Sinonasal B-cell lymphomas are a rare subtype, most often manifesting as diffuse large B-cell lymphoma (DLBCL), and typically show aggressive clinical behavior. Relapses most frequently involve cervical lymph nodes, the orbit, and the central nervous system. Ocular involvement is rare, usually presenting as orbital masses or ocular adnexal lymphoma. Vitreoretinal infiltration is even more unusual and has been described only infrequently. In this case report, we present an elderly male patient with nasal cavity B-cell lymphoma who developed relapse with vitreoretinal involvement, aiming to emphasize the diagnostic and therapeutic aspects of this rare condition. **CASE PRESENTATION:** A 71-year-old male was diagnosed three years earlier with nasal cavity B-cell lymphoma. Bone marrow biopsy at diagnosis showed no systemic involvement. He received four cycles of R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone) and achieved complete remission. Three years later, he presented with decreased vision in the left eye. Orbital MRI showed tortuosity of the optic nerve and slight widening of the perioptic space (Figure 1). Cranial MRI revealed only age-related changes. Cytology and flow cytometry of vitreous fluid demonstrated CD20 and CD79a positivity with high proliferative activity, consistent with B-cell neoplasia. PET-CT revealed limited FDG uptake (SUVmax 5.02) in the anterior aspect of the left orbit (Figure 2), with no additional systemic involvement. Based on his disease history, systemic high-dose methotrexate combined with cytarabine and intrathecal therapy was initiated. Radiotherapy was also considered. He was referred to another specialized center for possible intravitreal chemotherapy. Despite systemic treatment, follow-up revealed that the patient had died. **DISCUSSION AND CONCLUSION:** Sinonasal B-cell lymphomas are uncommon, most often exhibiting DLBCL histology with aggressive clinical features. Relapses most frequently involve cervical nodes, orbital structures, or the central nervous system. Although orbital disease is recognized, vitreoretinal infiltration is exceedingly rare and has been reported in less than 5% of cases in large series. Diagnosis is challenging, as ocular involvement may present with non-specific symptoms such as visual impairment or vitreous opacities, requiring cytology, immunophenotyping, and immunohistochemistry of vitreous samples for confirmation. Therapeutic options include systemic high-dose methotrexate and cytarabine, with intrathecal therapy commonly added for central nervous system prophylaxis. Radiotherapy may contribute to local control in orbital disease. Intravitreal chemotherapy has also been described, most often with methotrexate, and rituximab has been used in selected cases. The prognosis of ocular involvement is poor, with median survival reported between 12 and 36 months and a high risk of central nervous system relapse. This case illustrates that vitreous infiltration may represent a relapse manifestation of sinonasal B-cell lymphoma and highlights the importance of careful evaluation of ocular symptoms in such patients.

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### OP 9

### THERAPEUTIC CHALLENGE IN HISTIOCYTIC SARCOMA: A CASE REPORT OF NIVOLUMAB ADDITION TO THE ICE PROTOCOL

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**Introduction:** Histiocytic sarcoma (HS) is an exceptionally rare and aggressive hematopoietic malignancy, representing less than 1% of hematologic neoplasms [1]. No standardized therapeutic regimen exists; patients are often treated with lymphoma-like regimens such as CHOP or ICE, with limited efficacy and median survival of approximately six months [2,1]. Recent advances in molecular pathology have revealed recurrent BRAF^V600E mutations, ALK rearrangements, and PD-L1 expression, providing new diagnostic and therapeutic implications [3]. Case-based evidence suggests that PD-1 inhibitors may induce durable responses in select patients with PD-L1–positive HS [4,5]. **Case Presentation:** A 28-year-old male presented with abdominal pain and swelling. Imaging demonstrated a large intra-abdominal mass with peritoneal implants. Histopathology confirmed HS, positive for CD45, CD163, and CD14, with a Ki-67 index of 80%. Bone marrow biopsy was normocellular. Molecular analysis excluded BRAF and ALK alterations but demonstrated PD-L1 expression with a tumor proportion score (TPS) of 1–49% and a combined positive score (CPS) of 35%. The patient was started on ICE chemotherapy (ifosfamide, carboplatin, etoposide). Following biomarker analysis, nivolumab was introduced beginning with the second cycle. The treatment was well tolerated, and subsequent PET-CT demonstrated marked metabolic regression with clinical improvement. Follow-up abdominal imaging confirmed complete radiological response, with disappearance of the initially described mesenteric mass. **Conclusion:** Discussion HS poses a therapeutic challenge because of its aggressive course and lack of standardized therapy [2,1]. Conventional chemotherapy regimens have limited durability, and reported responses are often transient. The presence of PD-L1 expression provided a rationale for incorporating a PD-1 inhibitor, even at moderate expression levels, consistent with emerging literature [4]. Previous case reports have demonstrated clinical benefit from

pembrolizumab and nivolumab in PD-L1–positive HS, including durable complete responses [5]. In this patient, radiological assessment corroborated complete remission after combined ICE and nivolumab, supporting the potential role of checkpoint inhibition in improving depth of response. This case represents one of the few documented examples of combining intensive chemotherapy with checkpoint blockade in HS, highlighting the potential synergistic role of immunotherapy.Conclusion This case illustrates the rarity and therapeutic complexity of HS. The addition of nivolumab to ICE chemotherapy, guided by PD-L1 expression, resulted in meaningful clinical response in a young patient with advanced disease. These findings underscore the importance of integrated histopathological and molecular assessment in guiding personalized management for HS.Keywords: Histiocytic sarcoma; Nivolumab; ICE protocol; PD-L1; ImmunotherapyReferences1.Takimoto, T., et al. (2023). Histiocytic sarcoma: A clinicopathologic analysis of 50 cases. American Journal of Surgical Pathology, 47(1), 1–12. 2. Emile, J. F., et al. (2022). Histiocytic and dendritic cell neoplasms: Update of the 2022 WHO classification. Blood, 140(11), 1200–1218. 3. Go, H., et al. (2019). Frequent detection of BRAF V600E mutations in histiocytic and dendritic cell neoplasms. Histopathology, 74(3), 389–400. 4. Bossard, C., et al. (2021). PD-1/PD-L1 blockade in rare hematologic malignancies: Case reports and literature review. Hematological Oncology, 39(3), 327–334. 5.Yoon, D. H., et al. (2022). Efficacy of pembrolizumab in histiocytic sarcoma with high PD-L1 expression: Case report and review. Annals of Hematology, 101(7), 1525–1530.

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OP 10

## Plasma-Cell–Predominant Idiopathic Multicentric Castleman Disease: A Rare Diagnostic and Therapeutic Challenge

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**Introduction:** Castleman disease represents a rare, heterogeneous group of lymphoproliferative disorders, often categorized as unicentric or multicentric, with plasma-cell (PC), hyaline-vascular, or mixed histology. Idiopathic multicentric Castleman disease (iMCD) remains a diagnostic and therapeutic challenge, particularly in patients presenting with systemic inflammation and polyclonal plasmacytosis without overt clonal plasma cell disorder. We present the case of a patient with plasma-cell–predominant iMCD, successfully treated with IL-6 blockade, emphasizing the diagnostic pitfalls and the importance of early therapeutic intervention. **Methods:** A male patient was admitted to the Department of Hematology, Çukurova University, with a 1-year history of progressive fatigue, weight loss, abdominal fullness, and generalized lymphadenopathy. Physical examination revealed widespread lymphadenopathy and splenomegaly. Laboratory tests demonstrated normocytic anemia, elevated CRP and ferritin, mildly increased IgG, and elevated $\beta$2-microglobulin. Excisional lymph node biopsy and splenectomy specimens were evaluated by histopathology and immunohistochemistry. Imaging studies included CT and PET-CT for staging., Türkiye **Results:** Histopathology revealed follicular hyperplasia with regressed germinal centers and interfollicular plasmacytosis. Immunohistochemistry confirmed CD38+ and CD138+ plasma-cell infiltration, HHV-8 negativity, and a nonclonal kappa/lambda pattern. IgG4/IgG ratio was 22%. PET-CT demonstrated widespread FDG-avid lymphadenopathy (SUVmax 4–6) and splenomegaly, without extranodal organ involvement. Bone marrow evaluation was negative for clonal plasma cell infiltration. The case was classified as idiopathic multicentric Castleman disease, plasma-cell variant (iMCD-PC). The patient was initiated on tocilizumab (anti-IL-6R) in combination with corticosteroids. Within 6 weeks, systemic symptoms and inflammatory markers improved significantly, with partial regression of lymphadenopathy on imaging. In the event of refractoriness, lenalidomide or sirolimus were considered as second-line options. Close follow-up with PET-CT and serum paraproteins was arranged to monitor potential clonal evolution into plasma cell neoplasia. **Discussion:** This case illustrates the diagnostic complexity of iMCD-PC, which may mimic lymphoid malignancies and overlap with monoclonal gammopathies. The absence of monoclonality and CRAB criteria excluded multiple myeloma, while systemic inflammatory features and IL-6 axis dysregulation supported iMCD. Tocilizumab provided meaningful clinical and biochemical improvement. The case is valuable as an example of iMCD with strong plasmacytic component, highlighting the necessity of long-term surveillance due to the risk of clonal transformation. **Conclusion:** Plasma-cell–predominant iMCD is a rare and diagnostically challenging entity requiring integration of histopathology, immunohistochemistry, imaging, and laboratory findings. Anti–IL-6–directed therapy represents an effective treatment option, but close monitoring remains mandatory. This case underlines the importance of early recognition and targeted therapy in preventing disease-related morbidity.

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OP 11

## LANGERHANS CELL HISTIOCYTOSIS: SINGLE-CENTER EXPERIENCE

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**Introduction and Objective:** Langerhans cell histiocytosis (LCH) is a rare clonal proliferative disease that can involve one or more organs (1). In adults, multisystem involvement is generally predominant (68.6%), whereas single-system involvement is less common (2). The clinical spectrum is broad, with bone, skin, and lungs being the most frequently affected organs. The treatment approach varies according to the extent of the disease, and the optimal treatment strategy

has not yet been clearly defined(3-6). This study aimed to evaluate the demographic characteristics, sites of involvement, treatments administered, and treatment responses of adult LCH cases diagnosed at our center. **Methods:** Medical records of adult patients diagnosed with LCH at our center between 2002 and 2024 were retrospectively reviewed. Patient age, sex, sites of involvement, treatment regimens, treatment responses, and follow-up durations were recorded. **Results:** A total of 10 patients (9 male, 1 female) were analyzed. The median age was 31.5 years (range: 20–76). The median follow-up duration was 5.8 years (approximately 69 months). Three patients (30%) had multisystem involvement, and seven patients (70%) had single-system involvement. The most common site of involvement was bone (80%), followed by skin (20%) and lymph nodes (10%). Diabetes insipidus was detected in one patient (10%). Treatment approaches were heterogeneous. Five patients received radiotherapy (RT), three patients were treated with a vinblastine and prednisolone combination, one patient with multisystem involvement received cladribine combined with RT, one patient was given prednisolone monotherapy, and one patient was followed without treatment. A response was achieved in all patients after initial treatment. Two patients (20%) experienced relapse, both in those with bone involvement only. The patient treated with cladribine remains in long-term complete remission. No mortality was observed. Feature Value Total number of patients 10 Median age (years) 31.5 (20–76) Median follow-up duration 5.8 years (approximately 69 months) Male/Female 9/1 Multisystem 3 (30%) Single-system 7 (70%) Most common involvement Bone (80%) Relapse 2 (20%) Mortality 0 **Discussion:** In adult Langerhans cell histiocytosis, multisystem involvement is reported as the most common form in the literature; however, in our study, single-system involvement was detected in 70% of patients. This discrepancy may be explained by differences in patient referral patterns to our center, follow-up of pulmonary LCH cases in chest disease clinics, variations in staging due to the retrospective design, and demographic factors.The complete remission rate with vinblastine and prednisolone combination therapy is reported to be approximately 70% in the literature (6). In our series, all three patients treated with this regimen achieved complete remission. Cladribine, a purine analog, is an effective option in refractory or relapsed cases; in the literature, monotherapy with cladribine has been reported to achieve a complete remission rate of approximately 50% and an overall response rate of approximately 90% (5). In our series, the patient treated with cladribine achieved long-term complete remission. The relapse rate in our study was 20%, consistent with the 20–30% range reported by Néel et al. (5). **Conclusion:** Although Langerhans cell histiocytosis is a rare disease, long-term complete remission can be achieved with appropriate treatment. In our study, all patients achieved a response, and the relapse rate was 20%, consistent with the literature. Multisystem involvement is a risk factor for relapse. The patient treated with cladribine achieved long-term complete remission. Larger, multicenter prospective studies are needed to optimize treatment strategies in Langerhans cell histiocytosis.

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**OP 12**

## Primary Colonic Diffuse Large B-Cell Lymphoma with Double-Expressor Phenotype: A Rare Presentation Mimicking Adenocarcinoma

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**Introduction:** Primary gastrointestinal lymphomas account for approximately 1-4% of all gastrointestinal malignancies, with the colon being the least commonly affected site. Diffuse large B-cell lymphoma represents the most frequent histological subtype, but primary colonic involvement remains exceptionally rare. Double-expressor lymphomas, characterized by MYC and BCL2 protein co-expression without underlying genetic translocations, constitute 20-30% of DLBCL cases and are associated with inferior outcomes compared to standard DLBCL. The rarity of primary colonic DLBCL combined with double-expressor phenotype presents unique diagnostic and therapeutic challenges. **Case Report:** A 59-year-old male with no significant medical history presented with a 2-month history of progressive right lower quadrant abdominal pain, anorexia, and 5 kg weight loss. The patient denied fever, night sweats, or B-symptoms. Physical examination revealed mild right lower quadrant tenderness without palpable lymphadenopathy, hepatosplenomegaly, or other abnormalities. Laboratory evaluation demonstrated mild normocytic anemia (hemoglobin 11.2 g/dL) with normal leukocyte and platelet counts. Biochemical studies showed elevated lactate dehydrogenase (560 U/L) with normal renal and hepatic function. Infectious disease screening including HIV, hepatitis B, and hepatitis C serologies were negative. Computed tomography of the abdomen revealed a heterogeneous 6-cm mass involving the ascending colon wall without regional lymphadenopathy or hepatosplenic involvement. Colonoscopy identified an ulcero-vegetative mass in the ascending colon causing luminal narrowing, initially suspected to represent adenocarcinoma. Histopathological examination of colonoscopic biopsies revealed diffuse proliferation of medium-to-large sized atypical lymphoid cells with prominent nuclear atypia and high mitotic activity. Comprehensive immunohistochemical analysis demonstrated strong CD20 positivity with focal CD10 expression and positive MUM1, consistent with germinal center B-cell origin. Critical findings included diffuse BCL2 positivity and MYC expression in 70% of cells, establishing double-expressor status. The proliferation index (Ki-67) was extremely high at approximately 90%. CD3 and CD5 were negative, excluding T-cell lymphoma. Fluorescence in situ hybridization (FISH) analysis for MYC, BCL2, and BCL6 gene translocations was negative, ruling out double-hit lymphoma and confirming the diagnosis as double-expressor DLBCL rather than high-grade B-cell lymphoma with MYC and BCL2 rearrangements. The final diagnosis was primary colonic diffuse large B-cell lymphoma, germinal center subtype, with double-expressor phenotype (MYC+/BCL2+) and extremely high proliferative activity. **Discussion:** This case illustrates several important clinical and pathological considerations.

Primary colonic DLBCL is extraordinarily rare, often mimicking adenocarcinoma both clinically and endoscopically, potentially leading to diagnostic delays or mismanagement. The double-expressor phenotype, present in this case, represents an aggressive biological subset associated with poor prognosis and potential resistance to standard R-CHOP therapy. The absence of genetic translocations distinguished this case from double-hit lymphoma, which would have warranted even more intensive treatment approaches. However, the double-expressor status combined with extremely high Ki-67 suggests consideration of dose-adjusted EPOCH-R or other intensified regimens over standard R-CHOP. The isolated colonic presentation without nodal or bone marrow involvement represents stage I disease, potentially offering better outcomes despite the adverse biological features. **Conclusion:** Primary colonic DLBCL with double-expressor phenotype represents a rare but aggressive entity requiring prompt recognition and specialized treatment. Comprehensive immunohistochemical and molecular evaluation is essential for accurate classification and optimal therapeutic decision-making in this challenging clinical scenario.

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OP 13

## CD20 Antigen Loss in T-cell/Histiocyte-Rich Diffuse Large B-cell Lymphoma Following R-CHOP Therapy: A Case of Immune Escape

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**Introduction:** T-cell/histiocyte-rich diffuse large B-cell lymphoma constitutes approximately 1-3% of all DLBCL cases, characterized by scattered large B-cells within an extensive reactive T-cell infiltrate. This rare variant demonstrates unique biological features including frequent immune evasion mechanisms and resistance to standard immunochemotherapy. CD20 antigen loss following rituximab-containing regimens represents a well-recognized but uncommon immune escape phenomenon, occurring in approximately 10-20% of relapsed/refractory DLBCL cases. **Case Report:** A 64-year-old female presented in late 2024 with abdominal pain, weight loss, and constitutional symptoms. Imaging studies revealed para-aortic lymphadenopathy, and trucut biopsy demonstrated T-cell/histiocyte-rich DLBCL with immunohistochemical profile showing CD20(+), PAX5(+), MUM1(+), CD3 (+) reactive T-cells, and negative CD30. The diagnosis was confirmed by the presence of scattered large B-cells within an extensive CD3+ T-cell background. The patient received in outer clinic standard R-CHOP chemotherapy (rituximab, cyclophosphamide, doxorubicin, vincristine, prednisolone) for 6 cycles at an external center. Post-treatment PET-CT in March 2025 demonstrated complete metabolic response with no residual FDG uptake in previously involved lymph nodes (Deauville score 1-2). Unfortunately, the patient developed early relapse within 3 months, presenting in June 2025 with left cervical lymphadenopathy, constitutional symptoms, and weight loss. Restaging PET-CT revealed extensive disease with left cervical lymph nodes ($22 \times 15$ mm, SUVmax: 7.96), massive para-aortic/iliac mass ($87 \times 42 \times 212$ mm, SUVmax: 7.96), left lung parenchymal involvement, and diffuse bone marrow activity. Bone marrow biopsy performed in July 2025 confirmed lymphomatous infiltration with a striking finding: complete loss of CD20 expression while maintaining PAX5(+) and MUM1(+) positivity, with persistent extensive reactive CD3+ T-cell infiltrate. This represented clear evidence of CD20 antigen loss as an immune escape mechanism following rituximab exposure. Given the patient's cardiac dysfunction precluding anthracycline-containing regimens, early relapse with CD20 negativity, and extensive disease burden and according to Turkish insurance systems low dose pralatrexate planned to targeting the T-cell-rich microenvironment in refractory settings. **Discussion:** This case illustrates several critical aspects of TCRLBCL management. The rapid relapse despite initial complete response highlights the aggressive nature of this DLBCL variant and its propensity for immune escape. The complete loss of CD20 antigen represents a well-documented resistance mechanism whereby malignant B-cells evade rituximab-mediated cytotoxicity through antigen downregulation or loss. The extensive reactive T-cell infiltrate characteristic of TCRLBCL may contribute to both immune surveillance and paradoxically provide a protective microenvironment for malignant cells. This unique tumor microenvironment necessitates novel therapeutic approaches targeting both malignant B-cells and the surrounding immune milieu. The importance of re-biopsy at relapse cannot be overstated, as demonstrated by the critical finding of CD20 loss that fundamentally altered treatment planning from CD20-targeting to alternative approaches.

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OP 14

## Asymptomatic Waldenström Macroglobulinemia: A Case of Incidental Monoclonal Gammapathy Discovery

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**Introduction:** Waldenström macroglobulinemia is a rare B-cell malignancy representing less than 2% of all hematologic malignancies, with an annual incidence of approximately 3-5 cases per million. The disease is characterized by lymphoplasmacytic lymphoma infiltrating bone marrow and lymphoid organs with concurrent IgM monoclonal protein secretion. Many patients are diagnosed asymptomatically through incidental laboratory findings, requiring careful evaluation to distinguish from other B-cell disorders and determine appropriate management strategies. **Case Report:** A 54-year-old female was referred to hematology following discovery of a monoclonal spike on routine serum protein electrophoresis during routine health screening. The patient denied symptoms suggestive of hyperviscosity syndrome including headache, visual disturbances, epistaxis, or neurological

complaints. She reported no B-symptoms (fever, night sweats, weight loss) and had no history of recurrent infections or bleeding tendencies. Physical examination was unremarkable without palpable lymphadenopathy, hepatomegaly, or splenomegaly. The patient appeared well with stable vital signs and no evidence of hyperviscosity syndrome. Laboratory evaluation revealed significant findings on protein studies. Serum protein electrophoresis showed increased gamma fraction (26.3%; normal: 10.7-20.3%) with relatively decreased albumin (47.9%; normal: 52-65%) and albumin/globulin ratio of 0.92. A sharp M-spike was evident in the gamma region. Immunofixation electrophoresis confirmed IgM-kappa monoclonal protein. Quantitative immunoglobulins demonstrated markedly elevated IgM at 27.98 g/L with normal IgG (7.6 g/L) and IgA (2.4 g/L). Beta-2 microglobulin was normal (1.91 mg/L), indicating low tumor burden. Urine free light chain analysis showed normal kappa (3.78 mg/L) and lambda (0.73 mg/L) levels with elevated kappa/lambda ratio (5.18), consistent with kappa-predominant monoclonality. Bone marrow examination revealed 40% cellularity with approximately 25% infiltration by small B-lymphocytes with plasmacytic differentiation organized in 4-5 intertrabecular lymphoid aggregates. Reticulin fibrosis was absent (grade 0/4), and amyloid staining was negative. Immunohistochemistry demonstrated CD20+, CD38+, CD138+ cells with negative CD5, CD23, cyclin D1, LEF-1, and CD56, excluding chronic lymphocytic leukemia/small lymphocytic lymphoma and mantle cell lymphoma. Flow cytometry confirmed CD19+/CD20+/CD45+ clonal B-cell population with CD138+ plasmacytic subset showing intracytoplasmic kappa restriction and negative CD56, consistent with lymphoplasmacytic lymphoma rather than multiple myeloma. Based on the constellation of findings including IgM-kappa monoclonal protein, characteristic bone marrow morphology and immunophenotype, the diagnosis of lymphoplasmacytic lymphoma/Waldenström macroglobulinemia was established. **Discussion:** This case illustrates typical presentation of asymptomatic WM discovered through routine screening. The markedly elevated IgM level (27.98 g/L) without hyperviscosity symptoms demonstrates the variable clinical presentation of WM patients. The characteristic immunophenotype (CD20+/CD38+/CD138+/CD5-/CD23-/CD56-) with intracytoplasmic kappa restriction distinguishes WM from other B-cell disorders. Current management guidelines recommend "watch and wait" approach for asymptomatic WM patients without end-organ damage or symptomatic disease. However, given the markedly elevated IgM level, careful monitoring for hyperviscosity syndrome development is essential. Molecular testing for MYD88 L265P mutation (present in >90% of WM cases) would provide diagnostic confirmation and prognostic information regarding treatment response, particularly to BTK inhibitors. **Conclusion:** Asymptomatic Waldenström macroglobulinemia requires comprehensive diagnostic evaluation to confirm diagnosis and assess disease burden. Despite markedly elevated IgM levels, many patients can be safely observed with regular monitoring, emphasizing the importance of individualized management approaches in this rare but well-characterized lymphoproliferative disorder.

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**OP 15**

## Primary Extranodal Marginal Zone Lymphoma of the Maxilla with Sphenoid Bone Invasion: Excellent Response to R-CHOP Therapy

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**Case Report:** A 59-year-old male (weight: 65 kg, height: 168 cm) presented in September 2024 with a progressively enlarging mass in the right maxillary region extending toward the temporal area with sphenoid bone proximity. The patient complained of maxillary distortion and pain but denied B symptoms including fever, night sweats, or weight loss. Physical examination revealed facial asymmetry with palpable right maxillary swelling. Initial biopsy of the maxillary mass demonstrated CD20-positive extranodal marginal zone lymphoma consistent with MALT lymphoma histology. Staging F-18 FDG PET/CT performed on October 4, 2024, revealed a hyperintense soft tissue mass in the right maxillary region with sphenoid bone invasion showing SUVmax 6.81. Additionally, a 16 × 10 mm lymph node in the right level 2 cervical chain demonstrated SUVmax 4.22. No pathological FDG uptake was detected in the thorax, abdomen, or skeletal system, confirming localized disease. Based on the diagnosis of localized EMZL with bone invasion and cervical lymph node involvement, standard R-CHOP chemotherapy was initiated on September 24, 2024. The regimen consisted of rituximab 375 mg/m$^2$ (day 1), cyclophosphamide 750 mg/m$^2$ (day 1), doxorubicin 50 mg/m$^2$ (day 1), vincristine 1.4 mg/m$^2$ (day 1), and prednisolone 100 mg daily for 5 days. Supportive care included G-CSF (filgrastim) for neutropenia prophylaxis and antiemetics (ondansetron, granisetron). During treatment, the patient developed E. coli pneumonia, which resolved with appropriate antibiotic therapy and supportive care. Despite this complication, the treatment protocol was successfully completed. Interim PET-CT evaluation on December 25, 2024, demonstrated significant metabolic response with maxillary lesion SUVmax decreasing from 6.81 to 2.92, accompanied by dimensional reduction. Cervical lymph node involvement was no longer detectable, yielding a Deauville score of 2, consistent with partial metabolic remission. Follow-up PET-CT after completion of 4 cycles in March 2025 revealed complete disappearance of pathological FDG uptake throughout the body. The maxillary region showed no residual mass formation, maintaining Deauville score 2, confirming complete metabolic remission. The patient tolerated treatment well overall and entered surveillance follow-up without evidence of systemic dissemination or bone marrow involvement. **Discussion:** This case represents a rare presentation of EMZL involving the maxillofacial region with sphenoid bone invasion. The excellent response to standard R-CHOP therapy challenges the traditional approach of radiotherapy alone for localized EMZL, particularly in cases with bone involvement where complete surgical resection may not be feasible. The use of PET-CT for treatment response assessment proved invaluable, providing objective metabolic parameters through

Deauville scoring system. The dramatic reduction in SUVmax values (from 6.81 to undetectable levels) correlated with excellent clinical response. EMZL typically follows an indolent course with favorable prognosis. However, bone involvement may indicate more aggressive behavior, potentially justifying systemic chemotherapy over local treatments. The complete metabolic remission achieved in this case supports the efficacy of R-CHOP in this clinical scenario. **Conclusion:** Primary EMZL of the maxilla with sphenoid bone invasion represents a rare clinical entity that can be successfully treated with standard R-CHOP chemotherapy. PET-CT monitoring using Deauville scoring provides valuable objective assessment of treatment response. This case contributes to the limited literature on optimal management of localized EMZL with bone involvement.

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OP 16

## Double-Expressor Diffuse Large B-Cell Lymphoma of Bone and Soft Tissue in a 29-Year-Old Patient: A Rare Case Report

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**Case report:** Primary bone lymphoma represents less than 1% of all malignant bone tumors and approximately 3% of extranodal lymphomas. Diffuse large B-cell lymphoma constitutes the most common histological subtype of primary bone lymphoma, typically affecting adults with a slight male predominance. The clinical presentation often mimics primary bone sarcomas, potentially leading to diagnostic delays. Double-expressor lymphomas, characterized by MYC and BCL2 protein co-expression, constitute 20-30% of DLBCL cases and are associated with inferior outcomes compared to standard DLBCL, requiring consideration of intensified treatment regimens. A 29-year-old male presented with several months of progressive upper extremity pain, swelling, and limited range of motion involving the long bones and scapula. The clinical presentation initially raised suspicion for osteosarcoma or soft tissue sarcoma, prompting orthopedic evaluation and excisional biopsy. Macroscopic examination revealed approximately 4 cm of grayish-white to brown tissue fragments submitted for histopathological analysis. Microscopic evaluation demonstrated cellular morphology consistent with lymphoproliferative disease rather than sarcomatous features, prompting comprehensive immunohistochemical evaluation. Immunohistochemical analysis confirmed lymphoid origin with positive LCA (leukocyte common antigen) staining. B-cell lineage was established by strong, diffuse CD20 positivity (80-85% of cells). The tumor demonstrated germinal center B-cell phenotype with BCL6 expression in 80-85% of cells. Critically, MYC expression was present in 40-45% of tumor cells, suggesting double-expressor status pending BCL2 confirmation. The proliferation index was extremely high with Ki-67 staining positive in 80-85% of cells, indicating highly aggressive biology. Negative staining for MyoD1, CD34, S100, and CD3 excluded sarcomatous differentiation and T-cell lymphoma. Based on the constellation of findings, the diagnosis of high-grade diffuse large B-cell lymphoma with germinal center phenotype and suspected double-expressor features was established. The anatomical location involving upper extremity long bones and scapula confirmed primary bone lymphoma classification. Additional molecular studies were recommended including FISH analysis for MYC, BCL2, and BCL6 rearrangements to distinguish between double-expressor and double-hit lymphoma. Comprehensive next-generation sequencing panel evaluation was suggested focusing on prognostically relevant genes including TP53, CDKN2A/B, NOTCH1/2, EZH2, and other lymphoma-associated mutations. **Discussion:** This case illustrates several important clinical and pathological considerations. Primary bone DLBCL in young adults is uncommon and may present diagnostic challenges due to clinical similarity to primary bone sarcomas. The initial clinical suspicion of sarcoma necessitated careful immunohistochemical evaluation to establish correct diagnosis. The double-expressor phenotype with MYC and suspected BCL2 co-expression, combined with extremely high Ki-67 proliferation index (80-85%), indicates aggressive biology requiring intensive treatment approaches. While confirmation of BCL2 expression and FISH analysis for genetic rearrangements remain pending, the current findings suggest consideration of dose-adjusted EPOCH-R or similar intensified regimens rather than standard R-CHOP therapy. The young age of the patient and localized bone involvement may offer favorable prognostic factors despite the aggressive biological features. However, the high proliferation index and suspected double-expressor status necessitate careful treatment planning with multidisciplinary input. **Conclusion:** Primary bone DLBCL with double-expressor features in young adults represents a rare but aggressive entity requiring prompt recognition and intensive treatment. This case emphasizes the importance of comprehensive immunohistochemical evaluation in suspected bone malignancies and highlights the need for molecular characterization to guide optimal therapeutic approaches in high-grade B-cell lymphomas.

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Myeloma

OP 17

## Familial Multiple Myeloma in a Post-Renal Transplant Patient: A Case of Smoldering Multiple Myeloma with Strong Family History

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**Introduction:** Familial multiple myeloma represents approximately 1-2% of all MM cases, characterized by the occurrence of MM in two or more first-degree relatives. While the exact genetic mechanisms remain unclear, several familial

clustering studies suggest inherited susceptibility genes and shared environmental factors. Immunosuppression following solid organ transplantation may accelerate malignant transformation in genetically predisposed individuals, creating a unique clinical scenario requiring specialized monitoring and management approaches. **Case Report:** A 50-year-old female with a complex medical history presented with fatigue, weakness, and anemia. Her medical background included type 1 diabetes mellitus diagnosed in 1982 at age 8, progression to end-stage renal disease secondary to diabetic nephropathy in 2001, and successful deceased donor kidney transplantation in 2007. She remained on chronic immunosuppressive therapy with mycophenolic acid (Myfortic®) and cyclosporine (Sandimmun®) with stable graft function. The patient's family history was remarkable for multiple myeloma: her mother was alive with confirmed MM diagnosis, and her brother had previously died from MM after receiving treatment. This strong familial clustering placed her in the high-risk category for hereditary MM predisposition. Physical examination revealed pallor consistent with anemia, but no lymphadenopathy, bone tenderness, or other significant findings. Laboratory evaluation demonstrated significant anemia (hemoglobin 7.8 g/dL, hematocrit 26.2%) with normocytic indices (MCV 87 fL). Renal function remained stable post-transplant, and serum calcium was within normal limits. Protein studies revealed elevated beta-2 fraction on serum protein electrophoresis with positive IgG-kappa monoclonal band on immunofixation electrophoresis. Free light chain analysis showed elevated kappa (40.7 mg/L) with kappa/lambda ratio of 1.86. Bone marrow examination demonstrated 3-4% plasma cells with flow cytometry confirming CD138+/CD38+ phenotype and kappa light chain restriction (80% kappa, 20% lambda), establishing clonality. Comprehensive FISH analysis was negative for high-risk cytogenetic abnormalities including p53 deletion, del(13q), t(11;14), and t(4;14). Lumbar MRI revealed disc protrusions without lytic bone lesions. Genetic analysis for FMF mutations was performed given potential inflammatory contributions, showing R202Q heterozygosity and other polymorphisms without pathogenic significance. Based on the presence of IgG-kappa monoclonal protein, 3-4% clonal bone marrow plasma cells, anemia, and absence of hypercalcemia or lytic lesions, the patient was diagnosed with smoldering multiple myeloma. **Discussion:** This case illustrates several important aspects of familial MM. The strong family history with both maternal and sibling involvement suggests significant genetic predisposition, warranting enhanced surveillance protocols. The co-existence of chronic immunosuppression following renal transplantation creates additional complexity, as immunosuppressive agents may accelerate progression from precursor states to overt malignancy.

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**OP 18**

## CD56-Negative IgA-Lambda Multiple Myeloma with Bortezomib-Induced Severe Cutaneous Reaction: A Case Report

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We report a 51-year-old male with IgA-lambda multiple myeloma who developed severe cutaneous drug eruption following bortezomib treatment. Despite treatment modification to daratumumab-based regimen, the patient achieved complete remission, demonstrating successful management of therapy-related adverse events in CD56-negative myeloma phenotype. Introduction: Multiple myeloma represents approximately 10% of hematologic malignancies, with CD56-negative variants comprising a rare subset associated with distinct clinical characteristics. Bortezomib-containing regimens remain first-line therapy; however, cutaneous adverse reactions can necessitate treatment modifications. We present a case of successful alternative therapy following severe bortezomib-induced skin toxicity. Methods/Case Presentation: A 51-year-old male presented with fatigue and back pain. Laboratory investigations revealed IgA elevation (6.8 g/L) with lambda light chain restriction. Serum protein electrophoresis showed decreased albumin (51.6%) and elevated beta fractions. Bone marrow flow cytometry demonstrated plasma cell population: CD38/CD138 100%, CD45 100%, CD117 79.8%, CD56 7.5% (negative), with 96.7% lambda clonality, confirming IgA-lambda multiple myeloma with CD56-negative phenotype. Staging revealed elevated $\beta$2-microglobulin (2.75 mg/L). PET/CT identified metabolically active lytic lesions in T3 vertebra (SUVmax 6.35) and right lumbosacral region (SUVmax 13.41), indicating metabolic progression without hepatosplenomegaly. Initial treatment commenced with VRD (bortezomib, lenalidomide, dexamethasone). After cycle 1, mild erythematous pruritic rash appeared. Following cycle 2, extensive cutaneous eruptions developed. Skin biopsy revealed upper dermal eosinophil-associated perivascular infiltration with erythrocyte extravasation; direct immunofluorescence was negative, consistent with drug-induced eruption. Bortezomib was discontinued, and treatment switched to DRd (daratumumab, lenalidomide, dexamethasone). After 2 DRd cycles, M-protein disappeared, serum and urine immunofixation became negative, and hematologic parameters normalized. Follow-up PET/CT showed no active myeloma lesions, confirming complete remission. Results: The patient achieved biochemical and radiological complete remission within 2 cycles of daratumumab-based therapy following bortezomib-induced severe cutaneous reaction. No significant toxicities were observed with the modified regimen. Discussion: CD56-negative multiple myeloma represents a rare

phenotype with potentially different therapeutic responses. This case demonstrates that severe bortezomib-related cutaneous toxicity can be successfully managed through immediate drug discontinuation and regimen modification. Daratumumab-based therapy proved highly effective, achieving rapid complete remission despite treatment change. The CD38-targeting monoclonal antibody daratumumab has shown excellent efficacy in both treatment-naive and relapsed myeloma. Our case supports its use as an alternative first-line option when proteasome inhibitor toxicity precludes continued bortezomib therapy. Early recognition of severe cutaneous drug reactions and prompt treatment modification are crucial for maintaining therapeutic momentum while ensuring patient safety. This case illustrates successful outcomes can be achieved with appropriate alternative regimens in CD56-negative myeloma variants. Conclusion: CD56-negative IgA-lambda multiple myeloma patients experiencing severe bortezomib-induced cutaneous reactions can achieve excellent outcomes with daratumumab-based alternative therapy. Prompt recognition and management of treatment-related toxicities enables continued effective antimyeloma therapy.

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OP 19

## CLINICAL CHARACTERISTICS AND TREATMENT OUTCOMES IN ADULT ITP PATIENTS: A SINGLE-CENTER EXPERIENCE

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**Introduction:** Immune thrombocytopenia (ITP) is an acquired autoimmune disorder characterized by increased platelet destruction and reduced platelet production. In adults, the disease course and treatment response vary widely. Real-world single-center data provide valuable insights into management. Therefore, sharing single-center experiences provides valuable insight into real-world data. The present study aimed to evaluate the demographic, clinical, and laboratory characteristics, as well as the treatment approaches and response outcomes of adult ITP patients managed at our hospital. **Methods:** This retrospective study included 25 adult ITP patients followed at Düzce Atatürk State Hospital between October 2024 and August 2025. Data on demographics, laboratory findings, treatments, and responses were collected from patient records. Analyses were performed with SPSS version 25.0., Türkiye **Results:** The mean age of the patients was 57.5 $\pm$ 15.6 years, and 80% were female. The median platelet count at diagnosis was 11,000/mm$^3$ (IQR 13,000). Whereas 76% of patients had no bleeding symptoms, 24% presented with ecchymosis and mucosal bleeding. First-line treatment consisted mainly of corticosteroids (prednisolone in 96% and dexamethasone in 4%). Response rates were 36% complete, 36% partial, and 28% no response. IVIG was administered to 52% of patients, with 61.6% achieving a response and 38.4% showing no response. In second-line therapy, 48% of patients received rituximab, with complete response observed in 67%, partial response in 25%, and no response in 8%. Eltrombopag was used in 25% of patients, yielding complete or partial responses in 80% and no response in 20%. Romiplostim was given to one patient (4%) with partial response. Two patients (8%) underwent splenectomy, and both responded favorably. Reported complications included *H. pylori*infection (4%), ischemic stroke with colon carcinoma (4%), tick bite (4%), pulmonary embolism (4%), and portal vein thrombosis (4%). No complications were observed in 80% of patients. **Conclusion:** Discussion/Conclusion:This study highlights the heterogeneity of clinical features and treatment outcomes in adult ITP. Corticosteroids provided responses in most patients, though nearly one-third remained refractory. IVIG offered limited benefit. Rituximab and eltrombopag produced favorable results, while romiplostim was less used. Both splenectomized patients responded well, supporting its role as a durable option despite declining frequency.Complications were uncommon but clinically significant, stressing the need for close monitoring. In conclusion, first-line therapies often show limited effectiveness, requiring second-line strategies. Rituximab and TPO receptor agonists were moderately effective, and splenectomy remains a valid option. These findings emphasize the importance of individualized treatment in adult ITP management.

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## Transfusion Medicine and Apheresis

OP 20

## EFFECTİVE TREATMENT OF LONG-TERM NEUTROPENİA AND SEPSİS WİTH GRANULOCYTE TRANSFUSİON İN PATİENTS UNDERGOİNG ALLOGENEİC HEMATOPOİETİC STEM CELL TRANSPLANTATİON

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**Objective:** Allogeneic hematopoietic stem cell transplantation (allo-HSCT) is vital in the treatment of high-risk hematologic cancers. Due to the immune system reconstitution process in the post-transplant period, infections are a leading cause of mortality and morbidity. Therefore, we aimed to investigate the efficacy of granulocyte transfusion (GT) therapy in patients who developed febrile neutropenia during allo-HSCT **Methodology:** This retrospective study included 22 patients who underwent allo-HSCT at the Erciyes University Bone Marrow Transplantation Unit between January 2016 and January 2024 and developed febrile neutropenia. Patient

characteristics were recorded. GT was administered to patients with an absolute neutrophil count (ANC) $<0.5 \times 10^3/\mu L$ for at least three days, evidence of bacterial and/or fungal infection, and no response to appropriate antimicrobials for at least 48 hours. **Results:** The median age was 42 years (min-max, 19-66 years). The majority of patients were diagnosed with acute myeloid leukemia (AML) (50%)(11/22). The median CRP value was 168.5 mg/dl (min-max, 31.1-360 mg/dl). In 40.9 % of patients who received GT, their primary disease was in complete remission, while in 59.1 %, their primary disease was relapse. The infection etiologies included pneumonia (n=5), sepsis (n=2), pneumonia and sepsis (n=11), pneumonia + sepsis + catheter-associated infection (n=4), catheter-associated infection + mucositis (n=1), and abscess (n=1). Each patient received a median of 3 GTs (min-max, 1-6). The median transfused granulocyte dose per transfusion was $3.5 \times 10^{10}$ (min-max, 0.8-9.4 $\times 10^{10}$). The median dose transfused, calculated based on the recipient's body weight, was $5.1 \times 10^8$/kg (min-max, 0.8-17 $\times 10^8$/kg). On average, the median number of granulocytes transfused per patient was $5.3 \times 10^8$/kg (min-max, 1.9-11.3 $\times 10^8$/kg). The median time from HSCT to the first GT was 192 days (min-max, 50-795 days). The median duration of fever before GT was three days (min-max, 2-6 days), and the time until the fever defervescence was 2 days (min-max, 1-5 days). The median duration of neutropenia before GT is 25 days (min-max, 8-30 days). After GTX treatment, A favorable response was observed in 16 of 24 infection episodes (66.7%) regarding the resolution of infections. In 4 of the 8 infection episodes where the infection did not resolve, the patient also had a relapse of the disease. In 5 of 12 infection episodes that required intensive care, the need for intensive care was eliminated after GT. A statistically significant difference was found between the time of GT initiation and the ANC, TLC, and PLT counts on the fourth-day post-GT (p =0.001, p=0.001, p=0.003, separately for ANC, TLC, and PLT). The median follow-up in our cohort of patients is 600 days. The 30-day and 100-day OS were 67.7% and 50%, respectively. A mortality rate by day-28 was 3.8% and mortality rate by 100 was 19.2%. Acute, chronic GVHD, and CMV reactivation were not observed. **Conclusion:** GT therapy may be effective in many critically ill patients with prolonged and profound neutropenia. It may be more beneficial in select patients, as it provides more time to overcome infections resistant to broad-spectrum antibiotics. Larger randomized trials are needed to confirm the effectiveness of GT in such patients.

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OP 21

## CATATONIA FOLLOWING IFOSFAMIDE CHEMOTHERAPY IN A PATIENT WITH HISTIOCYTIC SARCOMA: A RARE NEUROPSYCHIATRIC COMPLICATION

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**Introduction:** Histiocytic sarcoma (HS) is a rare, aggressive malignancy of monocyte–macrophage lineage, typically presenting with extranodal disease and lacking B- or T-cell markers [1]. Because of its rarity, there is no standard treatment, though salvage regimens such as ICE (ifosfamide, carboplatin, etoposide) have demonstrated some benefit. Ifosfamide, a DNA-alkylating prodrug metabolized by hepatic CYP3A4 and CYP2B6, is associated with central nervous system (CNS) toxicity in 10–30% of patients [2,3]. Encephalopathy is the most common presentation, while catatonia—characterized by stupor, mutism, negativism, posturing, and waxy flexibility—is rarely reported in oncology patients [4]. **Case Presentation:** A 27-year-old male with stage IV HS, confirmed by biopsy of an 80 × 70 mm terminal ileum mass, was admitted for ICE chemotherapy. On day three, he developed acute psychomotor symptoms including stupor, mutism, and negativism. The Bush–Francis Catatonia Rating Scale (score 7) and Kanner Catatonia Screening Instrument (score 4) confirmed retarded-type catatonia. Neurological evaluation (cranial CT, diffusion-weighted MRI) and laboratory studies were unremarkable. Vital signs remained stable. He was treated with intravenous diazepam 10 mg every 8 hours (two doses total), leading to full resolution of catatonic symptoms. The patient was discharged clinically stable. **Conclusion:** Discussion Ifosfamide-induced neurotoxicity typically appears within 48 –72 hours, mediated by toxic metabolites such as chloroacetaldehyde that disrupt mitochondrial function and neurotransmission [2,3]. While encephalopathy is well-documented, catatonia is extremely rare and underrecognized. In this case, the temporal relationship to ifosfamide, absence of structural CNS pathology, and rapid benzodiazepine response strongly support ifosfamide-induced catatonia. Similar observations have been described rarely; Gupta et al. [5] reported an analogous case in lymphoma. Benzodiazepines remain first-line therapy, often producing rapid resolution, even in drug-induced catatonia [6].Conclusion This case highlights catatonia as a rare neuropsychiatric complication of ifosfamide. Recognition of such unusual adverse effects is critical, as early diagnosis and benzodiazepine treatment can prevent delays in cancer therapy and improve outcomes.

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Stem Cell Transplantation

OP 22

## RESULTS OF AUTOLOGOUS HEMATOPOIETIC STEM CELL TRANSPLANTATION IN REFRACTORY MULTIPLE SCLEROSIS: TWO CASE REPORTS

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Multiple sclerosis (MS) is a chronic, inflammatory, demyelinating disease of the central nervous system. Being an autoimmune disease, MS usually begins in young adulthood and may lead to permanent neurological damage over time. In the pathogenesis of the disease, immune responses mediated by T and B lymphocytes play a central role, causing damage to myelin and axonal structures[1]. Clinically, the most common form is relapsing-remitting MS (RRMS), while in some cases a transition to the secondary progressive MS (SPMS) form is observed over time[2]. The Expanded Disability Status Scale (EDSS) is widely used to assess neurological impairment in MS patients. This scale ranges from 0 to 10, with 0 indicating no neurological deficit. Higher scores represent greater neurological impairment. Disease-modifying therapies (DMTs), which modulate the immune system, are used in the treatment of MS. Major DMT agents include fingolimod, natalizumab, ofatumumab, ocrelizumab, siponimod, alemtuzumab, and interferon beta[3]. Despite high-efficacy treatments, a subset of patients continue to experience relapses and disease progression. Autologous hematopoietic stem cell transplantation (AHSCT) is a therapeutic option that aims to "reset" the immune system (immune reconstitution) by administering high-dose immunosuppressive therapy followed by reinfusion of the patient's own hematopoietic stem cells[4]. Recent prospective studies have demonstrated that AHSCT prevents relapses and ensures disease stabilization, especially in RRMS cases with high inflammatory activity and resistance to conventional therapies[5]. However, in progressive MS patients, while disease stabilization may occur, functional recovery remains limited. During the AHSCT process, hematopoietic stem cells are first mobilized into peripheral blood using cyclophosphamide and/or G-CSF, collected via apheresis, and cryopreserved with dimethyl sulfoxide (DMSO). Subsequently, high-dose chemotherapy (e.g., BEAM or CY+ATG regimen) is administered as a lymphoablative conditioning treatment, followed by reinfusion of the previously collected autologous stem cells[6]. In this study, we present two RRMS patients with refractory disease who underwent AHSCT in our clinic. Case-1: The first case is a 33-year-old female patient diagnosed with MS in 2018. She had been treated with DMT agents including ocrelizumab, without significant clinical response. With an EDSS score of 5, she was classified as RRMS, and AHSCT was planned. Mobilization was achieved with cyclophosphamide (2.4 g/m$^2$) and G-CSF. Hematopoietic stem cells were collected by apheresis and cryopreserved with DMSO. Following administration of the LEAM conditioning regimen (lomustine, etoposide, cytarabine, melphalan), a total of $4.54 \times 10^6$/kg autologous stem cells were reinfused on 05.06.2025. Neutrophil and platelet engraftment occurred on day 11 post-transplant. During the 3-month follow-up, no relapse occurred, and neurological status remained stable. **Case-2:** The second case is a 47-year-old male patient diagnosed with MS in 2014. He had received DMT agents including ocrelizumab and siponimod, without adequate response. With an EDSS score of 7 and progressive walking disability for the last 2 years, the patient was classified as SPMS, and AHSCT was planned. Mobilization was performed with cyclophosphamide (2.4 g/m$^2$) and G-CSF. Stem cells were collected via apheresis and cryopreserved with DMSO. After the LEAM conditioning regimen, a total of $5.19 \times 10^6$/kg autologous stem cells were reinfused on 19.01.2025. Neutrophil and platelet engraftment occurred on day 12 post-transplant. During the 8-month follow-up, no relapse occurred, and neurological status remained stable. **Discussion:** AHSCT has emerged as an effective treatment option for RRMS cases with high inflammatory activity refractory to conventional therapy. Studies have shown that AHSCT reconstitutes the immune system, thereby preventing relapses, avoiding new lesion development, and slowing neurological disability progression[7,8]. Clinical studies indicate that AHSCT can suppress MS disease activity in approximately 70–80% of patients for up to 5 years. This response rate is higher than with any other available MS treatment. While treatment-related mortality was reported as 3.6% in studies before 2005, this rate has decreased to approximately 0.3% in more recent studies[4]. A meta-analysis published in 2017 evaluated 764 MS patients who underwent AHSCT between 1995 and 2016, reporting event-free survival of 67%[9]. Another meta-analysis published in 2022, including 4,831 MS patients, found event-free survival in 68% of cases[10]. According to EBMT guidelines, cyclophosphamide (2–4.5 g/day) combined with G-CSF (5–10 $\mu$g/kg) is most commonly recommended for mobilization. Conditioning regimens typically include BEAM+ATG or cyclophosphamide+ATG[11]. In our cases, mobilization was performed with cyclophosphamide (2.2 g/day) followed by G-CSF (10 $\mu$g/kg). LEAM was used as the conditioning regimen, while ATG was not administered. It has been reported that AHSCT is more effective than DMTs in stabilizing neurological status, with ongoing trials continuing to evaluate this comparison[12]. Conclusion: AHSCT has shown favorable outcomes, particularly in RRMS patients. Large-scale analyses have demonstrated disease-free survival rates exceeding 60%. With advances in stem cell therapy, transplant-related mortality has significantly decreased. Therefore, AHSCT represents a safe and effective therapeutic option in RRMS.

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## OP 23

## VITREORETINAL INVOLVEMENT IN NASAL CAVITY B-CELL LYMPHOMA: A RARE FORM OF RELAPSE

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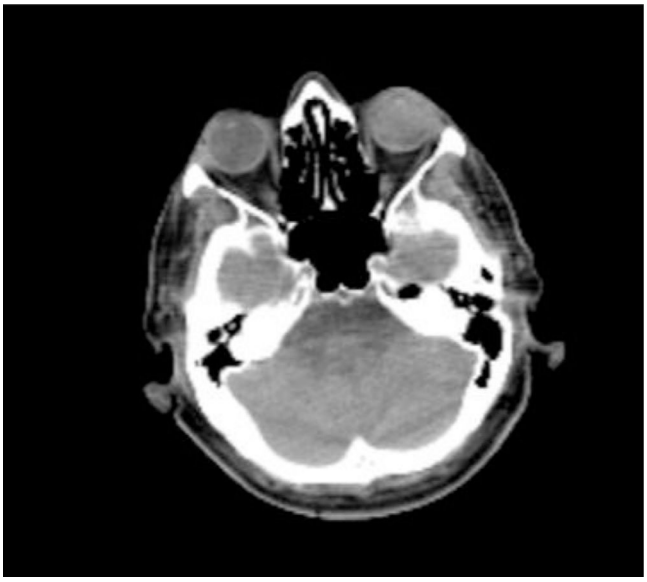
**Introduction:** Non-Hodgkin lymphomas are malignant neoplasms of lymphoid tissue, and a subset present with extranodal involvement. The head and neck region represents one of the clinically relevant localizations. Sinonasal B-cell lymphomas are a rare subtype, most often manifesting as diffuse large B-cell lymphoma (DLBCL), and typically show aggressive

clinical behavior. Relapses most frequently involve cervical lymph nodes, the orbit, and the central nervous system. Ocular involvement is rare, usually presenting as orbital masses or ocular adnexal lymphoma. Vitreoretinal infiltration is even more unusual and has been described only infrequently. In this case report, we present an elderly male patient with nasal cavity B-cell lymphoma who developed relapse with vitreoretinal involvement, aiming to emphasize the diagnostic and therapeutic aspects of this rare condition. **Case Presentation:** A 71-year-old male was diagnosed three years earlier with nasal cavity B-cell lymphoma. Bone marrow biopsy at diagnosis showed no systemic involvement. He received four cycles of R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone) and achieved complete remission. Three years later, he presented with decreased vision in the left eye. Orbital MRI showed tortuosity of the optic nerve and slight widening of the perioptic space (Figure 1). Cranial MRI revealed only age-related changes. Cytology and flow cytometry of vitreous fluid demonstrated CD20 and CD79a positivity with high proliferative activity, consistent with B-cell neoplasia. PET-CT revealed limited FDG uptake (SUVmax 5.02) in the anterior aspect of the left orbit (Figure 2), with no additional systemic involvement. Based on his disease history, systemic high-dose methotrexate combined with cytarabine and intrathecal therapy was initiated. Radiotherapy was also considered. He was referred to another specialized center for possible intravitreal chemotherapy. Despite systemic treatment, follow-up revealed that the patient had died. **Discussion and Conclusion:** Sinonasal B-cell lymphomas are uncommon, most often exhibiting DLBCL histology with aggressive clinical features. Relapses most frequently involve cervical nodes, orbital structures, or the central nervous system. Although orbital disease is recognized, vitreoretinal infiltration is exceedingly rare and has been reported in less than 5% of cases in large series. Diagnosis is challenging, as ocular involvement may present with non-specific symptoms such as visual impairment or vitreous opacities, requiring cytology, immunophenotyping, and immunohistochemistry of vitreous samples for confirmation. Therapeutic options include systemic high-dose methotrexate and cytarabine, with intrathecal therapy commonly added for central nervous system prophylaxis. Radiotherapy may contribute to local control in orbital disease. Intravitreal chemotherapy has also been described, most often with methotrexate, and rituximab has been used in selected cases. The prognosis of ocular involvement is poor, with median survival reported between 12 and 36 months and a high risk of central nervous system relapse. This case illustrates that vitreous infiltration may represent a relapse manifestation of sinonasal B-cell lymphoma and highlights the importance of careful evaluation of ocular symptoms in such patients.



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