EHA 2025 Clinical and AI / ML Preview

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EHA2025
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EHA 2025 Preview – Table of Contents

EHA 2025 – General Overview

- **Robust Global Participation:** Global experts across hematology converge to shape the next phase of blood cancer and rare disease research
- **Precision and MRD-Driven Strategies Rise:** Growing integration of MRD-guided decisions and ctDNA shaping response-adapted protocols
- **Momentum in Cell and Gene Therapy:** Accelerated progress in CAR-T, NK cell, and gene-editing platforms in hematologic malignancies
- **Regulatory Pathways Streamline Access:** Breakthrough, PRIME, and RMAT designations drive faster therapeutic timelines
- **Digital Innovation Transforms Trials:** AI, digital biomarkers, and remote monitoring anchor modern trial design and outcome tracking
- **Equity and Inclusion Shape Agendas:** Increased focus on real-world data and underserved populations across global regions
- **Focus on Pediatric Hematology Expands:** Dedicated sessions emphasize novel therapies and trial designs tailored for pediatric hematologic conditions

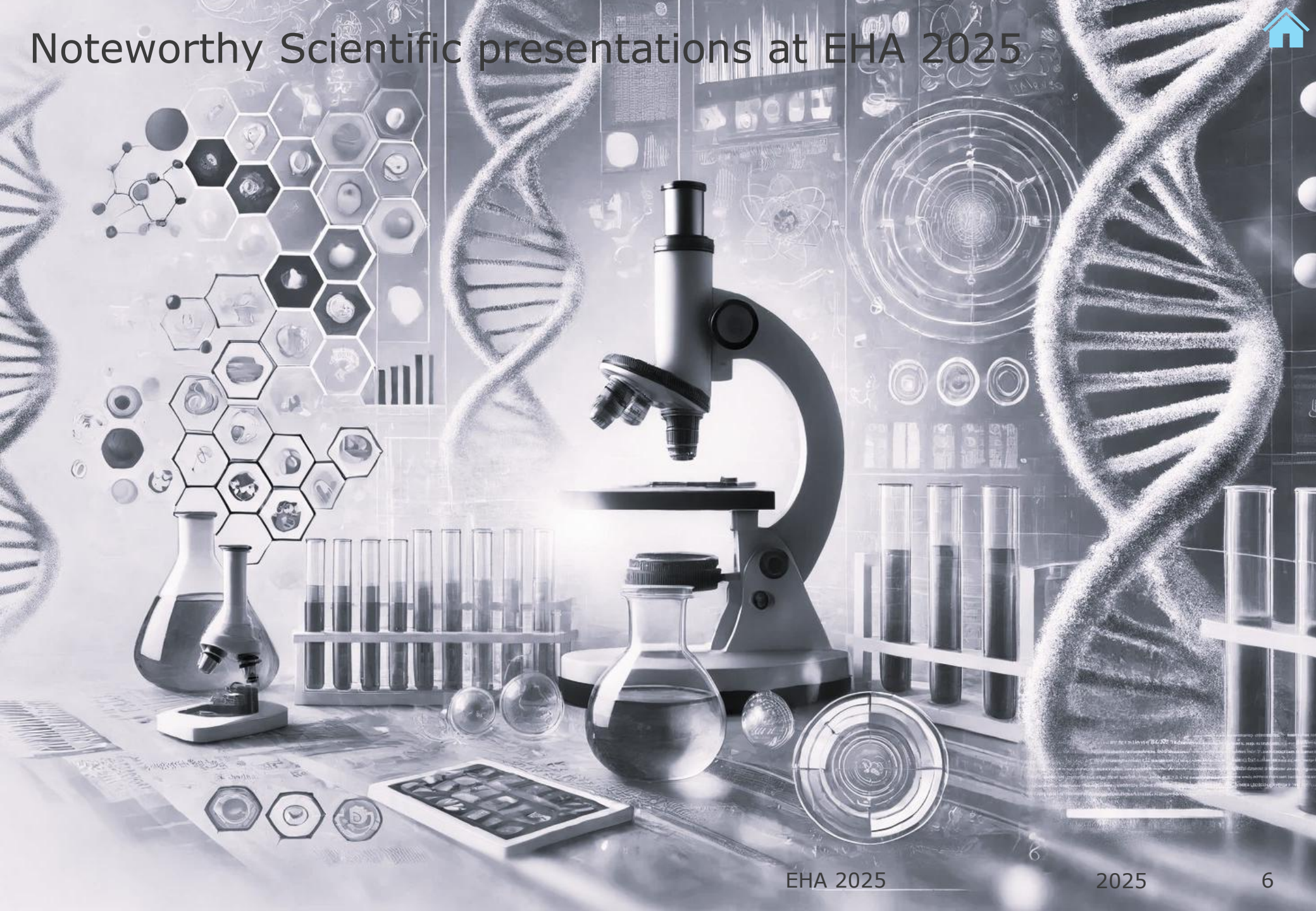
EHA 2025– Conference Themes (1/2)

- **Fixed-Duration Therapies Redefine Standards:** Time-limited regimens in CLL and MCL will aim to deliver deep remissions while minimizing long-term toxicities
- **MRD as a Central Endpoint:** MRD will be used as a primary endpoint to inform escalation, de-escalation, and treatment discontinuation across AML, MM, and lymphomas
- **Next-Gen Triplets and Quad Therapies in Myeloma:** Triplet and quadruplet combinations with novel agents are expected to set new efficacy benchmarks in frontline and relapsed myeloma treatment
- **Targeted Combinations in AML with Molecular Drivers:** FLT3, IDH, NPM1, and KMT2A alterations will guide the development of more precise induction and maintenance triplet therapies
- **BTK Modulators Evolve:** Reversible BTK inhibitors and degraders are expected to offer effective strategies for overcoming resistance in relapsed/refractory B-cell malignancies
- **Novel Agents in Cytopenias and Rare Anemias:** Agents like avatrombopag, rilzabrutinib, and mitapivat are set to broaden treatment options for ITP, AIHA, and pyruvate kinase deficiency

EHA 2025– Conference Themes (2/2)

- **Advances in T-cell Redirecting Therapies:** Bispecifics and CAR-T constructs will expand into Hodgkin lymphoma, ALL, and myeloid malignancies with enhanced safety and persistence
- **Hypomethylating Triplets in Older AML:** Azacitidine-based triplets with venetoclax and targeted agents aim to improve survival in induction-ineligible AML patients
- **Transplant Optimization and GvHD Prevention:** CRISPLD2-modified MSCs, AI-powered prophylaxis, and microbiota transplantation will represent innovative approaches to prevent acute GvHD post-transplant
- **Myelofibrosis and PV Treatment Innovation:** Myelofibrosis and PV care will evolve through JAK combinations, siRNA candidates, and agents targeting anemia and PIM1-driven pathways
- **AI and ctDNA in Hematologic Trial Design:** Artificial intelligence and ctDNA analytics will support dynamic trial enrollment, response prediction, and early MRD-guided endpoints

Noteworthy Scientific presentations at EHA 2025



Key Topics From Notable Presentations (1/8)

- **Hematologic Malignancies and Leukemia:** Sessions are expected to emphasize time-limited therapies, transplant optimization, and biomarker-driven drug selection, reflecting growing precision in treating CLL, LGL leukemia, and high-risk hematologic malignancies

  - Optimizing First-Line Therapy in LGL Leukemia: A randomized study comparing cyclophosphamide and methotrexate showed higher ORR (73% vs 32%) and superior MRD clearance with CP, establishing it as the preferred initial treatment, particularly in STAT3-mutated cases

  - Fixed-Duration Regimens in CLL: GAIA/CLL13 demonstrated GIV's superiority in 5-year PFS (81.3%) over GV, CIT, and RV in fit, treatment-naive CLL patients, especially benefiting those with unmutated IGHV, supporting time-limited BTK-VEN-based strategies

  - Flexible Donor Strategies in Transplant: A randomized trial found similar 4-year OS (48–50%) with haploidentical and mismatched unrelated donors in AML, ALL, or MDS, enabling personalized donor selection based on timing and availability without compromising outcomes

Key Topics From Notable Presentations (2/8)

- **Multiple Myeloma & Related Disorders:** Sessions will spotlight emerging biomarker-informed risk stratification, novel targeted agents, and the evolving role of MRD in optimizing treatment decisions for newly diagnosed and relapsed/refractory multiple myeloma patients
  - Multiomic Risk Stratification and Hypoxia Signatures: Integrated genomic, transcriptomic, and epigenomic profiling from the MIDAS trial will refine MM subtypes and predict MRD outcomes, while a validated hypoxia gene signature will identify poor-prognosis patients with immune-suppressive microenvironments
  - Next-Gen Therapies and CELMoD™ Agents: Promising results will be presented for innovative agents like ISB 2001 (trispecific TCE), MEZI-based CELMoD™ combinations, and sonrotoclax in t(11;14)-positive disease, offering durable responses and manageable safety in heavily pretreated RRMM
  - MRD-Guided Treatment Decisions: MRD status will be shown to guide therapy intensification in both frontline and relapsed settings, as seen in the REMNANT trial and BENEFIT study, with Isa-VRd outperforming Isa-Rd in transplant-ineligible patients, including those with high-risk features

Key Topics From Notable Presentations (3/8)

- **Lymphoma and Hematological Disorders:** Presentations will underscore emerging immunotherapies, MRD-informed treatment strategies, and the growing utility of molecular biomarkers in relapsed/refractory and newly diagnosed hematologic malignancies
  - Innate and Adaptive Immunotherapy in R/R cHL and DLBCL: Acimtamig + AlloNK® demonstrates high ORR and NK activation in R/R cHL. TIGIT blockade with ociperlimab shows limited DLBCL efficacy, reinforcing the need for biomarker-guided combinations
  - MRD as a Prognostic Tool in MCL and DLBCL: MRD negativity correlates with superior PFS and OS in MCL (ECHO trial) and DLBCL (PhasED-Seq validation), with sustained clearance offering predictive power beyond clinical response
  - Next-Gen Agents and Biomarkers in FL and MF: CH mutations (e.g., TET2) predict toxicity but not outcomes in FL. Pelabresib + ruxolitinib improves symptoms, anemia, and bone marrow fibrosis in MF, showing potential survival benefit

Key Topics From Notable Presentations (4/8)

- **Graft-Versus-Host Disease (GVHD) & Transplantation:** EHA 2025 will highlight innovations in GVHD prevention and management, chemogenomics for T-ALL, and emerging therapeutic strategies for transplant complications and relapse
  - Optimizing GVHD Prophylaxis and Management: Targeted ATG dosing in haplo-HSCT significantly reduced CMV reactivation and improved immune reconstitution vs fixed dosing. In GI-aGVHD, MaaT013 fecal microbiotherapy demonstrated sustained responses and survival benefit, particularly after ruxolitinib failure. Early-phase trials of axatilimab and CRISPLD2-enhanced MSCs show promise in treating chronic and acute GVHD, respectively
  - Precision Strategies for High-Risk and Relapsed T-ALL: The GIMEMA ALL2720 trial integrated drug response profiling and genomics to personalize therapy in ETP-ALL, achieving a 60% CR/CRi rate and enabling alloHSCT in responders. This approach offers a feasible precision medicine model in a historically challenging population
  - Advancing Transplant-Eligible CML and MRD-Guided Approaches: ELVN-001 achieved 44% MMR at 24 weeks in heavily pretreated chronic-phase CML, including patients resistant to asciminib or ponatinib. These early findings position it as a potential salvage option post-transplant or TKI failure

Key Topics From Notable Presentations (5/8)

- **Acute Myeloid Leukemia & Myelodysplastic Syndromes:** Sessions will spotlight oral regimens, menin inhibition, and mutation-adapted triplets transforming frontline and relapsed AML therapy, especially in older and molecularly defined populations
  - Oral Hypomethylating Combinations for Unfit AML: Oral decitabine/cedazuridine plus venetoclax achieves outcomes comparable to IV regimens with improved convenience and early marrow-guided dosing. Tuspetinib triplets show early promise in high-risk mutation
  - Menin Inhibition as a Cornerstone in NPM1/KMT2A-Mutant AML: Ziftomenib, revumenib, and bleximenib deliver high CRc and MRD-negativity rates in frontline and R/R AML, with favorable tolerability, rapid responses, and strong potential for Phase 3 success
  - Novel First-Line Strategies for High-Risk and Young AML Patients: DAC+HAAG outperforms standard 7+3 in Chinese ELN adverse-risk AML, improving MRD clearance and 2-year OS. These regimens may redefine induction in molecularly or clinically high-risk patients

Key Topics From Notable Presentations (6/8)

- **Autoimmune & Immune Thrombocytopenia:** Emerging trials will showcase redefined pediatric ITP and AIHA care, while CAR T-cell and BTK inhibitors show potential across relapsed hematologic autoimmune settings
  - Advances in Pediatric ITP Management: Avatrombopag will demonstrate sustained platelet response and safety in children, including those previously exposed to TPO-RAs, across short- and long-term trials. Early disease duration (<12 months) and consistent efficacy across timepoints is expected to support its broader use in pediatric ITP
  - Next-Generation Targeted Therapies in Autoimmune Cytopenias: Sovleplenib will emerge as a promising Syk inhibitor for refractory warm AIHA. Rilzabrutinib, a BTK inhibitor, will show enhanced responses in ITP patients with favorable baseline features, supporting earlier and personalized use
  - Cellular and Bispecific Therapies in B-ALL and Lymphoma: JNJ-90014496, a dual-target CAR T (CD19/CD20), is set to show high activity in relapsed LBCL. Blinatumomab—both IV and subcutaneous—will demonstrate high remission rates in R/R and MRD-negative B-ALL, reshaping consolidation and practical delivery strategies

Key Topics From Notable Presentations (7/8)

- **Bone marrow failure syndromes and PNH:** Future data will expand treatment options for aplastic anemia and PNH by validating novel complement inhibitors, oral agents, and frontline regimens that improve hematologic outcomes and patient convenience
  - Next-Generation Complement Inhibition in PNH: Iptacopan, pegcetacoplan, and zaltenibart will demonstrate long-term hemolysis control and transfusion independence, while crovalimab and the pozelimab/cemdisiran combo is expected to offer self-administered or subcutaneous options, enhancing patient experience and adherence
  - Optimizing First-Line and Relapsed Aplastic Anemia Therapy: Hetrombopag and avatrombopag, combined with CsA or IST, will show improved response rates and safety in NSAA and relapsed sAA. Cyclophosphamide and newer regimens will boost early ORR, and head-to-head data will support comparable outcomes between hetrombopag and eltrombopag
  - Emerging Therapies for Rare Bone Marrow Disorders: Luspatercept will improve early anemia responses in NSAA, especially in older adults. Mavorixafor will sustain neutrophil increases in chronic neutropenia, offering a G-CSF-sparing option. Pegcetacoplan dose adjustments will restore control in breakthrough hemolysis cases

Key Topics From Notable Presentations (8/8)

- **Hodgkin lymphoma:** Emerging data at EHA 2025 is expected to support PET-adapted and immunotherapy-based strategies that enhance outcomes across frontline and relapsed settings while minimizing long-term toxicity
  - Long-Term Outcomes with PET-Guided Therapy: The HD0607 and HL-Russia-1 trials confirm durable PFS and OS with PET/CT-adapted protocols, demonstrating low rates of late toxicities and validating their use over more intensive regimens in both early and advanced cHL
  - Immunotherapy-Based Frontline and Salvage Regimens: Nivo-AVD showed near-universal metabolic response and excellent 1-year OS in newly diagnosed cHL, including high-risk and elderly patients, while BBG and N-AVD achieved strong CR rates and transplant readiness in relapsed/refractory populations
  - Next-Generation and Targeted Approaches: AZD3470, a PRMT5 inhibitor, is under investigation for MTAP-deficient cHL, while ibrutinib monotherapy showed limited activity, highlighting a need for combinatorial strategies in heavily pretreated cases

Focus of Key Industry Sponsored Sessions at EHA 2025 (1/5)

- **AbbVie:**
  - Focus Areas: Bruton Tyrosine Kinase Inhibitors (BTKis) & Lymphoma
  - Sessions will present novel strategies using BTKis in mantle cell lymphoma and relapsed/refractory chronic lymphocytic leukemia (CLL), emphasizing time-limited regimens and post-covalent BTKi options
- **Pfizer:**
  - Focus Areas: Diffuse Large B-Cell Lymphoma (DLBCL) & Bispecific Antibodies
  - Data will spotlight Epcoritamab and bispecifics in relapsed/refractory DLBCL and follicular lymphoma, highlighting subcutaneous, chemo-free protocols and real-world evidence
- **Novartis:**
  - Focus Areas: Sickle Cell Disease (SCD), Beta-Thalassemia (TDT) & Gene Therapy
  - Presentations will explore gene therapy, collaborative care models, and red cell metabolism innovations for SCD and TDT to redefine long-term management goals

Focus of Key Industry Sponsored Sessions at EHA 2025 (2/5)

- **Sanofi:**
  - Focus Areas: Immune Thrombocytopenia (ITP) & Warm Autoimmune Hemolytic Anemia (wAIHA)
  - Sessions will focus on multi-immune modulation approaches, fostamatinib real-world data, and platelet-boosting strategies for ITP and wAIHA
- **Bristol Myers Squibb (BMS):**
  - Focus Areas: Myelofibrosis & Polycythemia Vera (PV)
  - Content will examine personalized treatment in PV and MF, including early anemia management and myelofibrosis updates in newly approved therapies.
- **Roche / Genentech:**
  - Focus Areas: CAR T-Cell Therapy & Lymphoma
  - Presentations will cover CAR T integration in DLBCL and relapsed/refractory multiple myeloma, with expert-led sessions on clinical adoption and innovation

Focus of Key Industry Sponsored Sessions at EHA 2025 (3/5)

- **GSK:**
  - Focus Areas: Multiple Myeloma & Infections
  - Sessions will address infection risk with novel MM therapies, translating guidelines into clinical practice, and treatment evolution for relapsed/refractory settings
- **Amgen:**
  - Focus Areas: Myelodysplastic Syndromes (MDS), Acute Myeloid Leukemia (AML) & TTP
  - Highlights will include AML/FLT3 management, secondary AML, and new directions in iTTP therapy, bridging translational research and frontline care
- **AstraZeneca:**
  - Focus Areas: Complement Inhibition in PNH
  - Discussion will centre on pegcetacoplan and unmet needs in PNH, emphasizing C3 inhibition and long-term outcomes in paroxysmal nocturnal hemoglobinuria

Focus of Key Industry Sponsored Sessions at EHA 2025 (4/5)

- **Janssen:**
  - Focus Areas: Chronic Lymphocytic Leukemia (CLL) & BTKi Therapy
  - Data will spotlight first-line CLL management, fixed-duration regimens, and durable responses with BTK inhibitors, focusing on real-world decision-making
- **Agios:**
  - Focus Areas: Sickle Cell Disease & Pyruvate Kinase Activation
  - Presentations will focus on metabolic correction via pyruvate kinase activation to address hemolysis in SCD and transfusion burden reduction
- **Takeda:**
  - Focus Areas: Acute Myeloid Leukemia (AML) & IDH1 Mutations
  - Sessions will explore treatment frontiers in FLT3- and IDH1-mutant AML, including precision medicine applications and response optimization strategies

Focus of Key Industry Sponsored Sessions at EHA 2025 (5/5)

- **Blueprint Medicines:**
  - Focus Areas: Systemic Mastocytosis & Eosinophilic Disorders
  - Emerging data will highlight targeted therapies and mutation-directed treatment pathways for rare hematologic diseases.

Notable Presentations And Late-breaking Sessions At EHA 2025

Notable Presentations At EHA 2025
Hematologic Malignancies and Leukemia (1/7)

Date	Title	Author	Summary
12 June 2025	CYCLOPHOSPHAMIDE IS SUPERIOR TO METHOTREXATE IN PREVIOUSLY UNTREATED LARGE GRANULAR LYMPHOCYTE LEUKEMIA. FINAL RESULTS OF A PROSPECTIVE, MULTICENTRIC, PHASE II RANDOMIZED CONTROLLED TRIAL CT01976182.	Dr. THIERRY LAMY	• **Introduction:** Cyclophosphamide (CP) and methotrexate (MTX) are standard first-line agents in LGL leukemia; this is the first randomized trial comparing them directly. • **Methodology**: A multicenter, open-label trial randomized untreated LGL patients to MTX or CP for 4 months. Responders continued therapy to 12 months. Primary endpoint: complete response (CR) at 4 months. • **Results:** CR at month 4: 24% for CP vs 12% for MTX (p=0.047); ORR: 73% vs 32% (p<0.001). CP showed superior MRD clearance and durability. STAT3 mutations correlated with better response. • **Conclusions:** CP significantly outperformed MTX, establishing it as the new first-line standard for LGL leukemia.
12 June 2025	THE TRIPLE COMBINATION OF VENETOCLAX-IBRUTINIB-OBINUTUZUMAB PROLONGS PROGRESSION-FREE SURVIVAL COMPARED TO VENETOCLAX-CD20-ANTIBODY COMBINATIONS AND CHEMOIMMUNOTHERAPY IN TREATMENT-NAIVE CHRONIC LYMPHOCYTIC LEUKEMIA: FINAL ANALYSIS FROM THE PHASE 3 GAIA/CLL13 TRIAL	Dr. Moritz Fürstenau	• **Introduction:** The GAIA/CLL13 trial investigated time-limited venetoclax-based regimens in fit, treatment-naive CLL patients without TP53 aberrations, building on prior findings of GV and GIV superiority over CIT and RV. • **Methodology**: 926 patients were randomized 1:1:1:1 to CIT, RV, GV, or GIV. Primary endpoint was PFS. Follow-up duration was a median of 63.8 months. All p-values were descriptive. • **Results:** GIV showed significantly longer PFS than GV (HR 0.61, p=0.0046) and superior PFS vs CIT and RV. Five-year PFS: GIV 81.3%, GV 69.8%, RV 57.4%, CIT 50.7%. Unmutated IGHV independently predicted inferior PFS. OS was comparable. Fewer patients on GIV required subsequent therapy. AE rates, including RT and second malignancies, were similar across arms. • **Conclusions:** GIV now surpasses GV in PFS, particularly benefiting unmutated IGHV patients. Despite equivalent OS, treatment decisions must weigh efficacy, tolerability, and quality of life.

Notable Presentations At EHA 2025
Hematologic Malignancies and Leukemia (2/7)

Date	Title	Author	Summary
12 June 2025	THE RANDOMIZED CONTROLLED HAMLET TRIAL SHOWS NO SURVIVAL DIFFERENCE BETWEEN HAPLOIDENTICAL RELATED AND SINGLE HLA-LOCI MISMATCHED UNRELATED DONOR TRANSPLANTATION IN PATIENTS WITH HIGH RISK AML/ALL/MDS	Prof. Johannes Schetelig	• **Introduction:** When HLA-matched donors are unavailable, optimal donor choice—haploidentical (haplo) vs mismatched unrelated donor (mmUD)—remains unclear in high-risk hematologic malignancies. • **Methodology**: In a randomized trial, 98 adult patients with AML, ALL, or MDS and both donor types were assigned to haplo (with post-transplant cyclophosphamide) or mmUD (with ATG). Primary endpoint: overall survival (OS); non-inferiority margin HR 0.85. • **Results:** After 40 months' median follow-up, 4-year OS was similar: 48% (haplo) vs 50% (mmUD; HR 0.96; p=0.88). No significant differences in relapse, NRM, GvHD, or GRFS. Transplant occurred 8 days sooner in haplo. • **Conclusions:** Haplo and mmUD yield comparable long-term outcomes. Donor selection should prioritize clinical urgency and donor-specific factors.
12 June 2025	EFFICACY AND SAFETY OF MITAPIVAT IN PEDIATRIC PATIENTS WITH PYRUVATE KINASE DEFICIENCY WHO ARE REGULARLY TRANSFUSED: RESULTS FROM THE PHASE 3 RANDOMIZED GLOBAL PLACEBO-CONTROLLED ACTIVATE-KIDST TRIAL	Dr. Rachael F. Grace	• **Introduction:** Pediatric pyruvate kinase (PK) deficiency requires frequent transfusions, leading to complications and reduced quality of life. No approved disease-modifying therapies currently exist. • **Methodology**: The global Phase 3 ACTIVATE-KidsT trial randomized 49 children (2:1) to oral mitapivat or placebo for 32 weeks. Primary endpoint was ≥33% transfusion volume reduction; Bayesian analysis incorporated adult ACTIVATE-T data. • **Results:** 28.1% on mitapivat vs 11.8% on placebo achieved transfusion reduction. Mitapivat also led to higher transfusion-free (18.8% vs 0%) and normal Hb responses (12.5% vs 0%). Safety was comparable across arms. • **Conclusions:** Mitapivat showed favorable tolerability and clinical benefit, emerging as the first potential disease-modifying therapy for transfusion-dependent pediatric PK deficiency.

Notable Presentations At EHA 2025
Hematologic Malignancies and Leukemia (3/7)

Date	Title	Author	Summary
12 June 2025	LONG-TERM EFFICACY AND SAFETY STUDY OF RILZABRUTINIB, ORAL BRUTON TYROSINE KINASE INHIBITOR, IN PATIENTS WITH WARM AUTOIMMUNE HEMOLYTIC ANEMIA (WAIHA): LUMINA PHASE 2B PART B	Dr. Bruno Fattizzo	• **Introduction:** The study assesses long-term efficacy and safety of rilzabrutinib at week 50 in Part B. • **Methodology**: Adults (≥18 y) with primary wAIHA, relapsed/refractory or CS-dependent, ECOG 0–2, Hb <10 g/dL, abnormal hemolytic markers, and positive DAT entered Part B after completing 24 weeks of rilzabrutinib (400 mg BID) and achieving Hb response. Part B continued treatment to week 52. • **Results:** As of Dec 18, 2024, 15 of 22 patients (68%) entered Part B (median age 68 y; 27% ≥75 y; 40% female). Among 14 wAIHA patients, median diagnosis time was 7.1 y; 60% had ≥3 prior therapies. Rilzabrutinib was given as monotherapy (40%) or with CS (60%). Twelve patients (80%) achieved durable Hb response; median Hb 11.5–12.1 g/dL to week 50. Median response duration (Parts A+B) was 274 days. LDH dropped 42–44%, reticulocytes 57–62%, bilirubin 48–66%. Rescue meds were used in 3 (20%) patients; 3 also required transfusions. FACIT-Fatigue improved by 4.3 (week 26) and 6.0 (week 50) from baseline. Median Part B treatment was 26 weeks. Nine (60%) had AEs; 4 (27%) were treatment-related. Most common AEs (13%): back pain, cellulitis, URTI. One unrelated SAE (Hb decrease); no discontinuations or deaths. • **Conclusions:** Rilzabrutinib maintained long-term efficacy with durable Hb response, reduced hemolysis, improved fatigue, and a favorable safety profile in wAIHA
13 June 2025	ACHIEVEMENT OF MRD NEGATIVITY AFTER END OF INDUCTION WITH PONATINIB AND IMATINIB IN THE PHASE 3 PHALLCON TRIAL: A POST HOC ANALYSIS	Prof. Carlo Gambacorti-Passerini	• **Introduction:** Post hoc analyses assessed outcomes in patients (pts) not MRD-negative by EOI. • **Methodology**: Pts were randomized 2:1 to ponatinib (30 mg QD, reduced to 15 mg upon MRD-neg CR) or imatinib (600 mg QD) plus 20 cycles of reduced-intensity chemo. Those not proceeding to HSCT could continue monotherapy. • **Results:** Of 232 pts (154 ponatinib/78 imatinib), 140 (86/54) were MRD-positive at EOI. Among 113 who continued (73/40), 48 (35/13) achieved MRD-neg after C4D1. Median MRD-neg duration: not reached (NR) with ponatinib vs 3.8 months with imatinib. Sixteen underwent HSCT (10/6). Median EFS: NR vs 24.8 months; 2-year EFS: 82% (ponatinib) vs 62% (imatinib). • **Conclusions:** Pts not MRD-neg at EOI benefited from continued ponatinib, showing deeper molecular responses and higher 2-year EFS vs imatinib. Data support ponatinib continuation in this population.

Notable Presentations At EHA 2025
Hematologic Malignancies and Leukemia (4/7)

Date	Title	Author	Summary
13 June 2025	SAFETY AND EFFICACY OF AZD0486 IN ADOLESCENT AND ADULT PATIENTS WITH RELAPSED OR REFRACTORY B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA: EARLY RESULTS FROM THE PHASE 1/2 SYRUS STUDY	Dr. Ibrahim Aldoss	• **Introduction:** AZD0486 is a CD19xCD3 bispecific T-cell engager engineered for low-affinity CD3 binding to limit cytokine release while maintaining anti-leukemic cytotoxicity. Early efficacy was shown in B-NHL; the SYRUS trial explores its role in relapsed/refractory B-ALL. • **Methodology**: SYRUS is a Phase 1 dose-escalation study (part A) in CD19+ R/R B-ALL patients aged 16–80 years. AZD0486 was given intravenously using step-up dosing, with target doses (2.4 or 7.2 mg) administered biweekly. Safety, CRS/ICANS rates, and response per ELN/NCCN criteria were evaluated. • **Results:** Among 24 patients, CR/CRi rates were 46% in DL1 (83% MRDneg) and 67% in DL2 (all MRDneg). CRS occurred in 31% (DL1) and 73% (DL2); all manageable, with no grade ≥3 ICANS. No AZD0486-related discontinuations. Durable responses were observed (6–330 days), with high efficacy in patients with extramedullary disease and high marrow blast burden. • **Conclusions:** AZD0486 demonstrates promising efficacy and a manageable safety profile in R/R B-ALL. Continued evaluation is warranted as dose escalation and MRD/PK data mature.
13 June 2025	AUTONOMOUS AI-DRIVEN INTENSIFIED PROPHYLAXIS OF SEVERE ACUTE GRAFT-VERSUS-HOST DISEASE IN HAPLOIDENTICAL TRANSPLANTS: A SINGLE-CENTRE, PROOF-OF-CONCEPT, PHASE 2 TRIAL	Dr. Yigeng Cao	• **Introduction:** Severe aGVHD remains a major complication post-Haplo/MMUD transplants. Autonomous AI tools like daGOAT may improve precision prophylaxis, but real-world feasibility remains uncertain due to HIS complexity. • **Methodology**:In a single-center proof-of-concept trial (NCT05600855), daGOAT autonomously monitored 141 clinical variables and identified patients at risk for severe aGVHD, triggering preemptive low-dose ruxolitinib. Compliance, safety, and efficacy were prospectively assessed versus matched historical controls. • **Results:** Among 115 patients, 88% followed AI dosing. Severe aGVHD incidence was significantly lower in the AI-guided group (6% vs 16%, p=0.008). GVHD-free relapse-free survival at day 100 was 92% vs 81% (p=0.007), with no increase in ruxolitinib toxicity. • **Conclusions:** Autonomous AI-guided intervention with daGOAT safely reduced severe aGVHD, supporting its feasibility and clinical utility in transplant care.

Notable Presentations At EHA 2025
Hematologic Malignancies and Leukemia (5/7)

Date	Title	Author	Summary
13 June 2025	CHRONIC MYELOID LEUKEMIA (CML) TREATMENT DISCONTINUATION AFTER A TWO-STEP DOSE REDUCTION. THE FIRST RESULTS OF THE PHASE 2 STUDY HALF.	Prof. Dr. Jiří Mayer	• **Introduction:** TKI discontinuation in chronic myeloid leukemia (CML) is a validated strategy for achieving treatment-free remission (TFR), yet biological predictors of relapse and withdrawal syndromes remain unclear. • **Methodology**: The HALF trial (Czech Republic, 2020–2023) enrolled 207 CML patients with ≥4 years of TKI therapy and ≥2 years in MR4. A two-step dose de-escalation was followed by discontinuation. Molecular relapse (loss of MMR) triggered TKI reinitiation. Multiple clinical and lab parameters were monitored. • **Results:** At 15 months, TFR was 70.4%. No baseline clinical or biological factor significantly predicted TFR. However, linear BCR::ABL1 increase during dose reduction predicted relapse. Biochemical changes were noted post-discontinuation. TKI-related side effects decreased, though mild new symptoms emerged. Musculoskeletal withdrawal symptoms were transient and manageable. • **Conclusions:** Two-step TKI dose de-escalation is safe and effective, with BCR::ABL1 kinetics offering predictive value. This approach may optimize TFR while minimizing withdrawal symptoms.
13 June 2025	CHARACTERIZATION & EFFICACY OF TERN-701 IN PRE-CLINICAL MODELS OF CHRONIC MYELOID LEUKEMIA	Dr. Keith Gaddie	• **Introduction:** Resistance to tyrosine kinase inhibitors (TKIs) in CML, particularly due to BCR::ABL1 mutations in the P-loop, active site, or allosteric regions, limits treatment durability. Allosteric inhibition via the myristoyl pocket represents a promising therapeutic strategy. • **Methodology**: TERN-701, a selective allosteric BCR::ABL1 inhibitor, was tested in BaF3 cells expressing >20 clinically relevant BCR::ABL1 mutations. Viability after 72 hours of treatment was measured using CellTiter-Glo. Pharmacologic profiling assessed selectivity and drug-like properties. • **Results:** TERN-701 demonstrated potent inhibition across a wide mutational spectrum, including T315I (IC50 = 3.8 nM). It retained activity against active-site, A-loop, P-loop, SH2-contact, and myristoyl domain mutations, with superior potency over asciminib in most cases. The compound showed high oral bioavailability, low clearance, favorable distribution, and minimal off-target activity across 450+ assays. • **Conclusions:** TERN-701 shows broad preclinical activity, including against TKI-resistant mutations, with favorable pharmacokinetics and safety. It is positioned as a potential best-in-class therapy in CML and is under evaluation in the Phase 1 CARDINAL trial.

Notable Presentations At EHA 2025
Hematologic Malignancies and Leukemia (6/7)

Date	Title	Author	Summary
13 June 2025	A PHASE 1B STUDY OF NAVTEMADLIN IN COMBINATION WITH DECITABINE AND VENETOCLAX IN ACUTE MYELOID LEUKEMIA	Dr. Homa Dadrastoussi	• **Introduction:** Relapsed/refractory AML remains difficult to treat. Navtemadlin (NAV), an MDM2 inhibitor, activates p53 and shows synergy with decitabine (DAC) ± venetoclax (VEN) in preclinical TP53-wildtype AML models. • **Methodology**: This Phase Ib trial (NCT03041688) enrolled 37 TP53-wildtype R/R AML patients. Using a 3+3 design, patients received NAV+DAC or NAV+DAC+VEN. Primary aim: determine maximum tolerated dose (MTD) and recommended Phase 2 dose. Molecular and transcriptional markers were assessed. • **Results:** No DLTs were observed in DAC/NAV (up to 360 mg NAV), and one DLT (neutropenia) occurred in DAC/NAV/VEN (120 mg NAV). DAC/NAV: 6/30 (20%) achieved CR/CRi. DAC/NAV/VEN: 5/7 (71%) achieved CR/CRi. Non-responders showed higher MCL-1/BIM complex levels, linked to resistance via blocked MCL-1 degradation. NAV exposure activated p53 pathways and elevated MIC-1 levels. • **Conclusions:** NAV combined with DAC ± VEN is safe and active in R/R AML. MCL-1/BIM levels may predict resistance, supporting a biomarker-guided approach in future studies.
13 June 2025	PRELIMINARY SAFETY, PHARMACOKINETIC, AND CLINICAL ACTIVITY RESULTS WITH FHD-286, A BRG1/BRM INHIBITOR, PLUS DECITABINE IN A PHASE 1 STUDY IN PATIENTS WITH RELAPSED OR REFRACTORY MYELOID MALIGNANCIES	Dr. Courtney DiNardo	• **Introduction:** The Phase 1 FHD-286-C-002 trial (NCT04891757) assessed safety, tolerability, and preliminary efficacy of FHD-286+DAC in R/R AML, MDS, or CMML. • **Methodology**: Patients (pts) were grouped by triazole antifungal use: B1 (none) or B2 (CYP3A4 inhibitors). FHD-286 was dosed QD with DAC (20 mg/m² D1–5, 28-day cycles). B1 doses: 2.5–10 mg; B2: 1.5–2.5 mg. Enrollment is complete. • **Results:** By Dec 2024, 45 patients (AML n=40, MDS n=4, CMML n=1; median age 67) received FHD-286+DAC. Most had prior HMAs (93%) and venetoclax (91%).Common AEs included fatigue (42%), hypokalemia (40%), and infections (29%). Differentiation syndrome occurred in 10 patients (Grades 1–3), managed conservatively.B1 patients tolerated higher doses (up to 10 mg) with fewer discontinuations and DLTs than B2. Ten deaths due to AEs (5 per group).ORR was 18%: 2 CRp, 5 MLFS, 1 PR. PK showed dose-proportional exposure; B2 had higher levels. PD showed CD11b↑ and CD34↓ in marrow blasts. • **Conclusions:** FHD-286+DAC showed tolerability and activity in R/R AML/MDS, with better safety in pts not on CYP3A4 inhibitors.

Notable Presentations At EHA 2025
Hematologic Malignancies and Leukemia (7/7)

Date	Title	Author	Summary
13 June 2025	MEASURABLE RESIDUAL DISEASE KINETICS WITH FIXED-DURATION ACALABRUTINIB-VENETOCLAX COMBINATIONS IN TREATMENT-NAIVE CHRONIC LYMPHOCYTIC LEUKEMIA: DATA FROM THE PHASE 3 AMPLIFY TRIAL	Dr. Paolo Ghia	• **Introduction:** The study aimed to assess MRD kinetics and its association with PFS for FD AV regimens vs CIT in TN CLL. • **Methodology**: In AMPLIFY (NCT03836261), 867 patients aged ≥18 with ECOG ≤2 and no del(17p)/TP53 mutation were randomized 1:1:1 to AV, AV+obinutuzumab (AVO), or FCR/BR. MRD was assessed in PB/BM via flow cytometry ($<10^{-4}$) and in PB by NGS (ClonoSEQ). Analyses were stratified by IGHV mutation status. • **Results:** uMRD rates in PB (flow cytometry) at end of therapy (EOT) were 45% (AV), 95% (AVO), and 73% (FCR/BR); EOT+36 rates were 37%, 72%, and 45%, respectively. BM uMRD rates at EOT+3 were similar to PB for AV (40%) and AVO (93%), but lower for FCR/BR (65% vs 78% in PB). In uIGHV patients, EOT uMRD rates were higher vs mIGHV for AV (54% vs 33%), but similar for AVO (96% vs 94%) and FCR/BR (74% vs 72%). Achieving uMRD at EOT in uIGHV patients reduced progression/death risk with AV (HR 0.42) and AVO (HR 0.20) vs FCR/BR. A similar trend was seen in mIGHV patients. • **Conclusions:** AVO led to the deepest and most durable uMRD responses. EOT uMRD was linked to improved PFS, especially in uIGHV patients, supporting uMRD as a surrogate endpoint in FD BTK-based therapy.
14 June 2025	ANALYSIS OF COVID-19 INFECTIONS WITH FIXED-DURATION ACALABRUTINIB-VENETOCLAX COMBINATIONS IN TREATMENT-NAIVE CHRONIC LYMPHOCYTIC LEUKEMIA IN THE PHASE 3 AMPLIFY TRIAL	Dr. Jennifer R. Brown	• **Introduction:** The study aimed to evaluate COVID-19 AEs by treatment arm in AMPLIFY • **Methodology**: Patients (N=867) without TP53/del(17p) mutations were randomized to AV, AVO, or FCR/BR. COVID-19 infections, deaths, vaccination status, and pandemic wave timing were analyzed through April 30, 2024. • **Results:** Vaccination rates were higher in AV (53%) and AVO (50%) vs FCR/BR (39%). COVID-19 events occurred in 37.5% (AV), 45.8% (AVO), and 27.9% (FCR/BR) of patients; grade ≥3 AEs were highest in AVO (23%) vs AV (10%) and FCR/BR (15%). COVID-19-related discontinuations occurred in 8.1% (AVO), 2.4% (AV), and 1.2% (FCR/BR). Deaths were more frequent in AVO (8.7%) and FCR/BR (7.2%) vs AV (3.4%), mainly during the second pandemic wave and in Eastern Europe. Vaccination among those who died was 0% (AV), 24% (AVO), and 9.5% (FCR/BR) • **Conclusions:** COVID-19 deaths were highest with AVO and FCR/BR, with lower vaccination rates among deceased patients. Most deaths occurred during the second wave and in under-vaccinated regions

Notable Presentations At EHA 2025
Multiple Myeloma & Related Disorders (1/5)

Date	Title	Author	Summary
12 June 2025	INTEGRATIVE MULTIOMIC ANALYSIS OF MULTIPLE MYELOMA IDENTIFIES MOLECULAR PREDICTORS OF MRD IN THE MIDAS TRIAL	Dr. Stéphane Minvielle	• **Introduction:** Study aimed to develop a multiomic classification of MM using genomic, transcriptomic, and epigenomic data; (2) Identify molecular predictors of high-risk disease in newly diagnosed MM patients treated with Isa-KRD in the MIDAS trial. • **Methodology**: Baseline samples from 425 patients in the Phase 3 MIDAS trial underwent WGS (n=424), WGEM-seq (n=425), and RNA-seq (n=420). Multiomic features were correlated with MRD status after 6 cycles of Isa-KRD induction. • **Results:** Each tumor had a median of 4 driver alterations. MRD negativity was lower in t(11;14) and CCND1-mutated cases, and higher in t(4;14), hyperdiploid (HP), and tumors with MYC, BRAF, or TXNDC5 alterations. Rare hypermutated tumors driven by APOBEC or MSI were observed. Chromothripsis and other SV patterns were subtype-specific. Gene expression defined known and novel subgroups, including HP1/HP2 and LB. CD1/2 and MF subgroups had lower MRD negativity; HP2 and LB had higher. Seven methylation clusters (M1–M7) were defined; M6 showed NSD2-linked hypermethylation in t(4;14), while M1–M5 showed variable hypomethylation. M4/M7 (t(11;14)) had low MRD negativity; M1–M3 had the highest. • **Conclusions:** This first integrated multiomic analysis in a quadruplet-treated MM trial refines molecular subgroups, links them to MRD outcomes, and provides new insight into MM risk stratification and therapeutic response prediction.
13 June 2025	A NOVEL HYPOXIA GENE SIGNATURE FROM THE HOVON-65/GMMG-HD4 PHASE 3 STUDY PROGNOSTIC OF SURVIVAL AND ASSOCIATED WITH IMMUNE SUPPRESSION IN THE TUMOR MICROENVIRONMENT	Dr. Catharina Van Elssen	• **Introduction:** The study developed a hypoxia gene signature from the HOVON65/GMMG-HD4 trial to predict prognosis and immune infiltration. • **Methodology**: Five MM cell lines were cultured under normoxia and hypoxia. RNA-seq identified DEGs (FDR <0.01); genes shared by ≥3 lines informed clustering of 326 HOVON65 patients. LASSO and PAMR selected prognostic genes. Validation was done in COMMPASS, GSE57317, and GSE4452. Immune profiling used GSE136324. • **Results:** Eighty hypoxia DEGs were enriched in oxygen response pathways. Clustering identified a hypoxia-high group with worse PFS (HR 0.70) and OS (HR 0.46). A 5-gene signature independently predicted poor survival (PFS HR 0.39; OS HR 0.59). DLGAP5 was the strongest marker. The signature correlated with immune suppression—↓neutrophils/NK cells, ↑M2 macrophages, ↑PD-L1, LAG3, CTLA4—and was validated in all external datasets. • **Conclusions:** This validated hypoxia signature predicts worse outcomes and immune suppression in MM and may support risk-adapted treatment strategies.

Notable Presentations At EHA 2025
Multiple Myeloma & Related Disorders (2/5)

Date	Title	Author	Summary
13 June 2025	PHASE 1, FIRST-IN-HUMAN STUDY OF ISB 2001: A BCMAXCD38XCD3-TARGETING TRISPECIFIC ANTIBODY FOR PATIENTS WITH RELAPSED/REFRACTORY MULTIPLE MYELOMA (RRMM)—DOSE ESCALATION (DE) RESULTS.	Hang Quach	• **Introduction:** The study presented safety, efficacy, PK, and PD data from the dose-escalation (DE) phase of a Phase 1 trial of ISB 2001. • **Methodology**: Relapsed/refractory MM (RRMM) patients refractory/intolerant to standard therapies, including prior BCMA or T-cell–directed therapies, received weekly subcutaneous ISB 2001 in 28-day cycles. DE used an accelerated then 3+3 titration. DLTs were assessed in cycle 1. • **Results:** As of Jan 13, 2025, 24 patients received ISB 2001 across 8 dose levels (5–1800 µg/kg); DL9 (2700 µg/kg) is enrolling. Median age was 66; all were triple-class exposed, 71% penta-exposed. No DLTs, discontinuations, or deaths occurred. Grade 3–4 AEs occurred in 54%; CRS (mostly Grade 1–2) in 71% with median onset 3 days and duration 2 days; no ICANS reported. ORR was 75% across all doses (sCR 13%, CR 13%, VGPR 38%, PR 13%), including responses at ≥50 µg/kg (ORR 82%, MRD-negative sCR). Median time to response: 36 days. PK was near dose-proportional; half-life >10 days. T-cell activation was consistent with MOA. • **Conclusions:** ISB 2001 showed strong efficacy, favorable safety, and no ICANS in heavily pretreated RRMM. Dose escalation continues, with full PK/PD results to follow.
13 June 2025	CARFILZOMIB, LENALIDOMIDE, AND DEXAMETHASONE (KRD) VERSUS ELOTUZUMAB-KRD IN TRANSPLANT-ELIGIBLE PATIENTS WITH NEWLY DIAGNOSED MULTIPLE MYELOMA: INITIAL RESULTS FOR 3-YEAR PROGRESSION-FREE SURVIVAL (PFS)	Prof. Dr. Stefan Knop	• **Introduction:** In transplant-eligible (TE) NDMM, adding CD38 mAbs to VRd improves outcomes, but elotuzumab (E; anti-SLAMF7) previously failed to enhance VRd. As carfilzomib (K) may be more potent than bortezomib, we compared E-KRd vs KRd. • **Methodology**: In this Phase 3 trial (NCT03948035), NDMM patients ≤70 years were randomized to six induction cycles of KRd or E-KRd, followed by ASCT (single/tandem), four consolidation cycles, and lenalidomide (R) or elotuzumab-R (ER) maintenance. Co-primary endpoints were post-induction MRD-negative ≥VGPR (previously met) and 3-year PFS. • **Results:** From 08/2018–10/2021, 579 patients (574 treated) were enrolled. Median age: 60; 15% had ISS III. Median follow-up ~47 months. Three-year PFS: 72.2% (KRd) vs 78.7% (E-KRd); not statistically significant (OR 1.42; p=0.0703). Grade 3–5 adverse events: 39.9% (R) vs 46.1% (ER). Related deaths: 2 (R), 1 (ER). Median maintenance: ~28 months in both arms. • **Conclusions:** E-KRd showed a trend toward improved 3-year PFS but missed significance due to better-than-expected KRd results. ER maintenance was safe and well tolerated.

Notable Presentations At EHA 2025
Multiple Myeloma & Related Disorders (3/5)

Date	Title	Author	Summary
13 June 2025	UPDATED INTERIM RESULTS OF SONROTOCLAX + DEXAMETHASONE IN PATIENTS WITH T(11;14)-POSITIVE RELAPSED/REFRACTORY MULTIPLE MYELOMA: AN ALL-ORAL TREATMENT	Dr. Binod Dhakal	• **Introduction:** The study aimed to present updated safety and efficacy data for sonrotoclax (320 or 640 mg) combined with dexamethasone. • **Methodology**: Patients with centrally confirmed t(11;14) R/R MM received daily sonrotoclax (320 or 640 mg) plus weekly dex until progression or discontinuation. Safety and efficacy were assessed per IMWG criteria. • **Results:** As of Jan 20, 2025, 14 and 36 patients received 320 mg and 640 mg, respectively. Median prior therapies were 3 in both cohorts, with ~70% triple-class refractory. Median follow-up was 6.2 (320 mg) and 12.1 months (640 mg). ORR was 64.3% and 80.6%; VGPR or better was 35.7% and 55.6%, respectively. Median DOR was 5.9 vs 12.2 months, and PFS was 6.6 vs 13.3 months, favoring the 640-mg dose. Most common TEAEs: fatigue (320 mg), insomnia and diarrhea (640 mg). Grade ≥3 AEs were seen in 36% (320 mg) and 47% (640 mg), with low rates of severe infections and hematologic toxicities. No deaths were attributed to study treatment • **Conclusions:** Sonrotoclax plus dexamethasone showed strong efficacy and manageable safety in t(11;14)-positive R/R MM, with higher and more durable responses at 640 mg. The study is ongoing, with combination regimens under further investigation.
13 June 2025	MEZIGDOMIDE (MEZI) PLUS DEXAMETHASONE (DEX) AND BORTEZOMIB (BORT) OR CARFILZOMIB (CFZ) IN PATIENTS WITH RELAPSED/REFRACTORY MULTIPLE MYELOMA (RRMM): UPDATED RESULTS FROM THE CC-92480-MM-002 TRIAL	Irwindeep Sandhu	• **Introduction:** The study reported updated safety and efficacy from MeziVd and MeziKd dose-escalation cohorts and MeziVd dose-expansion. • **Methodology**: Eligible RRMM patients had 1–4 prior regimens including lenalidomide, and progressive disease. MEZI was given on days 1–14 (MeziVd) or 1–21 (MeziKd). Primary endpoints included recommended dose, safety, and efficacy. • **Results:** Dose-Escalation (n=55): Median follow-up was 13.7 (MeziVd) and 15.2 months (MeziKd). Grade 3/4 TEAEs included neutropenia (36–44%), thrombocytopenia (21%), and infections (18–33%). ORR was 75.0% (MeziVd) and 85.2% (MeziKd); median PFS was 12.3 and 13.5 months. Dose-Expansion (MeziVd, n=49): Median follow-up was 18.3 months. Grade 3/4 TEAEs were neutropenia (63%), infections (33%), and thrombocytopenia (27%). ORR was 85.7%; median DOR was 19.4 months; PFS was 17.5 months. • **Conclusions:** Longer-term follow-up confirms MeziVd and MeziKd offer high response rates, sustained PFS, and manageable toxicity in RRMM, supporting Phase 3 development.

Notable Presentations At EHA 2025
Multiple Myeloma & Related Disorders (4/5)

Date	Title	Author	Summary
13 June 2025	ISA-VRD IMPROVES OUTCOMES IN HIGH-RISK (HR) NEWLY DIAGNOSED TRANSPLANT-INELIGIBLE MULTIPLE MYELOMA (NDMM TI) USING THE IMS/IMWG CONSENSUS HR DEFINITION: RESULTS FROM THE BENEFIT PHASE 3 TRIAL (IFM 2020-05)	Dr. Jill Corre	• **Introduction:** Isa-VRd is a new SOC for transplant-ineligible NDMM. Using updated IMS/IMWG criteria, the BENEFIT study assessed Isa-VRd efficacy in high-risk (HR) patients. • **Methodology**: 270 non-frail NDMM patients were randomized 1:1 to Isa-VRd or Isa-Rd. HR was defined per IMS/IMWG. Sustained MRD negativity ($<10^{-5}$ by NGS at 12, 18, 24 months) was assessed using ITT analysis; missing MRD data were considered positive. • **Results:** At 33.4 months, 31% (Isa-VRd) and 22% (Isa-Rd) were HR. MRD negativity at 18 months (10^{-5}) was 50% (Isa-VRd) vs 27% (Isa-Rd) [OR 2.75]. Sustained MRD negativity was 34% vs 16% overall [OR 2.73, p=0.0007], and 31% vs 13% in HR patients [OR 2.91, p=0.091]. Safety was comparable. • **Conclusions:** Isa-VRd significantly improves MRD outcomes vs Isa-Rd, supporting its use as SOC in transplant-ineligible NDMM, including HR patients.
13 June 2025	UPDATED RESULTS FROM PHASE 3 DREAMM-8 STUDY OF BELANTAMAB MAFODOTIN PLUS POMALIDOMIDE AND DEXAMETHASONE VS POMALIDOMIDE PLUS BORTEZOMIB AND DEXAMETHASONE IN RELAPSED/REFRACTORY MULTIPLE MYELOMA	Prof. Meletios A. Dimopoulos	• **Introduction:** The study aimed to report updated efficacy and safety results of BPd vs PVd with 8 additional months of follow-up. • **Methodology**: In this Phase 3 trial, 302 RRMM patients with ≥1 prior line of therapy (including lenalidomide) were randomized 1:1 to BPd or PVd. Treatment continued until progression, toxicity, or death. PFS and safety were assessed. • **Results:** With 28.0 months median follow-up, BPd showed sustained PFS benefit: median PFS 32.6 vs 12.5 months (HR 0.49). The 18-month PFS rate was 63% vs 41% for BPd and PVd, respectively. BPd showed consistent benefit across subgroups, including high-risk cytogenetics, lenalidomide- or anti-CD38–refractory disease. Safety profile remained consistent with prior reports; no new signals observed. • **Conclusions:** BPd continued to show significant, durable PFS benefit over PVd across key RRMM subgroups, supporting its potential as a new standard of care.

Notable Presentations At EHA 2025
Multiple Myeloma & Related Disorders (5/5)

Date	Title	Author	Summary
13 June 2025	ISATUXIMAB, BORTEZOMIB, LENALIDOMIDE, AND DEXAMETHASONE (ISA-VRD) IN NEWLY DIAGNOSED MULTIPLE MYELOMA (NDMM): OUTCOMES IN PATIENTS WITH 1Q21+ STATUS IN THE PHASE 3 IMROZ STUDY	Prof. Meletios A. Dimopoulos	• **Introduction:** The study aimed to evaluate Isa-VRd/Isa-Rd efficacy in newly diagnosed MM (NDMM) patients with 1q21+ status, focusing on PFS, response, and MRD negativity. • **Methodology**: In IMROZ, 446 patients were randomized 3:2 to Isa-VRd (n=265) or VRd (n=181), with 1q21+ assessed by FISH (≥3 copies). Outcomes were assessed for 1q21+ and isolated 1q21+ (without other high-risk cytogenetic abnormalities). • **Results:** 35.9% (Isa-VRd) and 38.7% (VRd) had 1q21+; ~24% had gain(1q21), ~12% amp(1q21). Isa-VRd significantly improved PFS across all 1q21+ subgroups, with higher complete response and MRD negativity rates. More patients achieved MRD-negative CR and sustained MRD negativity ≥12 months vs VRd. • **Conclusions:** Isa-VRd showed clear PFS and MRD benefits over VRd in NDMM patients with 1q21+ or isolated 1q21+, reinforcing its role as an effective treatment option in this high-risk subgroup.
13 June 2025	RELAPSE FROM MEASURABLE DISEASE NEGATIVITY AS INDICATION FOR TREATMENT IN MULTIPLE MYELOMA: THE PHASE 3 REMNANT STUDY	Dr. Frida Bugge Askeland	• **Introduction:** To evaluate if initiating 2L therapy at MRD relapse improves PFS and OS versus waiting for clinical progression in MM. • **Methodology**: REMNANT is a multicenter, randomized phase 2/3 trial in NDMM patients ≤75 years eligible for ASCT. All patients receive SOC Norwegian 1L treatment: bortezomib-lenalidomide-dexamethasone (VRd), ASCT, then lenalidomide maintenance. Patients achieving MRD-negative CR (Euroflow NGF, 10^{-5}) are randomized 1:1 to start 2L daratumumab-carfilzomib-dexamethasone at MRD relapse or PD. Co-primary endpoints are PFS and OS. • **Results:** From Aug 2020–Jan 2025, 383 patients were enrolled. ORR was 94%; 41% achieved MRD-negative CR post-consolidation. Of 272 patients, 57% entering maintenance achieved MRD-negative CR. In part two (n=182), at 20.4 months median follow-up, 24 had progressed (19 in MRD-guided group vs 5 in PD-guided). Only 2 PD-guided patients relapsed on 2L treatment. • **Conclusions:** Early MRD-guided intervention leads to more 2L treatment starts than PD-guided management, though outcomes are immature. SOC Norwegian therapy yields high MRD-negative CR rates.

Notable Presentations At EHA 2025
Lymphoma and Hematological Disorders (1/4)

Date	Title	Author	Summary
12 June 2025	ACIMTAMIG (AFM13) IN COMBINATION WITH ALLONK® (AB-101) IN PATIENTS WITH RELAPSED OR REFRACTORY CLASSICAL HODGKIN LYMPHOMA: RESULTS FROM THE DOSE FINDING PHASE OF THE LUMINICE-203 PHASE 2 STUDY	Joseph Maakaron	• **Introduction:** Acimtamig (AFM13), a CD30/CD16A bispecific engager, paired with off-the-shelf NK cells (AlloNK®), may drive anti-tumor activity via ADCC. • **Methodology**: LuminICE-203 (NCT05883449) is a Phase 2 study testing four dose regimens of acimtamig + AlloNK® after lymphodepletion. Primary endpoint: objective response rate (ORR) by PET-CT (Lugano criteria). • **Results:** Among 24 patients (median 4.5 prior therapies; 58% post-transplant), ORR was 88% with 58% complete response. Infusion reactions occurred in 50%, mostly mild/moderate. No fatal TRAEs or early stopping events. • **Conclusions:** Acimtamig + AlloNK® shows promising efficacy and safety in heavily pretreated R/R cHL.
12 June 2025	PELABRESIB IN COMBINATION WITH RUXOLITINIB FOR JANUS KINASE INHIBITOR-NAIVE PATIENTS WITH MYELOFIBROSIS: 72-WEEK FOLLOW-UP WITH LONG-TERM EFFICACY OUTCOMES OF THE PHASE III MANIFEST-2 STUDY	Ms. Lindsay Judge	• **Introduction:** The study aimed to report 72-week data on efficacy (SVR35, TSS, anemia, BMF), safety, and survival outcomes (PFS, OS, LFS) for PELA+RUX vs placebo (PBO)+RUX. • **Methodology**: Patients with Int-1+ risk MF were randomized 1:1 to PELA+RUX or PBO+RUX. Key endpoints included SVR35, TSS50, hemoglobin response, BMF improvement, and survival • **Results:** At 72 weeks, PELA+RUX showed higher SVR35, TSS reduction, and BMF improvement vs PBO+RUX. Anemia response (Hb ≥ 1.5 g/dL) was 20.9% vs 16.9%. Grade ≥3 TEAEs occurred in ~65% of both arms; Grade ≥3 thrombocytopenia was higher with PELA+RUX (17% vs 7%). Leukemic transformation was 6.1% vs 4.2%. Survival hazard ratios favored PELA+RUX: PFS (HR 0.87), OS (HR 0.93), LFS (HR 0.99). • **Conclusions:** PELA+RUX showed durable clinical benefit over RUX alone in spleen volume, symptoms, BMF, and anemia, with a manageable safety profile and potential survival advantage.

Notable Presentations At EHA 2025
Lymphoma and Hematological Disorders (2/4)

Date	Title	Author	Summary
12 June 2025	PROSPECTIVE VALIDATION OF END OF TREATMENT CTDNA-MRD BY PHASED-SEQ IN DLBCL PATIENTS FROM A NATIONAL HOVON TRIAL	Prof. Dr. Martine Chamuleau	• **Introduction:** Study aimed to independently confirm the prognostic value of ctDNA-MRD at end of treatment (EOT) in 1L DLBCL using PhasED-Seq. • **Methodology**: In the HOVON-902 study (>50 centers), patients received R-CHOP or DA-EPOCH-R. ctDNA-MRD status was determined at EOT using PhasED-Seq. Associations with PFS and OS were analyzed, including subgroup and multivariate analyses. • **Results:** Of 150 patients with PVs identified, 24% were MRD+ at EOT. MRD+ predicted inferior 2-year PFS (28% vs 88%; HR 9.7, p<0.0001) and OS (50% vs 97%; HR 10.6, p<0.0001). MRD status was prognostic across subgroups and remained independently significant for PFS (HR 7.1) and OS (HR 5.1) in multivariate models. • **Conclusions:** PhasED-Seq-based ctDNA-MRD is a strong, independent predictor of survival in 1L DLBCL. It can refine response assessment beyond imaging and help guide post-treatment management.
13 June 2025	MINIMAL RESIDUAL DISEASE WITH BENDAMUSTINE-RITUXIMAB WITH OR WITHOUT ACALABRUTINIB IN PATIENTS WITH PREVIOUSLY UNTREATED MANTLE CELL LYMPHOMA: RESULTS FROM THE PHASE 3 ECHO TRIAL	Dr. Michael L. Wang	• **Introduction:** Minimal residual disease (MRD) is an important prognostic marker in MCL. Study aimed to evaluate the relationship between MRD status and clinical outcomes in the ECHO trial. • **Methodology**: Patients ≥65 years with untreated MCL received ABR or placebo+BR (PBR). MRD (10^{-5}) was assessed via ClonoSEQ in peripheral blood every 24 weeks and at clinical response or progression. Outcomes included PFS and OS by MRD status. • **Results:** MRD was evaluable in 266 (ABR) and 252 (PBR) patients. At week 24, MRD negativity was similar (70.7% ABR vs 67.9% PBR). However, MRD-negative patients had significantly better outcomes: median PFS 66.7 vs 13.8 months (HR 0.22; P<0.0001), and median OS not reached vs 22.8 months (HR 0.31; P=0.00015). MRD negativity was more durable in the ABR arm (HR 0.44; P=0.022). Patients who sustained MRD negativity beyond 24 weeks had longer PFS (70.2 vs 44.2 months; HR 1.96; P<0.0001). • **Conclusions:** Achieving and sustaining MRD negativity, especially with continuous acalabrutinib, was strongly associated with improved PFS. MRD status was a better predictor of outcomes than clinical response, supporting MRD-guided treatment strategies in MCL.

Notable Presentations At EHA 2025
Lymphoma and Hematological Disorders (3/4)

Date	Title	Author	Summary
14 June 2025	CLONAL HEMATOPOIESIS IN FOLLICULAR LYMPHOMA: ANALYSIS OF THE PHASE III FIL FOLL12 TRIAL	Dr. Riccardo Moia	• **Introduction:** Study aimed to assess the prevalence of CH in FL, its impact on progression-free survival (PFS) and overall survival (OS), and its association with treatment-related toxicities. • **Methodology**: Peripheral blood DNA from 212 FL patients in the FOLL12 trial was analyzed using CAPP-Seq (28-gene panel, VAF ≥1%). Clinical outcomes and toxicities were compared by CH status using standard statistical methods. • **Results:** CH was detected in 35.4% of patients, most commonly involving DNMT3A (17.5%) and TET2 (10.8%). CH+ patients were older (median age 66 vs 57, p<0.001). CH status had no significant impact on PFS (66.4% vs 63.3%, p=0.576) or OS (91.3% vs 93.9%, p=0.532). However, TET2 mutations were significantly associated with higher rates of hematological toxicities (78.3% vs 52.4%, p=0.018) and grade ≥3 neutropenia (60.9% vs 37.6%, p=0.028). • **Conclusions:** While CH does not affect survival in FL, TET2 mutations predict increased hematologic toxicity from first-line chemoimmunotherapy. CH profiling may guide future chemo-free treatment strategies.
14 June 2025	ADVANTIG-101: A PHASE 1B/2 STUDY OF OCIPERLIMAB (ANTI-TIGIT) PLUS TISLELIZUMAB (ANTI-PD-1) OR RITUXIMAB IN RELAPSED/REFRACTORY DIFFUSE LARGE B-CELL LYMPHOMA	Dr. Yuqin Song	• **Introduction:** Study aimed to assess safety, tolerability, and preliminary efficacy of OCI + TIS or OCI + ritux in R/R DLBCL. • **Methodology**: Adults with R/R DLBCL received OCI + TIS (Cohort 1) or OCI + ritux (Cohort 2). Primary endpoints were safety and RP2D; secondary endpoints included ORR and biomarker associations • **Results:** Among 53 patients (median age 65; 85% stage III-IV), OCI combinations were well tolerated. Grade ≥3 hematologic toxicities occurred in ~25–33% of patients. Three patients in Cohort 2 discontinued due to treatment-related AEs; one death was reported. ORRs were modest: 17.4% in Cohort 1 and 18.5% in Cohort 2. PD-L1 expression ≥1% was seen in 70.2%, TIGIT+ immune cells in 93.2%, and TIGIT+ tumor cells in 40.9%. • **Conclusions:** OCI + TIS or ritux was safe but showed limited efficacy in R/R DLBCL. Further exploration with biomarker-guided combinations is warranted.

Notable Presentations At EHA 2025
Lymphoma and Hematological Disorders (4/4)

Date	Title	Author	Summary
14 June 2025	RACIAL AND CLINICAL DETERMINANTS OF RESPONSE IN 2,304 RELAPSE/REFRACTORY B-CELL LYMPHOMAS TREATED WITH ANTI-CD19 CHIMERIC ANTIGEN RECEPTOR T-CELL IN CLINICAL TRIALS	Dr. Soon Jye Kho	• **Introduction:** Study aimed to evaluate the impact of clinical and racial features on outcomes in BCL patients treated with CAR T-cell therapy. • **Methodology**: Data from 9 CAR T trials (2,304 patients) were pooled via Medidata Clinical Cloud®. Patients were grouped as Non-Hispanic Asian (NHA), Non-Hispanic Black (NHB), Non-Hispanic White (NHW), and Hispanic. Two cohorts were analyzed: large BCL (LBCL, n=958) and indolent BCL (iBCL, n=349). Clinical features, efficacy (ORR, CR), and safety (CRS, neurotoxicity) were compared. Kaplan-Meier and Cox models assessed survival predictors. • **Results:** Among infused patients (n=1,622), NHW made up >70% at all stages. In LBCL, Hispanic patients were younger ($p<0.001$); NHB had higher LDH ($p=0.048$); and NHA/NHB had higher lymphocyte counts. No significant racial differences were observed in efficacy or safety across either cohort. Poor ECOG status, bulky disease, and bridging therapy predicted worse OS/PFS in LBCL. In iBCL, older age and shorter diagnosis-to-infusion time were associated with worse outcomes. • **Conclusions:** CAR T efficacy and safety were consistent across racial groups. Clinical features—not race—predicted outcomes, supporting the need for earlier patient identification and improved trial diversity.
14 June 2025	TRANSLATIONAL FINDINGS FROM THE PHASE 2 LUMINICE-203 STUDY OF ACIMTAMIG (AFM13) IN COMBINATION WITH ALLONK® (AB-101) IN PATIENTS WITH RELAPSED OR REFRACTORY CLASSICAL HODGKIN LYMPHOMA (R/R CHL)	Dr. Amitkumar Mehta	• **Introduction:** LuminICE-203 assesses safety, efficacy, and translational PK/PD data to confirm its mechanism of action • **Methodology**: In the dose-finding phase, 24 patients received lymphodepletion followed by acimtamig (200 or 300 mg) plus AlloNK® (2×10^9 or $4\times10^9/2\times10^9/2\times10^9$ cells) weekly for 3 weeks, then acimtamig monotherapy for 3 more weeks. Up to 3 cycles were allowed. Primary endpoint was ORR; exploratory endpoints included PK, CD16 receptor occupancy (RO), NK cell kinetics, cytokines, and immune profiling. • **Results:** xORR was 88%; CR rate was 58% (IRC-assessed). Acimtamig PK matched monotherapy profile. CD16 RO was high post-infusion; peak RO varied by cohort and timepoint. NK cells dropped after lymphodepletion, recovering by Day 22; fluctuating counts noted at infusion endpoints. Transient cytokine increases (not linked to CRS) and consistent MCP-1/IL-5 changes were observed. AlloNK® was detected post-infusion in all cohorts with similar kinetics. • **Conclusions:** Acimtamig + AlloNK® shows expected PK/PD, strong CD16 RO, and NK-driven immune activation, supporting continued investigation in R/R cHL.

Notable Presentations At EHA 2025
Graft-Versus-Host Disease (GVHD) & Transplantation (1/3)

Date	Title	Author	Summary
12 June 2025	TARGETED DOSING OF ANTI-THYMOCYTE GLOBULIN VERSUS FIXED DOSING STRATEGY IN PATIENTS UNDERGOING UNMANIPULATED HAPLOIDENTICAL HAEMATOPOIETIC STEM-CELL TRANSPLANTATION: A RANDOMIZED, MULTICENTER, PHASE 3 CLINICAL TRIAL	Prof. Dr. Dai-Hong Liu	• **Introduction:** The study aimed to validate the efficacy and safety of targeted ATG dosing versus fixed 10 mg/kg ATG in adult haplo-HSCT recipients. • **Methodology**: In this phase 3 trial (NCT05166967), 204 adults with hematologic malignancies undergoing first haplo-HSCT were randomized 1:1 to receive targeted or fixed ATG. Primary endpoint: CMV reactivation by day +180. • **Results:** Of 203 treated patients, CMV reactivation was significantly lower with targeted ATG (31.0%) vs fixed ATG (54.9%; P=0.0004). GRFS at 12 months was significantly better with targeted dosing (63.4% vs 48.0%; HR 0.60, P=0.009). CD4+ T cell recovery at day +100 was also higher in the targeted group (91.0% vs 72.7%; P=0.002). Grade 3–5 AEs were mainly infections and immunologic disorders, with similar fatal event rates. • **Conclusions:** Targeted ATG dosing significantly reduces CMV reactivation, improves GRFS, and accelerates CD4+ immune reconstitution, supporting its use in haplo-HSCT.
12 June 2025	ENHANCE THE THERAPEUTIC EFFICACY OF HUMAN UMBILICAL CORD-DERIVED MESENCHYMAL STEM CELLS IN PREVENTION OF ACUTE GRAFT-VERSUS-HOST DISEASE THROUGH CRISPLD2 MODULATION	Ms. Xu Qing	• **Introduction:** The study aimed to explore MSC heterogeneity and assess how CRISPLD2 overexpression enhances HUC-MSC efficacy against aGVHD. • **Methodology**: Single-cell RNA sequencing identified CRISPLD2 as a marker of immunosuppressive HUC-MSC subpopulations. CRISPLD2 was overexpressed in HUC-MSCs via lentiviral transduction. Functional effects were assessed through bulk RNA sequencing, IL-10 secretion assays, mitochondrial function analysis, and T cell/organoid coculture. In vivo, effects on aGVHD and GVL were tested using murine models. • **Results:** CRISPLD2 overexpression reduced senescence, enhanced IL-10 production, and T cell suppression. Mechanistically, it protected mitochondrial function by inhibiting P2Y11 signaling, preserving stemness. In vivo, CRISPLD2-HUC-MSCs alleviated aGVHD while retaining GVL effects. • **Conclusions:** CRISPLD2 identifies potent immunosuppressive MSCs. Its overexpression improves HUC-MSC function via P2Y11 inhibition, offering a promising strategy to treat aGVHD without compromising anti-leukemia activity.

Notable Presentations At EHA 2025
Graft-Versus-Host Disease (GVHD) & Transplantation (2/3)

Date	Title	Author	Summary
13 June 2025	ADVANCING CHEMOGENOMIC STRATEGIES FOR FUNCTIONAL PRECISION MEDICINE IN RELAPSED/REFRACTORY T-ALL AND ETP-ALL: PRELIMINARY RESULTS OF THE GIMEMA ALL2720 TRIAL	Dr. Luca Pagliaro	• **Introduction:** The GIMEMA ALL2720 trial evaluated a chemogenomic platform combining ex vivo drug response profiling (DRP) and genomic analysis to guide individualized treatment in ETP-ALL and T-ALL. • **Methodology**: Twenty-nine patients (14 ETP-ALL, 9 R/R T-ALL, 6 newly diagnosed ETP-ALL) underwent SNP array, targeted NGS, CI-FISH, and DRP using 77 small molecules. Drug response was quantified (DSS, AUC, IC50). A review board issued treatment guidance based on these results. • **Results:** The cohort (median age 55) showed 67.8% NOTCH1 mutations and 31% CDKN2AB deletions. BCL2, proteasome, and HDAC inhibitors were top pharmacogenomic hits. Fifteen patients (80% ETP-ALL) received DRP-matched therapies, achieving a 60% response rate (CR/CRi), including 5 MRD-negative. Four were bridged to alloHSCT. • **Conclusions:** A national chemogenomic-guided approach is feasible and effective, especially in ETP-ALL, offering high response rates and potential for long-term remission with alloHSCT.
13 June 2025	POOLED FECAL ALLOGENIC MICROBIOTHERAPY FOR REFRACTORY GASTROINTESTINAL ACUTE GRAFT-VERSUS-HOST DISEASE : RESULTS FROM THE EARLY ACCESS PROGRAM IN EUROPE	Dr. Mohamad Mohty	• **Introduction:** This report presents long-term outcomes from 173 patients treated in a European Early Access Program (EAP). • **Methodology**: Adults and 2 pediatric patients with steroid-refractory (SR) or -dependent (SD) GI-aGvHD (n=173; 86% received ruxolitinib) were treated with up to 3 MaaT013 enemas (150 ml, ≥1.35×10^{11} viable bacteria) over ~2 weeks. • **Results:** At day 28, GI-ORR was 53%: 30% CR, 16% VGPR, 6% PR. Overall ORR across all organs was 50%. By day 56, GI-ORR was 47%.Pediatric cases tolerated MaaT013 well—one had VGPR at D28, the other maintained CR through month 12.Overall survival (OS) was 55% at 6 months, 48% at 12, and 44% at 24. OS was significantly better in D28 responders (n=91) vs non-responders (n=82): 73% vs 34% (6 mo), 69% vs 25% (12 mo), 61% vs 25% (24 mo), $p<0.0001$. Median survival: 355 vs 55 days. MaaT013 had a favorable safety profile. Among 49 serious events, 30 were possibly related (infections, sepsis, anorectal issues). Of 91 deaths, causes included GvHD (42), infection (30, incl. 5 COVID-19), malignancy relapse (12), others. • **Conclusions:** MaaT013 is effective and safe in SR/SD GI-aGvHD, particularly post-ruxolitinib. Response correlated with improved survival. Phase 3 ARES data confirm these findings (NCT04769895).

Notable Presentations At EHA 2025
Graft-Versus-Host Disease (GVHD) & Transplantation (3/3)

Date	Title	Author	Summary
13 June 2025	ENABLE: A PHASE 1A/1B STUDY OF ELVN-001, A SELECTIVE ACTIVE SITE INHIBITOR OF BCR::ABL1, IN PATIENTS WITH PREVIOUSLY TREATED CML	Prof. Dr. Andreas Hochhaus	• **Introduction:** The study aimed to evaluate ELVN-001's safety, tolerability, and molecular response in previously treated CML patients without T315I mutations. • **Methodology**: Patients received daily oral ELVN-001 (10–160 mg). Efficacy was assessed as cumulative major molecular response (MMR) by 24 weeks. Safety was evaluated in all patients; efficacy in those with typical BCR::ABL1 transcripts and no T315I. • **Results:** As of January 2025, 74 patients enrolled (63 efficacy-evaluable). Median age was 57.5 years; 66% had ≥3 prior TKIs. Median treatment duration was ~26 weeks; 82% remained on therapy. Adverse events were mostly Grade 1/2; Grade ≥3 events occurred in 15% (mainly thrombocytopenia and neutropenia). Three discontinued due to AEs. Dose adjustments were rare. Of 36 evaluable patients, 44% were in MMR at 24 weeks. Among those resistant to their last TKI, 40% achieved MMR. Among prior asciminib/ponatinib users, 36% achieved MMR, including one with an A337T mutation. All MMRs were maintained at cutoff. • **Conclusions:** ELVN-001 showed good tolerability and promising early efficacy in heavily pretreated CML, including those with TKI-resistant mutations.
13 June 2025	TRIAL IN PROGRESS: A RANDOMIZED, OPEN-LABEL, PHASE 3 STUDY OF AXATILIMAB VERSUS BEST AVAILABLE THERAPY IN PATIENTS WITH CHRONIC GRAFT-VERSUS-HOST DISEASE AFTER ≥2 PRIOR LINES OF SYSTEMIC THERAPY	Ms. Tricia Fleming	• **Introduction:** This Phase 3 study evaluates the efficacy and safety of axatilimab 0.3 mg/kg Q2W versus best available therapy (BAT) in patients with cGVHD after ≥2 prior systemic treatments. • **Methodology**: Approximately 300 patients aged ≥12 years with moderate to severe cGVHD will be randomized 1:1 to axatilimab or investigator-selected BAT. Treatment continues for up to 24 months or until toxicity, disease relapse, or need for new cGVHD therapy. BAT options include immunosuppressants, targeted agents, and extracorporeal photopheresis. Patients on BAT may cross over to axatilimab after Cycle 7 Day 1 if response is inadequate. Primary endpoint is overall response at 6 months; key secondary endpoints include failure-free survival and symptom improvement. • **Results:** Study enrollment is ongoing. • **Conclusions:** This trial aims to establish axatilimab's role versus BAT for refractory cGVHD, potentially offering a novel targeted option for patients with limited treatment choices.

Notable Presentations At EHA 2025
Acute Myeloid Leukemia & Myelodysplastic Syndromes (1/3)

Date	Title	Author	Summary
12 June 2025	ALL-ORAL DECITABINE-CEDAZURIDINE (DEC-C) + VENETOCLAX (VEN) IN PATIENTS WITH NEWLY DIAGNOSED ACUTE MYELOID LEUKEMIA (AML) INELIGIBLE FOR INDUCTION CHEMOTHERAPY: PHASE 1/2 CLINICAL TRIAL RESULTS	Prof. Gail Roboz	• **Introduction:** Older AML patients ineligible for intensive chemo need effective, convenient regimens. Oral DEC-C offers IV-equivalent exposure. • **Methodology**: Phase 1/2 trial (N=189) evaluated oral DEC-C + VEN in newly diagnosed AML with PK, safety, and dose adjustments based on early marrow response. • **Results:** Phase 2B CR and CR/CRi rates were 46.5% and 63.4%; median OS 15.5 months. VEN and DEC-C had no PK interaction. Grade ≥3 AEs in 98%, mainly neutropenia. • **Conclusions:** Oral DEC-C + VEN matched IV standards in efficacy/safety. Early dose adjustments improved tolerability, supporting its use in unfit AML.
12 June 2025	ZIFTOMENIB COMBINED WITH INTENSIVE INDUCTION CHEMOTHERAPY (7+3) IN NEWLY DIAGNOSED NPM1-M OR KMT2A-R ACUTE MYELOID LEUKEMIA (AML): UPDATED PHASE 1A/B RESULTS FROM KOMET-007	Dr. Harry Erba	• **Introduction:** NPM1 and KMT2A mutations drive ~40% of AML. Ziftomenib, a selective oral menin inhibitor, targets this biology. • **Methodology**: KOMET-007 phase 1a/b enrolled 51 newly diagnosed AML patients to receive ziftomenib 600 mg QD with 7+3 chemotherapy. Safety, CR/CRc rates, and OS were assessed. • **Results:** CRc was 94% (NPM1-m) and 83% (KMT2A-r). Grade ≥3 ziftomenib-related AEs were manageable; no differentiation syndrome occurred. Median OS not reached; 75% remain on treatment • **Conclusions:** Ziftomenib + 7+3 shows high remission rates, good tolerability, and no additive myelosuppression, supporting phase 3 advancement in mutation-defined AML.

Notable Presentations At EHA 2025
Acute Myeloid Leukemia & Myelodysplastic Syndromes (2/3)

Date	Title	Author	Summary
12 June 2025	RP2D DETERMINATION OF BLEXIMENIB IN COMBINATION WITH VEN+AZA: PHASE 1B STUDY IN ND & R/R AML WITH KMT2A/NPM1 ALTERATIONS	Prof. Andrew H. Wei	• **Introduction:** Bleximenib is a selective oral menin inhibitor showing promise in NPM1m/KMT2Ar AML. • **Methodology**: Phase 1b trial assessed bleximenib (15–150 mg BID) with VEN+AZA in R/R and ND AML. Safety, pharmacodynamics, and response guided RP2D. • **Results:** Among 120 patients, bleximenib 100 mg BID showed optimal efficacy (cCR 54% R/R, 85% ND) and robust PD activity. Safety was manageable; 4% developed differentiation syndrome. No QT prolongation observed. • **Conclusions:** Bleximenib 100 mg BID + VEN+AZA offers strong combinability, deep responses, and tolerability, supporting advancement to Phase 3 (cAMeLot-2) in molecularly defined AML.
12 June 2025	AZACITIDINE, VENETOCLAX, AND REVUMENIB FOR NEWLY DIAGNOSED OLDER ADULTS WITH ACUTE MYELOID LEUKEMIA (AML) AND NPM1 MUTATION OR KMT2A REARRANGEMENT: UPDATED RESULTS FROM THE BEAT AML CONSORTIUM	Dr. Joshua Zeidner	• **Introduction:** Revumenib, an oral menin inhibitor, may enhance azacitidine/venetoclax (Aza/Ven) efficacy in newly diagnosed NPM1m or KMT2Ar AML. • **Methodology**: Phase 1b Beat AML trial assessed two Rev doses (113/163 mg BID) with Aza/Ven in patients ≥60 years. Safety and clinical activity were primary endpoints. • **Results:** Among 43 patients, ORR was 88% (100% in evaluable); CRc 92%, CR 76%. 84% responded within 1 cycle. Flow MRD negativity was 76% post-cycle 1. Median OS was 15.5 months. • **Conclusions:** AVR shows potent efficacy, rapid responses, and manageable safety, supporting a phase 3 trial in older NPM1m AML patients.

Notable Presentations At EHA 2025
Acute Myeloid Leukemia & Myelodysplastic Syndromes (3/3)

Date	Title	Author	Summary
12 June 2025	TUSCANY STUDY OF SAFETY AND EFFICACY OF TUSPETINIB PLUS STANDARD OF CARE VENETOCLAX AND AZACITIDINE IN STUDY PARTICIPANTS WITH NEWLY DIAGNOSED AML INELIGIBLE FOR INDUCTION CHEMOTHERAPY	Dr. Rafael Bejar	• **Introduction:** VEN+HMA improves AML outcomes, but responses remain poor in FLT3-ITD, RAS, or TP53 mutations. Tuspetinib, a multi-kinase inhibitor, may overcome resistance. • **Methodology**: In the TUSCANY trial, newly diagnosed AML patients unfit for induction received TUS (40–120 mg), AZA, and VEN in 28-day cycles. Safety, PK, and early responses were assessed. • **Results:** In the triplet cohort (n=4), 2 patients achieved CR/CRh, including 1 MRD-negative. No DLTs or drug-drug interactions were observed. PK remained stable. • **Conclusions:** Early VEN/AZA+TUS data show promising efficacy and tolerability. Dose escalation continues to define optimal triplet strategy in high-risk AML.
14 June 2025	DECITABINE COMBINED WITH HAAG FOR NEWLY DIAGNOSED PARENTS WITH POOR-RISK ACUTE MYELOID LEUKEMIA: A PROSPECTIVE, PHASE 3, RANDOMIZED, MULTI-CENTER STUDY	Dr. wei cui	• **Introduction:** High-risk AML remains difficult to treat; standard 7+3 induction yields poor outcomes in ~30–40%. • **Methodology**: Phase 3 Chinese trial randomized 33 patients (<60 years, ELN 2017 adverse risk) to DAC+HAAG vs 7+3 (2:1). Primary endpoint: CRc; secondary: OS, LFS, MRD. • **Results:** CRc was 65.2% (DAC+HAAG) vs 40% (7+3); MRD negativity 52.2% vs 30%. Two-year OS was 54.2% vs 28.6%. Toxicity was comparable across arms. • **Conclusions:** DAC+HAAG showed improved remission and MRD clearance with manageable safety, supporting its use as a first-line regimen in younger high-risk AML patients.

Notable Presentations At EHA 2025
Autoimmune & Immune Thrombocytopenia (ITP) (1/4)

Date	Title	Author	Summary
13 June 2025	A GLOBAL PHASE 1B STUDY OF JNJ-90014496, A CD19/CD20 BI-SPECIFIC CHIMERIC ANTIGEN RECEPTOR (CAR) T-CELL THERAPY, IN PATIENTS (PTS) WITH RELAPSED/REFRACTORY (R/R) LARGE B-CELL LYMPHOMA (LBCL)	Dr. Matthew Ku	• **Introduction:** Dual-target CAR T-cell therapy may overcome antigen escape in R/R LBCL. JNJ-90014496 targets CD19/CD20 with promising prior efficacy. • **Methodology**: Global phase 1b trial evaluated 3 dose levels in 48 CAR T-naive R/R LBCL patients. Endpoints included safety, ORR/CRR, and PK. • **Results:** At RP2D (75M cells), CRR was 80% with no grade ≥3 CRS or ICANS. G3/4 TEAEs included neutropenia (68%) and lymphopenia (18%). ORR was 95%. PK confirmed favorable kinetics. • **Conclusions:** JNJ-90014496 at 75M cells is safe, highly active, and supports advancement as a dual-target CAR T-cell option in R/R LBCL.
13 June 2025	CLINICALLY MEANINGFUL RESPONSE TO AVATROMBOPAG: A PHASE 3B TRIAL FOR TREATMENT OF CHILDREN WITH ITP	Dr. Rachael F. Grace	• **Introduction:** Avatrombopag (AVA) is a TPO-RA assessed in pediatric ITP patients, many refractory to prior TPO-RAs. • **Methodology**: Phase 3b double-blind trial (N=75) randomized children 3:1 to AVA or placebo for 12 weeks. Post-hoc analyses evaluated platelet response (R) and clinically meaningful response (CMR). • **Results:** AVA achieved R in 90.7% vs 9.5% (P<0.0001) and CMR in 92.6% vs 19.1% (P<0.0001). Durable responses were significantly higher with AVA across all timepoints. • **Conclusions:** AVA induced rapid, durable platelet responses in heavily pretreated pediatric ITP, including early onset (55.6% by Day 8), supporting its clinical benefit.

Notable Presentations At EHA 2025
Autoimmune & Immune Thrombocytopenia (ITP) (2/4)

Date	Title	Author	Summary
13 June 2025	STUDY DESIGN OF PHASE 3 PART IN A PHASE 2/3 RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY TO ASSESS THE EFFICACY AND SAFETY OF SOVLEPLENIB IN WARM AUTOIMMUNE HAEMOLYTIC ANAEMIA (ESLIM-02)	Dr. Bing Han	• **Introduction:** Warm AIHA involves antibody-mediated RBC destruction; current treatments are limited post-steroids/rituximab. • **Methodology**: The ESLIM-02 phase 3 trial evaluates sovleplenib (300 mg QD), a Syk inhibitor, vs placebo in adults with inadequately responsive primary/secondary wAIHA. • **Results:** The primary endpoint is durable Hb response (≥100 g/L + ≥20 g/L increase) across Weeks 5–24. Secondary endpoints include ORR, Hb change, hemolysis markers, rescue therapy need, and FACIT-F scores. • **Conclusions:** Following promising phase 2 data (67% ORR), the phase 3 trial will determine if sovleplenib can offer a new targeted therapy for refractory wAIHA.
14 June 2025	EFFICACY AND SAFETY OF AVATROMBOPAG FOR THE TREATMENT OF PEDIATRIC IMMUNE THROMBOCYTOPENIA IN THE OPEN-LABEL EXTENSION OF A PHASE 3, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL	Dr. Rachael F. Grace	• **Introduction:** Pediatric chronic ITP lacks durable treatment options. Avatrombopag showed short-term efficacy in prior trials. • **Methodology**: This Phase 3b study included a 12-week double-blind core followed by a 2-year open-label extension (OLE) of avatrombopag in children with ITP. • **Results:** Of 75 enrolled, 73 entered OLE; 87.6 weeks median treatment duration. Platelet counts remained 80–158×10^9/L without rescue therapy. SAEs occurred in 27.4%, mostly mild; AESIs in 6.8%, with no new safety signals. • **Conclusions:** Avatrombopag maintained long-term efficacy and favorable safety in pediatric ITP, supporting its continued use in this population.

Notable Presentations At EHA 2025
Autoimmune & Immune Thrombocytopenia (ITP) (3/4)

Date	Title	Author	Summary
14 June 2025	CLINICAL FACTORS ASSOCIATED WITH RESPONSE TO RILZABRUTINIB, A BRUTON TYROSINE KINASE (BTK) INHIBITOR, IN PATIENTS WITH IMMUNE THROMBOCYTOPENIA (ITP) TREATED IN THE PHASE 3 LUNA3 STUDY	Dr. David Kuter	• **Introduction:** Rilzabrutinib, a BTK inhibitor, has shown efficacy in ITP; identifying predictors of response can guide clinical use. • **Methodology**: LUNA3 phase 3 trial analyzed 174 patients receiving rilzabrutinib 400 mg BID. Logistic regression assessed baseline factors linked to platelet response. • **Results:** Overall and sustained responses were higher in females, those with baseline platelets ≥15×10⁹/L, and no prior TPO-RA or rituximab. Multivariable analysis confirmed female sex (P=0.008) and baseline platelets ≥15×10⁹/L (P=0.0001) as independent predictors. • **Conclusions:** Early initiation of rilzabrutinib in less heavily pretreated patients with higher baseline counts may enhance clinical benefit in ITP.
14 June 2025	EVALUATION OF EFFICACY AND SAFETY OF AVATROMBOPAG IN CHILDREN WITH IMMUNE THROMBOCYTOPENIA BASED ON DISEASE DURATION: RESULTS FROM THE AVATROMBOPAG PHASE 3-B PEDIATRIC TRIAL	Dr. Rachael F. Grace	• **Introduction:** Pediatric ITP treatment remains challenging, especially after prior TPO-RA failure. • **Methodology**: In a phase 3b trial, 75 patients were randomized 3:1 to avatrombopag (AVA) or placebo over 12 weeks. Post-hoc analysis examined efficacy/safety by disease duration (<12 vs ≥12 months). • **Results:** PR was 100% in <12 months vs 75.6% in ≥12 months; DR was 30.8% vs 26.8%. TEAE rates were comparable across groups. No grade ≥3 bleeding, thrombosis, or deaths occurred. • **Conclusions:** AVA showed robust and consistent platelet response and safety across ITP durations, supporting its broad utility in pediatric ITP management.

Notable Presentations At EHA 2025
Autoimmune & Immune Thrombocytopenia (ITP) (4/4)

Date	Title	Author	Summary
15 June 2025	ADDITION OF BLINATUMOMAB TO CONSOLIDATION THERAPY FOR YOUNGER ADULTS (BCR:ABL1-NEGATIVE B-ACUTE LYMPHOBLASTIC LEUKEMIA (ALL) ON THE ECOG-ACRIN E1910 PHASE III TRIAL	Dr. Shira Dinner	• **Introduction:** E1910 tested consolidation with blinatumomab (blina) vs chemotherapy in MRD-negative adult B-ALL patients. • **Methodology**: This subgroup analysis included 132 MRD-negative patients <55 years randomized to chemo±blina. OS and RFS were assessed via Kaplan-Meier and Cox models. • **Results:** In patients <55, 3-year OS was 92% (blina) vs 67% (chemo; HR 0.20, p=0.002); RFS was 86% vs 66% (HR 0.37, p=0.01). Blina also improved outcomes in BCR::ABL1-like ALL and younger subgroups. • **Conclusions:** Blina significantly improves OS and RFS in MRD-negative younger adult B-ALL, supporting its incorporation into front-line consolidation regimens.
15 June 2025	SAFETY AND EFFICACY OF SINGLE-AGENT SUBCUTANEOUS BLINATUMOMAB IN ADULTS WITH RELAPSED/REFRACTORY (R/R) B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA (B-ALL): RESULTS FROM A PHASE 1/2 DOSE EXPANSION STUDY	Dr. Elias Jabbour	• **Introduction:** Subcutaneous (SC) blinatumomab may offer a more convenient alternative to continuous IV in relapsed/refractory (R/R) B-ALL. • **Methodology**: In a phase 1b study (N=88), patients received SC blinatumomab at 250/500 µg or 500/1000 µg dosing schedules. Primary endpoint was CR/CRh within 2 cycles. • **Results:** CR/CRh rates were 75–79% with MRD-negativity in >89% of responders. 12-month OS was ~63–70%. Grade ≥3 CRS and neurologic events occurred in ~20–28%, but all resolved. • **Conclusions:** SC blinatumomab demonstrated high response rates and deep remissions with manageable safety, supporting continued development as a practical treatment for R/R B-ALL.

Notable Presentations At EHA 2025
Bone marrow failure syndromes and PNH (1/7)

Date	Title	Author	Summary
13 June 2025	EFFICACY AND SAFETY OF CYCLOSPORINE PLUS LUSPATERCEPT VERSUS CYCLOSPORINE IN NEWLY DIAGNOSED NON-TRANSFUSION-DEPENDENT NON-SEVERE APLASTIC ANEMIA: A PROSPECTIVE RANDOMIZED TRIAL	Dr. Zhuxin Zhang	• **Introduction:** Anemia in non-severe aplastic anemia (NSAA) lacks optimal therapies. Luspatercept promotes late-stage erythroid maturation. • **Methodology**: In a randomized study (N=58), newly diagnosed non-transfusion-dependent NSAA patients received either cyclosporine (CsA) + luspatercept or CsA alone. • **Results:** ORR at 3 and 6 months was significantly higher with CsA+luspatercept (69% vs 38%, p=0.018; 86.4% vs 56%, p=0.023). Time to response was shorter (p<0.001). AEs were mild and comparable. Benefit was greater in patients ≥60 years. • **Conclusions:** CsA+luspatercept improved early response rates versus CsA monotherapy, particularly in older adults, with manageable safety.
13 June 2025	ZALTENIBART, AN ALTERNATIVE PATHWAY OF COMPLEMENT MASP-3 INHIBITOR, IMPROVED HEMATOLOGIC PARAMETERS IN PNH PATIENTS WITH PERSISTENT ANEMIA ON RAVULIZUMAB: ADJUNCTIVE AND MONOTHERAPY TREATMENT PHASES	Dr. Morag Griffin	• **Introduction:** Zaltenibart, a MASP-3 inhibitor, may benefit PNH patients with anemia unresponsive to ravulizumab. • **Methodology**: In this Phase 2 trial (N=13), patients received adjunct zaltenibart + ravulizumab for 24 weeks. Responders transitioned to zaltenibart monotherapy through week 48. • **Results:** 83% transitioned to monotherapy; mean Hb rose 3.3 g/dL at week 24 and remained elevated (+2.8 g/dL) at week 48. ARC decreased significantly. 75% were clinical responders; 77% remained transfusion-free. AEs were mostly mild/moderate. • **Conclusions:** Zaltenibart demonstrated sustained efficacy and good tolerability as monotherapy in PNH, supporting its potential as a novel alternative pathway inhibitor.

Notable Presentations At EHA 2025
Bone marrow failure syndromes and PNH (2/7)

Date	Title	Author	Summary
13 June 2025	THE 2-YEAR SAFETY AND EFFICACY OF IPTACOPAN MONOTHERAPY IN PATIENTS WITH PAROXYSMAL NOCTURNAL HEMOGLOBINURIA (PNH) FROM APPLY- AND APPOINT-PNH STUDIES WHO ENTERED THE ROLL-OVER EXTENSION PROGRAM (REP)	Dr. Régis Peffault de Latour	• **Introduction:** Iptacopan, an oral factor B inhibitor, offers durable hemolysis control in PNH, including anti-C5 refractory and treatment-naïve patients. • **Methodology**: The REP Phase 3 open-label study followed 136 patients from APPLY-/APPOINT-PNH for 2 years, assessing long-term safety and efficacy. • **Results:** At 2 years, 94.1% remained on therapy; 71.8% achieved Hb ≥12 g/dL, 90.4% became transfusion-independent. Mean Hb increased by 3.9 g/dL. LDH <1.5×ULN in 88.7%. Fatigue scores improved. AE rates remained stable. • **Conclusions:** Iptacopan monotherapy maintained strong efficacy and tolerability at 2 years, supporting its role as a practice-changing oral therapy in PNH.
13 June 2025	EFFICACY AND SAFETY OF POZELIMAB PLUS CEMDISIRAN VERSUS RAVULIZUMAB IN PATIENTS WITH PAROXYSMAL NOCTURNAL HAEMOGLOBINURIA WHO ARE NAÏVE TO COMPLEMENT INHIBITION	Dr. Christopher Patriquin	• **Introduction:** A novel subcutaneous combo of pozelimab (anti-C5 mAb) and cemdisiran (siRNA) was evaluated in PNH to improve complement control versus ravulizumab • **Methodology**: In a phase 3 trial and OLE, 48 treatment-naïve patients received either combo (SC Q4W) or ravulizumab (IV Q8W). Primary endpoint: LDH change; secondary: CH50 inhibition. • **Results:** At week 26, LDH ≤1.5×ULN was maintained in 88% (combo) vs 74% (ravu). LDH ≤1×ULN occurred more consistently with combo. Four of five ravu non-responders achieved control after switching. AEs were comparable; no DTD-related toxicity observed. • **Conclusions:** Combo therapy achieved durable hemolysis control and was well tolerated, supporting its continued development in PNH.

Notable Presentations At EHA 2025
Bone marrow failure syndromes and PNH (3/7)

Date	Title	Author	Summary
13 June 2025	2-YEAR EFFICACY AND SAFETY IN PATIENTS (PTS) WITH PAROXYSMAL NOCTURNAL HEMOGLOBINURIA (PNH) WHO SELF-ADMINISTERED CROVALIMAB (CROVA) IN THE PHASE III RANDOMIZED COMMODORE 2 TRIAL	Prof. Dr. Alexander Röth	• **Introduction:** Crovalimab (crova), a subcutaneous C5 inhibitor, enables self-administration in PNH. • **Methodology**: In COMMODORE 2, patients received crova or eculizumab; crova-treated patients (n=203) were analyzed by self vs HCP administration over a 2-year extension. • **Results:** ≥1 self-administration occurred in 64–72% of patients. Disease control (LDH ≤1.5×ULN), transfusion avoidance, and hemoglobin stability were maintained across subgroups. No treatment-related deaths or medication errors occurred. 91% with ≥16 self-doses preferred crova over eculizumab. • **Conclusions:** Long-term crova use showed sustained efficacy, safety, and high patient preference, supporting its use as a convenient, self-administered therapy for PNH.
13 June 2025	EFFICACY AND SAFETY OF AVATROMBOPAG IN RELAPSED OR REFRACTORY SEVERE APLASTIC ANAEMIA: RESULTS OF THE DIAAMOND-AVA-NEXT TRIAL	Prof. Zoe McQuilten	• **Introduction:** Avatrombopag, a second-generation TPO receptor agonist, was evaluated in relapsed/refractory severe aplastic anemia (sAA). • **Methodology**: In a single-arm Phase II trial (N=23), adults received avatrombopag ± IST over 6–12 months. Co-primary endpoints: overall response (OR) and acquired clonal evolution (ACE). • **Results:** Among 20 evaluable patients, OR was 50% (45% PR, 5% CR), with ACE in 7%. Median event-free survival was 20 months. Grade ≥3 AEs occurred in 60%; 3 deaths were reported • **Conclusions:** Avatrombopag demonstrated meaningful hematologic response and manageable safety, supporting further investigation in relapsed/refractory sAA.

Notable Presentations At EHA 2025
Bone marrow failure syndromes and PNH (4/7)

Date	Title	Author	Summary
13 June 2025	ADDING HETROMBOPAG TO CYCLOSPORINE FOR FIRST-LINE TREATMENT OF PATIENTS WITH NON-SEVERE APLASTIC ANEMIA: A PHASE 2 MULTI-CENTER CLINICAL STUDY	Ms. Lele Zhang	• **Introduction:** Non-severe aplastic anemia (NSAA) lacks well-defined first-line treatment guidelines. • **Methodology**: In this multicenter Phase 2 trial (NCT05660785), 54 newly diagnosed NSAA patients received hetrombopag + cyclosporin A (CSA). Primary endpoint: 24-week hematological response rate. • **Results:** ORR was 77.8% overall, with high-quality responses in 50%. Transfusion-dependent patients had ORR 84%, non-transfusion-dependent 72.4%. No clonal evolution observed. Most AEs were mild; hyperuricemia was most common (31.5%). • **Conclusions:** First-line hetrombopag + CSA demonstrated strong efficacy and safety in NSAA, including in transfusion-dependent cases, supporting further clinical application.
13 June 2025	EARLY RESPONSE IN COMPLEMENT INHIBITOR NAÏVE PATIENTS WITH PAROXYSMAL NOCTURNAL HEMOGLOBINURIA TREATED WITH PEGCETACOPLAN IN THE PHASE 3 PRINCE TRIAL	Dr. Austin Kulasekararaj	• **Introduction:** Pegcetacoplan (PEG), a C3 inhibitor, offers broad hemolysis control in PNH and is approved for C5i-naïve and experienced patients. • **Methodology**: In the Phase 3 PRINCE trial, 46 C5i-naïve PNH patients received PEG (35 randomized, 11 escapees). Early response at Week 4 included ≥2 g/dL Hb rise, LDH <1.5×ULN, and no breakthrough hemolysis. • **Results:** By Week 4, 71.4% (PEG group) and 72.7% (escape group) achieved complete response. LDH normalization occurred in >90%, and no breakthrough hemolysis was reported. Responses were sustained through Week 26. • **Conclusions:** PEG provides rapid, durable hematologic improvement in C5i-naïve PNH, supporting its use as first-line therapy

Notable Presentations At EHA 2025
Bone marrow failure syndromes and PNH (5/7)

Date	Title	Author	Summary
14 June 2025	HETROMBOPAG COMBINED WITH CYCLOSPORINE A AS FIRST-LINE TREATMENT IN PATIENTS WITH NON-SEVERE APLASTIC ANEMIA: A MULTICENTER, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED PHASE II STUDY	Dr. Xin Zhao	• **Introduction:** NSAA has limited response to CsA alone. Hetrombopag, a novel TPO-RA, may enhance efficacy. • **Methodology**: In this phase II trial (NCT05797623), 83 newly diagnosed NSAA patients received hetrombopag 10 mg or 15 mg plus CsA, or placebo plus CsA, for 12 weeks. • **Results:** CR rates were 11.5% (10 mg), 7.1% (15 mg), and 0% (placebo). OR rates were higher with hetrombopag: 53.6% (10 mg), 65.4% (15 mg) vs 34.5% (placebo). Grade ≥3 TRAEs were rare, with no discontinuations • **Conclusions:** Hetrombopag plus CsA improves hematologic response in NSAA, with acceptable safety, supporting further investigation.
14 June 2025	EVALUATING THE SAFETY AND EFFICACY OF MAVORIXAFOR, AN ORAL CXCR4 ANTAGONIST, IN PATIENTS WITH CHRONIC NEUTROPENIC DISORDERS: RESULTS FROM THE PHASE 2 STUDY	Julia Warren	• **Introduction:** Chronic neutropenia (CN) elevates infection risk. Mavorixafor, an oral CXCR4 antagonist, may provide a novel therapy option beyond G-CSF. • **Methodology**: In this open-label phase 2 study, 23 CN patients (CIN, congenital, cyclic) received mavorixafor alone or with G-CSF for 6 months. Safety and efficacy were assessed. • **Results:** Mavorixafor was well tolerated. Mean ANC rose 3.4-fold at 6 months in severe CN patients on monotherapy. G-CSF+ patients also showed sustained ANC increases, up to 6.2-fold. • **Conclusions:** Mavorixafor alone or with G-CSF was safe and durably increased ANC in CN patients, supporting further clinical development.

Notable Presentations At EHA 2025
Bone marrow failure syndromes and PNH (6/7)

Date	Title	Author	Summary
14 June 2025	CYCLOPHOSPHAMIDE COMBINED WITH STANDARD IMMUNOSUPPRESSIVE THERAPY IMPROVES EARLY RESPONSE RATES IN SEVERE APLASTIC ANEMIA: A PHASE II CLINICAL TRIAL	Dr. Hong Pan	• **Introduction:** Early response to standard immunosuppressive therapy in severe aplastic anemia (SAA) remains limited. Cyclophosphamide may enhance efficacy in frontline settings. • **Methodology**: This single-arm, phase II trial (NCT05975996) enrolled 43 newly diagnosed SAA/VSAA patients receiving porcine ATG, cyclosporine, hetrombopag, and cyclophosphamide. The primary endpoint was 3-month ORR • **Results:** ORR reached 65.1% at 3 months and 69.8% at 6 months. CR increased from 9.3% to 27.9%. Grade 3–4 neutropenia occurred in 66.7%, infections in 60.5%, but no early mortality was reported. • **Conclusions:** Cyclophosphamide combined with standard immunosuppressive therapy shows promising efficacy and manageable toxicity in first-line treatment of SAA.
14 June 2025	COMPARISON OF OF HETROMBOPAG VERSUS ELTROMBOPAG COMBINED WITH ANTI-THYMOCYTE GLOBULIN AND CYCLOSPORINE A AS FIRST-LINE THERAPY FOR SEVERE APLASTIC ANEMIA: SIMILAR EFFICACY AND SAFETY	Prof. Jingnan Sun	• **Introduction:** Hetrombopag and eltrombopag are TPO-RAs used in combination with IST for first-line treatment of SAA, but direct comparative data are limited. • **Methodology:** A prospective multicenter registry study (n=170) compared ATG+CsA+hetrombopag (ACH, n=93) vs. ATG+CsA+eltrombopag (ACE, n=77) in Chinese adults with SAA. Primary outcomes were CR and OR at multiple timepoints. • **Results:** CR and OR rates at 12 months were similar (ACH: CR 62.2%, OR 89.0%; ACE: CR 54.6%, OR 89.6%). Two-year OS (92.2% vs. 97.4%, p=0.27) and AE incidence, including hepatotoxicity, were comparable. • **Conclusions:** Hetrombopag and eltrombopag demonstrate equivalent efficacy and safety as first-line IST in adult SAA. Long-term trials are needed to define optimal duration and tapering strategies.

Notable Presentations At EHA 2025
Bone marrow failure syndromes and PNH (7/7)

Date	Title	Author	Summary
14 June 2025	A BENEFIT ASSESSMENT OF PEGCETACOPLAN DOSE INCREASE IN THE PHASE 3 PEGASUS TRIAL OF PNH PATIENTS WITH DIFFICULT-TO-CONTROL DISEASE	Dr. Morag Griffin	• **Introduction:** Pegcetacoplan controls IVH/EVH in PNH. Some patients experience breakthrough hemolysis on 1080 mg BIW dosing. • **Methodology**: Post-hoc PEGASUS analysis evaluated 15 patients up-titrated to Q3D dosing. • **Results:** Of 12 evaluable patients, 8 showed LDH reduction and 7 improved hemoglobin. Six had low pre-titration pegcetacoplan levels that normalized post-titration. Safety profile remained consistent with BIW dosing. • **Conclusions:** Q3D pegcetacoplan restored hemolysis control in most patients with LDH >2× ULN, supporting label-based up-titration in select PNH cases.

Notable Presentations At EHA 2025
Hodgkin lymphoma (1/4)

Date	Title	Author	Summary
12 June 2025	LONG-TERM RESPONSES AND LATE TOXICITIES IN ADVANCED-STAGE HODGKIN LYMPHOMA: A 10-YEAR UPDATE OF THE HD0607 TRIAL	Dr. Alessandro Cellini	• **Introduction:** The HD0607 trial assessed PET/CT-guided therapy escalation and radiotherapy impact in advanced Hodgkin lymphoma (HL). • **Methodology**: Updated 10-year follow-up of 618 patients evaluated OS, PFS, secondary primary malignancies (SPM), and cardiovascular events (CVE). • **Results:** 10-year OS and PFS were 92.1% and 77.6%. PET2-negative patients had superior PFS (83.1% vs 56.7%). SPM and CVE rates were low (3.4% and 2.2%, respectively), with no significant differences by treatment intensity or radiotherapy. • **Conclusions:** PET/CT-guided HL therapy remains effective long-term with low late toxicity rates, supporting its continued use over more intensive approaches.
12 June 2025	NOVEL COMBINATION REGIMEN BRENTUXIMAB VEDOTIN-BEGE ACHIEVES REMARKABLE EFFICACY IN PATIENTS WITH RELAPSED/REFRACTORY CLASSICAL HODGKIN LYMPHOMA	Xi Chen	• **Introduction:** Brentuximab vedotin was added to the BEGEV regimen (BBG) for R/R cHL to improve CR rates. • **Methodology**: Eleven patients received BBG; transplant-eligible patients had CD34+ collection after 2 cycles • **Results:** CR rate after 4 cycles was 90.9%. CD34+ mobilization succeeded in all eligible patients. 1-year PFS was 70.7%, OS 100%. Grade 3–4 neutropenia occurred in 45.5%. • **Conclusions:** BBG is effective and tolerable as salvage therapy in R/R cHL, achieving high CR and successful stem cell mobilization. Longer follow-up is needed.

Notable Presentations At EHA 2025
Hodgkin lymphoma (2/4)

Date	Title	Author	Summary
12 June 2025	EFFICACY OF NIVOLUMAB PLUS AVD IN PATIENTS WITH CLASSICAL HODGKIN'S LYMPHOMA (HL): A SINGLE-CENTER EXPERIENCE (PILOT STUDY)	Evgenii Kunevich	• **Introduction:** Nivo-AVD is a novel immunotherapy-based regimen for first-line classical Hodgkin lymphoma (HL). • **Methodology**: 24 newly diagnosed HL patients were treated with Nivo-AVD at a single Russian center. • **Results:** Overall response rate was 96%, with 88% achieving complete metabolic response. One-year EFS was 95.7%, OS 100%. Grade 3–4 neutropenia occurred in 25%. • **Conclusions:** Nivo-AVD shows excellent early efficacy and tolerability, supporting its use in front-line HL, including older and high-risk patients.
13 June 2025	IBRUTINIB FOR RELAPSED REFRACTORY CLASSIC HODGKIN LYMPHOMA: RESULTS FROM AN INVESTIGATOR-INITIATED PHASE II TRIAL	Dipenkumar Modi	• **Introduction:** Ibrutinib was evaluated in relapsed/refractory classical Hodgkin lymphoma (cHL). • **Methodology**: 26 patients received ibrutinib 560 mg daily; prior BV (96%) and PD-1 inhibitor (85%) use was common. • **Results:** ORR was 4.8%, with stable disease in 47.6%. Median PFS was 1 year at 20.2%. Common AEs: diarrhea (46.2%), nausea (42.3%). Immune profiling suggested Th1 skew in stable disease/PR cases. • **Conclusions:** Ibrutinib showed limited single-agent activity in heavily pretreated RR cHL. Further combination strategies may be warranted.

Notable Presentations At EHA 2025
Hodgkin lymphoma (3/4)

Date	Title	Author	Summary
13 June 2025	EFFICACY AND SAFETY OF NIVOLUMAB IN COMBINATION WITH AVD IN PATIENTS WITH NEWLY DIAGNOSED CLASSICAL HODGKIN LYMPHOMA: A PROSPECTIVE SINGLE-CENTER CLINICAL TRIAL	Diana Ivanova	• **Introduction:** N-AVD (nivolumab + AVD) may improve efficacy and reduce toxicity in newly diagnosed cHL, especially in older or frail patients. • **Methodology**: 24 patients received N-AVD. PET2 assessed response after 6 cycles. • **Results:** 96% achieved complete metabolic response. Grade III-IV neutropenia occurred in 52%; hypothyroidism in 14%. 1-year PFS and OS were 100% • **Conclusions:** N-AVD showed strong efficacy and manageable toxicity in high-risk or elderly cHL patients. Longer follow-up is needed.
13 June 2025	PRIMAVERA: A PHASE I/II STUDY TO EVALUATE SAFETY AND EFFICACY OF AZD3470, A PROTEIN ARGININE METHYLTRANSFERASE 5 (PRMT5) INHIBITOR, IN PARTICIPANTS WITH RELAPSED/REFRACTORY HEMATOLOGIC MALIGNANCIES	Enrico Derenzini	• **Introduction:** AZD3470 is a selective PRMT5 inhibitor targeting MTA-rich MTAP-deficient tumors, common in classical Hodgkin lymphoma. • **Methodology**: PRIMAVERA (NCT06137144) is an ongoing phase I/II trial evaluating AZD3470 as monotherapy and in combination in relapsed/refractory hematologic malignancies. • **Results:** Dose escalation is ongoing across 5 dose levels. Primary aim is RP2D determination; secondary aim is efficacy. • **Conclusions:** AZD3470 shows promise in MTAP-deficient cHL. The study is actively enrolling across 20 global sites.

Notable Presentations At EHA 2025
Hodgkin lymphoma (4/4)

Date	Title	Author	Summary
14 June 2025	PROSPECTIVE MULTICENTER STUDY ON THE EFFECTIVENESS AND SAFETY OF PET-ADAPTED TREATMENT FOR PATIENTS WITH NEWLY DIAGNOSED CLASSICAL HODGKIN LYMPHOMA USING ABVD AND EACODD-14 CHEMOTHERAPY REGIMENS (HL-RUSSIA-1): PRELIMINARY RESULTS ON EFFECTIVENESS AND PROGRESSION-FREE SURVIVAL	Dr. Nikita Shorokhov	• **Introduction:** HL-Russia-1 evaluates EACODD-14 in classical Hodgkin lymphoma (cHL). • **Methodology**: 184 patients with early unfavorable/advanced cHL were treated across 15 Russian centers using a PET-adapted protocol. • **Results:** At PET-2, 73.3% had complete metabolic response. With 17-month median follow-up, 92% remained in remission, 8% had progression/relapse. Two-year progression-free survival was 92.7%. • **Conclusions:** EACODD-14 shows high effectiveness and safety in PET-adapted treatment of cHL, supporting its multicenter applicability and future trial use.

Key Industry Sponsored Sessions Information

EHA 2025 Key Industry Sponsored Sessions Information (1/7)

Date	Sponsor	Title
12th June 2025	Novartis	Navigating polycythemia vera (PV) and myelofibrosis (MF) management: tailoring care for better outcomes
12th June 2025	Novartis	From insights to innovations: advancing treatment strategies in chronic myeloid leukemia (CML)
12th June 2025	GSk	Navigating the Waves: Taking a Holistic Approach to Managing Relapsed/Refractory Multiple Myeloma
12th June 2025	Sanofi	Medical Crossfire™: Expert Perspectives on Applying Recent Evidence to Practice in the Management of Newly Diagnosed Multiple Myeloma
12th June 2025	Takeda	Navigating unchartered waters: Shining a light on the threat of infection with novel therapies in patients with multiple myeloma
12th June 2025	BMS	Navigating Myelofibrosis
12th June 2025	Sanofi	Sickle Cell Disease: Bridging Polymerization, Inflammation, and Innovation

EHA 2025 Key Industry Sponsored Sessions Information (2/7)

Date	Sponsor	Title
12th June 2025	Grifols	Exploring real-world evidence of fostamatinib in immune thrombocytopenia (ITP): a comprehensive review of European data
12th June 2025	Johnson & Johnson	Staying CURE-ious: is there a road to cure in 2025 and beyond?
12th June 2025	AbbVie	Chronical Lymphocytic Leukemia
12th June 2025	BMS	Shaping the Treatment Landscape in Myelodysplastic Syndromes (MDS) and Acute Myeloid Leukemia (AML)
12th June 2025	Sanofi	Multi-immune Modulation: A Paradigm Shift in Understanding and Treating Immune Thrombocytopenia (ITP) and Warm Autoimmune Hemolytic Anemia (wAIHA)
12th June 2025	BMS	Redefining Risk in Aggressive B-cell Lymphoma: International Prognostic Index (IPI) and Beyond
12th June 2025	AstraZeneca	Upfront Upgrades for Mantle Cell Lymphoma (MCL): Integrating the First-Line Use of Bruton Tyrosine Kinase Inhibitor (BTKi) Strategies Across Patient Populations

EHA 2025 Key Industry Sponsored Sessions Information (3/7)

Date	Sponsor	Title
12th June 2025	Regeneron	Can We Extend the Benefit of Novel Agents in Multiple Myeloma to Precursors and Other Conditions of Clinical Significance?
12th June 2025	Amgen	Frontline therapy of B-cell acute lymphoblastic leukemia (B-ALL): harnessing innovative approaches to improve outcomes
12th June 2025	Blueprint Medicines	Discover an Addition to the Myelofibrosis Treatment Landscape (for HCPs only)
13th June 2025	Pfizer Inc.	Relapsed Refractory Multiple Myeloma
13th June 2025	Sanofi	Advancing Care in Immune-Mediated Thrombotic Thrombocytopenic Purpura (iTTP): Innovation and Future Direction
13th June 2025	Genmab, Inc.	Bridging Translational Insights to Clinical Outcomes in B-Cell Malignancies
13th June 2025	AstraZeneca	The Second Coming of Finite Therapy in Chronic Lymphocytic Leukemia (CLL): Making Informed Treatment Decisions With Newer, Time-Limited Bruton Tyrosine Kinase Inhibitor (BTKi) Combinations

EHA 2025 Key Industry Sponsored Sessions Information (4/7)

Date	Sponsor	Title
13th June 2025	Sanofi	Navigating the journey: Patient-centered approaches in transplant ineligible newly diagnosed multiple myeloma
13th June 2025	Astellas	Beyond the horizon: Learnings from clinical and real-world experience in FLT3mut+ Relapsed/Refractory Acute Myeloid Leukemia (R/R AML)
13th June 2025	Incyte	Emerging topics in diffuse large B-cell lymphoma (DLBCL) and follicular lymphoma (FL)
13th June 2025	Roche	Bispecific antibodies: Advances in the treatment of relapsed/refractory follicular lymphoma
13th June 2025	Johnson & Johnson	Staying CURE-ious: translating multiple myeloma guidelines into clinical practice
13th June 2025	AbbVie	Acute Myeloid Leukemia
13th June 2025	BMS	Lymphoma Care in 2025: Navigating Treatment with CAR T Cell Therapy

EHA 2025 Key Industry Sponsored Sessions Information (5/7)

Date	Sponsor	Title
13th June 2025	Gilead & Kite	How is CAR T Revolutionising the Treatment Landscape in Relapsed/Refractory Multiple Myeloma?
13th June 2025	Novartis	Elevating treatment goals in paroxysmal nocturnal hemoglobinuria (PNH): meeting patients' needs in the evolving era of complement inhibition
13th June 2025	Vertex	The patient journey in sickle cell disease (SCD) and transfusion-dependent ß-thalassaemia (TDT) – How can we transform the road ahead with gene therapy?
13th June 2025	BeiGene	Navigating Treatment Selection and Infection Management in Chronic Lymphocytic Leukemia (CLL)
13th June 2025	Pfizer	The power of collaboration: Multidisciplinary approaches to Sickle Cell Disease (SCD) care
13th June 2025	AbbVie	Subcutaneous and Chemo-Free: Epcoritamab across Relapsed Refractory Diffuse Large B Cell Lymphoma Patients (for HCPs only)
14th June 2025	Roche	Building better outcomes for patients with diffuse large B-cell lymphoma (DLBCL): Today's treatments and tomorrow's innovations

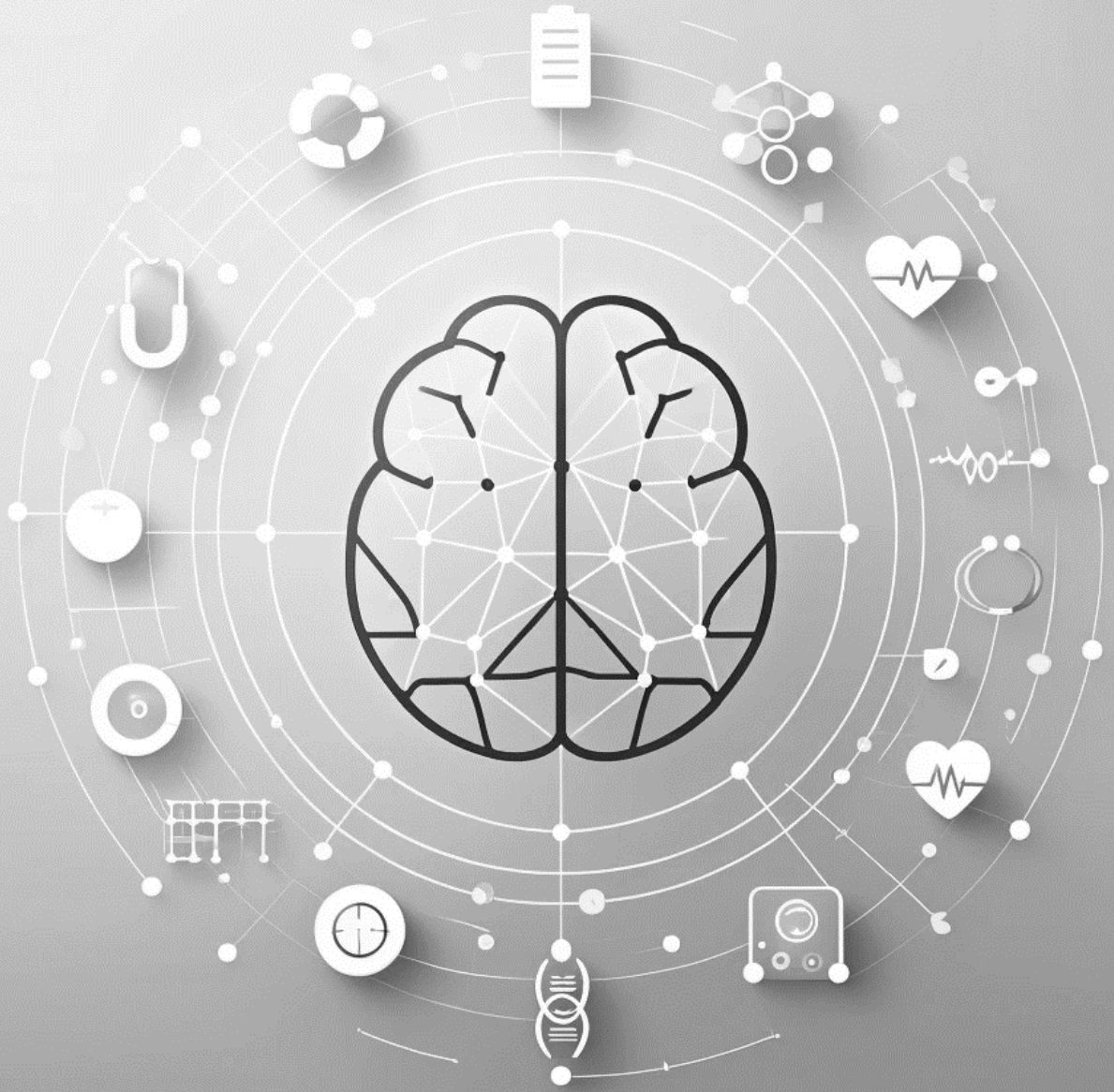
EHA 2025 Key Industry Sponsored Sessions Information (6/7)

Date	Sponsor	Title
14th June 2025	Jazz Pharmaceuticals	Secondary Acute Myeloid Leukemia
14th June 2025	Eli Lily	Chronic Lymphocytic Leukemia
14th June 2025	Alexion	Recognizing optimal outcomes for Patients with Paroxysmal Nocturnal Haemoglobinuria (PNH)
14th June 2025	Daiichi Sankyo	Advancing Care in Newly Diagnosed Acute Myeloid Leukemia (AML): Optimizing treatment success in FLT3-AML
14th June 2025	Sobi	Boosting Platelets: Expert Approaches to Adult Immune Thrombocytopenia (ITP)
14th June 2025	Menarini Stemline	Innovating relapsed refractory multiple myeloma care: Unmet needs, therapy management, and real-world experience
14th June 2025	BeiGene	Treating with confidence in first-line Chronic Lymphocytic Leukemia: The longer-term data of Bruton's Tyrosine Kinase inhibitor monotherapy (for HCPs only)
14th June 2025	Eli Lilly and Company	Extending the Benefits of Bruton Tyrosine Kinase Inhibition in Chronic Lymphocytic Leukemia (for HCPs only)

EHA 2025 Key Industry Sponsored Sessions Information (7/7)

Date	Sponsor	Title
14th June 2025	Novo Nordisk	Breaking Barriers in Sickle Cell Disease (SCD) Management: Pyruvate Kinase Activation for Red Blood Cell Metabolism
14th June 2025	Johnson & Johnson	Leveraging efficacy, balancing safety: Multi-dimensional decision-making in the fixed duration therapy (FDT) era of chronic lymphocytic leukeamia (CLL)
14th June 2025	AbbVie	Diffuse Large B-Cell Lymphoma
14th June 2025	BMS	Mastering the Relapsed Refractory Multiple Myeloma (RRMM) Treatment Landscape: Removing Barriers and Unleashing the Potential of CAR T
14th June 2025	Gilead & Kite	Doctor, what is my best chance of a cure? A case-based approach to the evolving landscape in relapsed/refractory lymphomas
14th June 2025	Eli Lilly	Shifting the Paradigm: Advances in Post-Covalent Bruton`s Tyrosine Kinase Inhibitor (cBTKi) Therapy for Relapsed/Refractory (R/R) Chronic Lymphocytic Leukemia (CLL)
14th June 2025	GSK	Importance of Early Treatment of Anemia in Patients With Myelofibrosis

Noteworthy AI / ML presentations at EHA 2025



Themes from key AI / ML presentations at EHA 2025 (1/4)

- **AI/ML will become deeply integrated into hematology from diagnostics and prognostics to treatment selection, patient stratification, and real-world decision support, enabling faster, personalized, and globally accessible care**
- Check out the key AI / ML themes at EHA 2025 below:
- **AI for Precision Diagnostics:**
  - AI-driven models will support accurate subtype classification in AML, T-ALL, systemic mastocytosis, and idiopathic neutropenia, using flow cytometry, RNA-Seq, and proteomics data
- **ML-Based Prognostic Stratification:**
  - Advanced multivariate algorithms are set to surpass conventional systems by integrating clinical, genomic, and patient-specific variables to improve MDS, AML, and MPN risk stratification
- **Digital Pathology and Image Analysis:**
  - Tools like CIF and motif-based mapping are poised to standardize fibrosis and blast grading in BMT, enabling reproducible and objective digital slide evaluations across centers

Themes from key AI / ML presentations at EHA 2025 (2/4)

- **Predictive Tools for Treatment Response:**
  - Machine learning models are anticipated to inform therapeutic decisions in MDS (HMA response), CAR-T toxicity, CML (asciminib), and MM (daratumumab) by analyzing multimodal patient datasets
- **NLP and Ambient AI for Workflow Efficiency:**
  - LLMs and transcription platforms are on track to streamline documentation, extract real-world EHR insights, and enhance patient-clinician communication during routine hematologic care
- **AI in Bleeding Risk and Coagulopathies:**
  - Algorithms are expected to pinpoint bleeding risks in AML and ITP and assist in drug comparisons for VWD and AIHA, leveraging both real-world and clinical trial data
- **Genotype-Phenotype Mapping via AI:**
  - AI-enhanced imaging is likely to correlate morphology with FISH data, enabling precise mutation localization (e.g., TP53, BCR::ABL) and supporting diagnostic refinement

Themes from key AI / ML presentations at EHA 2025 (3/4)

- **Explainable and Interpretable AI Systems:**
  - Systems integrating GPT-4o, such as SmartCytoFlow 2.0, are designed to provide transparent, rationale-based outputs to build clinician trust and facilitate diagnostic decision-making
- **Resource-Efficient Screening and Diagnosis:**
  - Scalable AI-based tools using routine labs or smartphones are projected to support early detection of hemoglobinopathies, sickle cell carriers, and leukemias in resource-limited settings
- **AI in Aging and Phenotypic Clustering:**
  - Deep learning frameworks will uncover HSPC aging patterns and myeloma phenotypes through unsupervised clustering, advancing biologically aligned patient stratification strategies
- **AutoML and Real-Time Clinical Utility:**
  - AutoML platforms like AutoGluon and JADBio aim to automate model optimization and deployment, accelerating bedside AI integration without requiring coding expertise

Themes from key AI / ML presentations at EHA 2025 (4/4)

- **Microbiome-Integrated Machine Learning:**
  - Fecal metagenomic data combined with ML algorithms (e.g., SVM) are expected to reveal microbial predictors of TPO-RA resistance in ITP, opening new biomarker avenues
- **AI in Rare Hematologic Disorders:**
  - Specialized AI tools and multilingual chatbots (e.g., HemophiliAPP, WillAPP) are anticipated to support care delivery and education for VWD, APL, and inherited anemias worldwide
- **Cost-Efficiency and Comparative Effectiveness via AI:**
  - Generative AI models like ChatGPT-4o are forecasted to simulate comparative analyses (e.g., fostamatinib vs. avatrombopag, rVWF vs. pdVWF), aiding payer and clinical decision-making

Noteworthy AI / ML presentations at EHA 2025

Notable Presentations At EHA 2025
AI / ML (1/20)

Date	Title	Author	Summary
13 June 2025	MULTIMODAL MACHINE LEARNING DECODES TRANSCRIPTION FACTORS-DRIVEN NK CELL DYSFUNCTION IN AML: A SINGLE-CELL TRANSCRIPTOMIC ROADMAP FOR PRECISION IMMUNOTHERAPY	Dr. jiaxiu Ma	• **Introduction**: AML remains highly lethal due to its heterogeneity and immunosuppressive niche. NK cell dysfunction is central to this, yet its regulatory basis remains poorly understood. • **Methodology**: Researchers applied a multimodal machine learning framework to 49,209 single cells from AML patients and healthy donors. Tools included Seurat for clustering, random forests for cell classification, and sciNMF for state decomposition. Gene expression and enrichment analyses prioritized key regulators. • **Results:** The model achieved 93% classification accuracy, identified 1,119 tumor-specific DEGs (83% relapse-associated), and revealed seven AML states. SP3 was uncovered as the master regulator of NK dysfunction; ZBTB3 was also implicated. • **Conclusions:** This ML-integrated framework reveals SP3-driven NK suppression as a targetable axis in AML, offering biomarkers and therapeutic leads for CAR-NK immunotherapy.
13 June 2025	VARIANT ALLELIC FREQUENCY (VAF) MATTERS: ARTIFICIAL INTELLIGENCE ALGORITHMS HIGHLIGHT VAF INFORMATIONAL VALUE IN ASCERTAINING THE DIAGNOSIS AND THE PROGNOSIS OF MYELOID NEOPLASMS.	Dr. Monia Marchetti	• **Introduction**: Genomic profiling has deepened understanding of myeloid neoplasms (MN), but traditional models falter with complex, high-dimensional data. AIMs offer scalable tools to analyze rare, interacting genomic variables. • **Methodology**: Supervised ML models (classification tree, random forest) were applied to NGS data from 247 patients with MDS, AML, MPN, or MDS/MPN. Informative variables were ranked using Information Gain Ratio (IGR) and Gini Decrease (GD). • **Results:** Models identified 5 qualitative and 4 quantitative genomic features as top predictors. JAK2 mutation status (IGR=0.45) and SRSF2 VAF (>25%) were most diagnostic. SRSF2 also had high prognostic value in patients >70 years (OR 5.94). • **Conclusions:** AIMs efficiently stratify MN subtypes and unveil VAF-based prognostic insights, notably for SRSF2. Larger-scale validation is underway.

Notable Presentations At EHA 2025
AI / ML (2/20)

Date	Title	Author	Summary
13 June 2025	AN INTEGRATED MACHINE LEARNING-BASED PROGNOSTIC MODEL FOR PATIENTS WITH MYELODYSPLASTIC SYNDROME/NEOPLASMS(MDS)	Xin Wang	• **Introduction**: Current MDS prognostic models overlook patient-related factors like comorbidities, limiting clinical precision. Integrating these may enhance outcome prediction. • **Methodology**: A random survival forest (RSF) model was trained on 687 de novo MDS patients, using 8 key variables including IPSS-M, comorbidities, and lab metrics. Five-fold cross-validation and external validation were performed. • **Results:** RSF outperformed IPSS-R and IPSS-M with higher C-index (0.747 training; 0.717 test) and lower Brier scores. It effectively stratified patients into four risk groups and refined prognosis, especially in IPSS-M high-risk subsets. • **Conclusions:** The RSF model offers superior risk stratification by combining disease biology with patient factors, supporting its clinical utility in MDS.
13 June 2025	ARTIFICIAL INTELLIGENCE-ENHANCED ANALYSIS OF HMA TREATMENT ON CLINICAL OUTCOMES IN A LARGE COHORT OF MDS PATIENTS: PRELIMINARY RESULTS FROM AN ANALYSIS FROM THE INTERNATIONAL CONSORTIUM FOR MDS (ICMDS) VALIDATE DATABASE	Dr. Tariq Kewan	• **Introduction**: Predictive biomarkers for HMA response in high-risk MDS remain unreliable due to dataset limitations and oversimplified models. AI may enable refined stratification. • **Methodology**: Using the MOSAIC AI framework, 1,728 icMDS patients from the VALIDATE dataset were clustered based on cytogenetic/molecular features. Associations with HMA response and survival were assessed using Cox models with HSCT as a time-dependent covariate. • **Results:** Ten molecular clusters were identified; TP53+CK clusters had the poorest survival (mOS 9–13 months), while SF3B1 had the best (mOS 30 months). Response rates to HMA did not differ across clusters (p=0.27). • **Conclusions:** AI-defined molecular clusters stratify MDS prognosis post-HMA, but fail to predict response, suggesting broader biological determinants beyond genetics are needed.

Notable Presentations At EHA 2025
AI / ML (3/20)

Date	Title	Author	Summary
13 June 2025	DEVELOPMENT OF DATA-DRIVEN MACHINE LEARNING ALGORITHMS TO HELP DIFFERENTIAL DIAGNOSIS BETWEEN INHERITED AND ACQUIRED BONE MARROW FAILURE SYNDROMES	Dr. Marta Bortolotti	• **Introduction**: Diagnosing inherited vs. acquired bone marrow failure (BMF) is challenging due to overlapping clinical features and limited access to molecular diagnostics. • **Methodology**: Data from 597 BMF patients (459 aAA, 83 hMDS, 55 IBMF) were analyzed. Multivariate logistic regression and internal cross-validation assessed predictors. Predictive scoring systems were derived using clinical and lab variables. • **Results:** IBMF patients were younger with higher counts and more cytogenetic abnormalities. Models achieved 91–96% accuracy (AUC up to 97%). Predictors of IBMF included higher hemoglobin, platelets, EPO, and absence of PNH or mutations. A final scorecard showed excellent performance (AUC 92%). • **Conclusions:** ML-derived models accurately distinguish IBMF, offering timely guidance for genetic testing and treatment decisions.
13 June 2025	APPLICATION OF MACHINE LEARNING IN THE DIAGNOSTIC WORK-UP OF CHRONIC IDIOPATHIC NEUTROPENIA IN ADULTS	Dr. Grigorios Tsaknakis	• **Introduction**: Idiopathic neutropenia is rare and diagnostically challenging. Accurate classification is critical for prognosis and treatment. ML offers potential for data-driven stratification. • **Methodology**: Data from 257 adults (84 clinical/immunologic features) in the Cretan Neutropenia Registry were analyzed using JADBio's auto-ML platform. AUROC was used to assess model performance. Feature selection identified predictive biomarkers. • **Results:** CCUS was reliably predicted (AUROC=0.80); key features included age, γGT, IgG4, anti-thyroid antibodies, and cardiac comorbidity. CIN prediction was limited (AUROC=0.63), associated with CD3↑, CD19↓, γGT↓. CIN heterogeneity likely reduced model accuracy. • **Conclusions:** ML enables robust CCUS classification and biomarker identification. Broader cohort validation may enhance CIN stratification and uncover progression predictors.

Notable Presentations At EHA 2025
AI / ML (4/20)

Date	Title	Author	Summary
13 June 2025	INTERNATIONAL MULTICENTRE EVALUATION OF ARTIFICIAL INTELLIGENCE (AI) AUGMENTED FIBROSIS GRADING IN A REAL-WORLD, CLINICAL COHORT OF 1000 PATIENTS	Dr. Timothy Ebsworth	• **Introduction**: Fibrosis grading in MPN is critical but limited by subjective, semi-quantitative manual assessment. AI tools like CIF offer enhanced objectivity, yet require real-world validation. • **Methodology**: A total of 1,000 digital bone marrow trephine (BMT) slides from Oxford NHSFT were assessed for quality and fibrosis grading. Twelve international haematopathologists evaluated QC and fibrosis, first manually, then with CIF heatmaps after a washout period. Concordance, workflow impact, and user experience were analyzed. • **Results:** CIF improved inter-observer concordance, grading precision, and efficiency. Heatmap overlays led to grade revisions and reduced observer variability. QC parameters critically impacted AI utility. • **Conclusions:** CIF enables more accurate, consistent fibrosis grading in clinical BMT evaluation, supporting future integration into routine pathology workflows.
13 June 2025	PREDICTING THROMBOPOIETIN RECEPTOR AGONISTS RESPONSE IN IMMUNE THROMBOCYTOPENIA USING GUT MICROBIOTA SIGNATURES AND EXPLAINABLE MACHINE LEARNING: A MULTICENTER PROSPECTIVE COHORT STUDY	Dr. Zhuo-Yu An	• **Introduction**: TPO-RA resistance limits treatment success in ITP. Altered gut microbiota may offer predictive biomarkers to guide therapy. • **Methodology**: In 152 ITP patients receiving TPO-RAs, fecal metagenomics and clinical data were integrated using six ML algorithms. The SVM model (AUC = 0.80) was best, combining microbial species, diversity metrics, and KEGG pathways. • **Results:** Responders showed Bacteroides-enriched microbiota; non-responders had Firmicutes and Ruminococcus dominance. SVM achieved high predictive accuracy. Functional analysis revealed amino acid metabolism and drug resistance pathways in responders. Longitudinal shifts in gut species correlated with improved outcomes. • **Conclusions:** Microbiome-integrated ML predicts TPO-RA resistance, enabling personalized ITP therapy and future microbiome-targeted strategies.

Notable Presentations At EHA 2025
AI / ML (5/20)

Date	Title	Author	Summary
13 June 2025	MACHINE LEARNING MODEL FOR BLEEDING PREDICTION IN PATIENTS WITH ACUTE MYELOID LEUKEMIA	Dr. Nikola Pantic	• **Introduction**: Major bleeding is a key cause of early mortality in AML. Identifying high-risk patients could optimize preventive strategies beyond current transfusion practices. • **Methodology**: In a 548-patient AML cohort (2009–2024), ML models were trained using demographic, clinical, and lab data. Elastic-net analysis selected predictors; models were validated using stratified K-fold cross-validation. • **Results:** Major bleeding occurred in 7.8%; 56% of cases were fatal. Logistic regression (AUC = 0.74) outperformed other models, achieving 82% sensitivity and 61% specificity. Key predictors included sex, obesity, leukocytosis, LDH, creatinine, INR, and CD markers. A clinical calculator was developed. • **Conclusions:** This ML-based tool enables early bleeding risk stratification in AML, supporting tailored monitoring and transfusion strategies.
13 June 2025	ARTIFICIAL INTELLIGENCE AND KNOWLEDGEMENT IN VWD AND OTHER BLEEDING DISORDERS: GENERATING SYNERGIES	Dr. Manuel R. Lopez	• **Introduction**: ChatGPT4o® shows promise in hematology, but expert oversight remains essential. Código Rojo and SETH aimed to develop ultra-specialized chatbots for VWD, AVWS, and rare bleeding disorders. • **Methodology**: WillAPP, a multilingual chatbot using RAG-based LLMs, was evaluated against ChatGPT4o® using a standardized question set rated by two independent experts across eight criteria. • **Results:** WillAPP outperformed ChatGPT4o® with a global score of 81.85 vs. 59.85/100. Key improvements were noted in completeness, clarity, and contextual relevance. Ethics and safety scores were comparable, though one expert favored WillAPP for legal compliance. • **Conclusions:** Ultra-specialized chatbots like WillAPP offer superior accuracy, relevance, and multilingual support, serving as valuable tools for clinicians and patients in hematology.

Notable Presentations At EHA 2025
AI / ML (6/20)

Date	Title	Author	Summary
13 June 2025	MACHINE LEARNING-BASED PREDICTION OF CYTOKINE RELEASE SYNDROME POST CAR-T CELL THERAPY	Dr. Jacob Shreve	• **Introduction**: CRS is a common, serious toxicity post-CAR-T. Early prediction is essential to mitigate morbidity and guide intervention. • **Methodology**: ML models were trained on a 351-patient CAR-T cohort using vital signs, labs, ECG, and echo data in 24-hour rolling windows. CRS onset was predicted at 24-, 48-, and 72-hour lead times. An 11-feature simplified model was also developed and externally validated. • **Results:** Full models achieved AUCs of 0.90 (24h), 0.83 (48h), and 0.82 (72h). The simplified 11-feature model matched full model accuracy (AUC 0.90; validation 0.92). Severe CRS was predicted with AUC 0.96. • **Conclusions:** This ML approach accurately anticipates CRS onset and severity, supporting real-time, proactive CAR-T management.
13 June 2025	HIGH ACCURACY OF PERIPHERAL BLOOD TESTING AND MACHINE LEARNING-DERIVED PREDICITIVE MODELS TO DISTINGUISH ADVANCED FROM INDOLENT SYSTEMIC MASTOCYTOSIS: ANALYSIS OF AVAPRITINIB AND ELENESTINIB TRIAL DATA	Dr. Daniel J. DeAngelo	• **Introduction**: Systemic mastocytosis (SM) subtypes differ markedly in prognosis. Accurate classification, often requiring invasive diagnostics, is critical yet challenging. ML may offer non-invasive, peripheral blood–based tools to aid diagnosis. • **Methodology**: Random forest and logistic regression were applied to data from avapritinib trials (N=441) to develop two peripheral blood–based models distinguishing AdvSM from ISM. Models were validated on independent DFCI (N=125) and elenestinib HARBOR trial cohorts (N=124). • **Results:** Model 1 and Model 2 achieved 93% accuracy in the training/test cohort, 89%/86% in the DFCI cohort, and 98% in HARBOR. Misclassified ISM cases had higher disease burden markers. • **Conclusions:** These ML models accurately differentiate AdvSM from ISM using only blood-based data, offering a scalable, non-invasive diagnostic adjunct for clinical practice.

Notable Presentations At EHA 2025
AI / ML (7/20)

Date	Title	Author	Summary
14 June 2025	A GENE EXPRESSION BASED MACHINE LEARNING CLASSIFIER ROBUSTLY IDENTIFIES 20 T-ALL SUBTYPES ACROSS COHORTS AND AGE GROUPS.	Dr. Thomas Beder	• **Introduction**: Despite identification of up to 15 T-ALL molecular subtypes, cross-cohort validated gene expression–based definitions remain lacking. This study addresses that gap using machine learning. • **Methodology**: RNA-Seq data from 6,711 ALL patients across 21 cohorts were aggregated. A machine learning classifier was trained to identify 20 T-ALL subtypes based on UMAP-defined gene expression clusters and validated through cross-cohort leave-one-out testing. • **Results:** The classifier achieved median accuracy of 0.923±0.076, with 94.6% of samples assigned to a cluster. Subtypes included known drivers (e.g., TLX1, SPI1, BCL11B) and rare ones (e.g., GATA3, MLLT10), with distinct age associations and immunophenotypic features. • **Conclusions:** This robust ML model defines 20 reproducible T-ALL subtypes, now integrated into ALLCatchR for unified B-/T-ALL classification in research and clinical settings.
14 June 2025	CONSTRUCTION OF A PROGNOSTIC MODEL FOR ACUTE MYELOID LEUKEMIA BASED ON FLOW CYTOMETRY IMMUNOPHENOTYPING USING MACHINE LEARNING METHODS.	Mr. Qing Ma	• **Introduction**: Flow cytometry (FCM) is central to AML diagnosis but underutilized in prognosis. Genetic models have limitations, prompting integration of FCM data for enhanced prediction. • **Methodology**: A cohort of 442 newly diagnosed non-M3 AML patients underwent FCM and genetic profiling. Lasso and XGBoost were used for feature selection, combined with Cox regression to build a prognostic model. Validation was conducted on an independent 132-patient cohort. • **Results:** Eight key predictors (e.g., CD36, CD9, CD117, TP53, HSCT) informed a nomogram-based model. Time-dependent AUCs were 0.724 (1-year), 0.686 (2-year), and 0.74 (3-year), demonstrating strong calibration and discrimination. • **Conclusions:** This ML-integrated model confirms immunophenotyping's prognostic relevance and offers a cost-effective alternative to mutation-based AML risk stratification.

Notable Presentations At EHA 2025
AI / ML (8/20)

Date	Title	Author	Summary
14 June 2025	TOWARDS THE USE OF ARTIFICIAL INTELLIGENCE MODELS IN THE ASSESSMENT OF ACUTE PROMYELOCYTIC LEUKEMIA - SYSTEMATIC REVIEW	Dr. Mihnea-Alexandru Găman	• **Introduction**: AI applications in hematologic malignancies are expanding, but their role in acute promyelocytic leukemia (APL) remains underexplored. • **Methodology**: A systematic review (2016–2025) of 20 eligible studies assessed AI models in APL using blood tests (n=4), cytomorphology (n=10), flow cytometry (n=3), and OMICS data (n=3), with emphasis on performance metrics and external validation. • **Results:** AI models demonstrated high performance across input types: cytomorphology (PBS: AURO ~ 96%, BMS: AUROC ~ 95%), others (AUROC ~ 92%), with >90% accuracy, sensitivity, and specificity. Sixty percent were externally validated. • **Conclusions:** AI achieves excellent diagnostic accuracy in APL, supporting its integration into clinical workflows pending further prospective validation.
14 June 2025	DEVELOPMENT OF A CLINICAL MACHINE LEARNING TOOL FOR THE PREDICTION OF AUTOIMMUNE HEMOLYTIC ANEMIA IN CHRONIC LYMPHOCYTIC LEUKEMIA: A POPULATION BASED MULTILAYER PERCEPTRON MODEL	Ms. Rayan Ramadan	• **Introduction**: AIHA is a serious complication in CLL, but predictive biomarkers are limited. This study explores FISH and flow cytometry markers to develop a predictive model. • **Methodology**: Among 1,056 CLL patients, 520 had complete data; 24 developed AIHA. Variables with $p<0.1$ for AIHA-free survival were included in a three-layer MLP machine learning model to classify AIHA risk. • **Results:** CD11c-negativity significantly predicted AIHA ($p=0.03$); trisomy 12-negativity and del(17p) showed trends. The MLP model achieved 89–100% accuracy and AUC = 0.952 in predicting AIHA development. • **Conclusions:** The model demonstrates high diagnostic accuracy for AIHA prediction in CLL, supporting its future use pending prospective validation.

Notable Presentations At EHA 2025
AI / ML (9/20)

Date	Title	Author	Summary
14 June 2025	UNDERSTANDING THE BIOLOGY OF FRAILTY IN MYELOMA: JOINING SERUM PROTEOMICS WITH CLINICAL DATA USING MACHINE LEARNING	Dr. Adam Jones	• **Introduction**: Myeloma in older, frail patients presents overlapping phenotypes driven by disease burden and frailty. Disentangling these phenotypes is crucial for personalized care. • **Methodology**: Using baseline clinical data from 91 patients, five phenotypes were identified via PCA and clustering. Serum proteomics (SWATH-MS) on a 47-patient sub-cohort was analyzed using ML to identify differentially expressed proteins, followed by pathway enrichment analysis. • **Results:** Five phenotypes showed distinct survival outcomes (p=0.004). 289 proteins discriminated between groups, linked to 10 major pathways. KEAP-NFE2L2 stress responses, B2M, CST3, lysozyme, complement factor D, CFHR2, and Protein C receptor were variably enriched, aligning with phenotype biology. • **Conclusions:** ML-driven proteomic profiling reveals key biological distinctions between clinical myeloma phenotypes, offering a foundation for tailored interventions and biomarker-guided frailty stratification.
14 June 2025	DECODING THE MYELOPROLIFERATIVE NEOPLASM CONTINUUM: A MACHINE LEARNING APPROACH TO DISEASE EVOLUTION AND PROGNOSTIC STRATIFICATION	Dr. Yu-Hung Wang	• **Introduction**: MPNs exhibit overlapping clinical-genomic features, complicating diagnosis and risk stratification. The concept of a disease continuum remains underdefined. • **Methodology**: A random forest and RSF model was trained on 478 MPN patients using age, 28-gene mutational data (including VAF), karyotype, and clinical parameters. Pseudotime and survival analyses were conducted; external validation used a 245-patient Taiwanese cohort. • **Results:** MPNs mapped onto a 3D continuum rather than discrete clusters. Four biological groups (Gr1–Gr4) reflected disease progression and distinct molecular signatures. RSF-predicted groups stratified OS, LFS, and RUX response better than MIPSS/GIPSS models (c-index OS = 0.88). Findings validated externally. • **Conclusions:** ML-defined MPN continuum refines prognostication, captures clonal evolution, and identifies high-risk groups (Gr3/4) potentially suitable for early transplant

Notable Presentations At EHA 2025
AI / ML (10/20)

Date	Title	Author	Summary
14 June 2025	18F-FDG PET RADIOMICS SCORE CONSTRUCTION BY AUTOMATIC MACHINE LEARNING FOR TREATMENT RESPONSE PREDICTION IN ELDERLY PATIENTS WITH DIFFUSE LARGE B-CELL LYMPHOMA: A MULTICENTER STUDY	Dr. Jingyan Xu	• **Introduction**: Elderly DLBCL patients face diagnostic and therapeutic challenges. PET-based radiomics combined with AutoML offers a potential precision tool for predicting treatment response. • **Methodology**: A retrospective analysis of 175 patients (1,010 lesions) used AutoGluon to generate PET radiomics scores (radscore). Predictive performance was assessed via ROC curves and multivariable logistic regression. • **Results:** Radscore outperformed traditional PET metrics (AUC: 0.791 vs. SUVmax 0.542) in both training and validation cohorts. Key predictors included NCCN-IPI, BCL-2, TMTV, and avg-radscore. The multivariable model integrating these showed superior predictive value ($p < 0.05$). • **Conclusions:** AutoML-derived radscore enhances treatment response prediction in elderly DLBCL, supporting its role in personalized management strategies.
14 June 2025	MACHINE LEARNING-BASED DETECTION OF HEMOGLOBIN S AND HEMOGLOBIN C CARRIERS IN THE UK GENERAL POPULATION: A STUDY ON 469,248 GENOTYPED GENERAL POPULATION INDIVIDUALS FROM THE UK BIOBANK	Mr. Frederik Christensen	• **Introduction**: Sickle cell disease (SCD) carrier detection often requires costly specialized tests. ML models using routine labs may offer scalable alternatives, especially in resource-limited settings. • **Methodology**: ML models (LR, RF, XGB) were trained on 469,248 UK Biobank participants using 32 blood parameters, age, and sex. Genotypes were confirmed by exome sequencing. Model performance was evaluated in both the general and Black UK populations. • **Results:** Models showed excellent discrimination in the general population (ROC-AU ~ 0.95; specificity ~78% at 95% sensitivity). However, performance dropped significantly in Black-only cohorts (ROC-AUC ~ 0.66–0.74; specificity ≤24%). • **Conclusions:** ML can accurately detect HbS/HbC carriers using routine labs in diverse populations, but ethnicity-specific model refinement is essential for equitable screening.

Notable Presentations At EHA 2025
AI / ML (11/20)

Date	Title	Author	Summary
14 June 2025	AUTOMATED IMMUNOPHENOTYPIC PROFILING IN AML: A MACHINE LEARNING APPROACH TO EXPEDITE DIAGNOSIS AND DISEASE SUBCLASSIFICATION	Dr. Marco Roncador	• **Introduction**: AML's immunophenotypic heterogeneity complicates diagnosis. Manual gating of flow cytometry data is labor-intensive and subjective. ML offers a scalable, objective solution. • **Methodology**: A two-step ML pipeline using random forests was applied to bone marrow flow cytometry (10 markers + SSC) from 38 AML patients. PARC clustering identified physiological progenitors using healthy donor profiles; these were removed to isolate leukemic blasts, which were classified into AML-NPM1, APL, or AML-MR. • **Results:** The pipeline identified 106 cell clusters (48 physiological). Blast infiltration correlated with predicted non-physiological cells ($r = 0.68$, $p < 0.001$). Subtype classification accuracies: AML-NPM1 = 0.94, APL = 0.82, AML-MR = 0.72. • **Conclusions:** This ML-driven immunophenotyping tool enables precise, automated AML blast detection and subtype classification, enhancing diagnostic accuracy and therapeutic stratification.
14 June 2025	ARTIFICIAL INTELLIGENCE-DRIVEN GHOST CYTOMETRY ENABLES LABEL-FREE DETECTION OF LEUKEMIC CELLS AND TREATMENT RESISTANCE PREDICTION IN CHRONIC MYELOID LEUKEMIA	Mr. Kohjin Suzuki	• **Introduction**: Despite improved survival with TKIs, early identification of CML patients at risk of poor deep molecular response (DMR) remains a challenge. AI-driven cytometric tools may aid early diagnosis and treatment stratification. • **Methodology**: Ghost cytometry (GC), an AI-enhanced, label-free flow cytometry method, was applied to leukocytes from CML patients (n=8 at diagnosis; n=11 post-TKI) and healthy controls. Pre-trained models evaluated CML detection and correlated findings with BCR::ABL1IS mRNA levels. • **Results:** GC distinguished CML from healthy samples (F1=0.79). AI-predicted CML burden correlated with BCR::ABL1IS levels (r=0.87). Diagnostic F1 scores predicted molecular response at 3 and 6 months (r=0.70, 0.83). TKI-resistant patients had significantly higher baseline F1 scores (p=0.003). • **Conclusions:** AI-driven GC enables early, label-free CML detection and predicts molecular response, offering a novel tool for early risk stratification and TKI selection.

Notable Presentations At EHA 2025
AI / ML (12/20)

Date	Title	Author	Summary
14 June 2025	UNSUPERVISED DEEP LEARNING REVEALS HISTOLOGICAL MOTIFS IN CD34-STAINED BONE MARROW TREPHINES OF MYELOID NEOPLASMS	Dr. Carlo Pescia	• **Introduction**: Accurate blast quantification in CD34-stained BMTs is critical for AML/MDS diagnosis and therapy decisions. Manual estimates are subjective; AI may offer objective, data-driven insights. • **Methodology**: A total of 78 CD34-stained BMT WSIs from MPN, MDS, and AML patients were analyzed using a foundation model trained on 100,000+ WSIs. Tiled image patches were clustered (k=50) to identify recurrent histological motifs. Associations with disease subtype, mutation status, IPSS-R, and blast percentage were evaluated. • **Results:** Of 50 motifs, 28 were retained after filtering artifacts. These motifs correlated with disease classification, mutational status, IPSS-R scores, and visually estimated blast counts ($r \approx 0.6$). A spatial mapping tool was created to visualize heterogeneity and disease-driving patterns. • **Conclusions:** This unsupervised, motif-based AI analysis enables interpretable blast quantification and reveals intratumoral heterogeneity, aiding classification and prognostication in myeloid neoplasms.
14 June 2025	AMBIENT AI PLATFORM: AI-POWERED APPLICATION FOR CLINICAL REPORT TRANSCRIPTION ASSISTANCE AND CLINICAL TRIAL PATIENT MANAGEMENT IMPROVEMENT IN HEMATOLOGY	Dr. Saverio D'Amico	• **Introduction**: Traditional hematology documentation often overlooks patient-reported outcomes (PRO) and limits direct patient engagement. AI-driven transcription offers a pathway to enhance accuracy and patient-centered care. • **Methodology**: The Ambient AI platform records and transcribes clinician-patient interactions, filters non-essential dialogue, and generates structured, editable medical reports. Performance was evaluated using Jaccard Similarity (JS), Word Mover Distance (WMD), clinician feedback, and patient surveys. • **Results:** In 100 simulated reports, the platform achieved strong text accuracy ($JS = 0.85$) and contextual understanding ($WMD < 1$), with minimal edits required. Early clinical validation (n=1,000) showed enhanced workflow efficiency, physician satisfaction, and patient engagement. • **Conclusions:** Ambient AI enables real-time, accurate documentation and supports clinical trial management, offering a scalable tool to integrate PRO and streamline precision hematology workflows.

Notable Presentations At EHA 2025
AI / ML (13/20)

Date	Title	Author	Summary
14 June 2025	EXPLORING THE BELGIAN CHRONIC LYMPHOCYTIC LEUKEMIA (CLL) POPULATION THROUGH AI AND DIGITAL TECHNOLOGIES: INSIGHTS FROM THE BE-CLLEAR STUDY	Ann Debecker	• **Introduction**: This real-world study applied AI and digital technologies to characterize the Belgian CLL population and inform care optimization. • **Methodology**: Retrospective data from four hospitals (2018–2021) were standardized using OMOP-CDM. NLP was applied to unstructured EHR content. CLL patients (Cohort 1) and those initiating first-line therapy (Cohort 2) were analyzed. • **Results:** Among 527 CLL patients (median age 74), 75.1% had comorbidities; 32.1% received first-line treatment, with BTK inhibitors (34.9%) and CIT (26%) most common. CIT use declined after 2019. TP53/17p testing occurred in 36.8% overall, with mutations in 15.9%. • **Conclusions:** AI-enabled EHR analysis offers valuable insight into CLL care, though improved biomarker documentation is critical for research and clinical decision-making.
15 June 2025	STEM CELL AGING CLOCK: A DEEP LEARNING DRIVEN FRAMEWORK FOR PREDICTING STEM CELL AGE	Dr. Guanlin Wang	• **Introduction**: HSPCs exhibit age-related decline, with divergence between biological and chronological age in hematologic diseases. Traditional bulk RNA methods fail to capture this heterogeneity. • **Methodology**: A scRNA-seq atlas of 193,505 $CD34^{+}Lin^{-}$ cells (64,178 HSC/MPPs) from fetal to elderly donors was constructed. cNMF identified gene modules; a deep learning model using SHAP-optimized features and LSTM layers predicted biological age. • **Results:** Seven gene modules were defined; Module 4 inversely correlated with age ($r = -0.62$). The HSPC aging clock predicted age with 97.34% accuracy. Disease-specific aging signatures emerged: MDS HSCs appeared younger, SCD aged faster, and leukemia showed mixed aging patterns. • **Conclusions:** This HSPC aging clock reveals distinct biological aging trajectories in hematologic disorders, offering insights for age-targeted therapies in regenerative medicine and malignancy.

Notable Presentations At EHA 2025
AI / ML (14/20)

Date	Title	Author	Summary
15 June 2025	CLINICAL VALIDATION STUDY OF AN AI SYSTEM FOR BONE MARROW CELL CLASSIFICATION AND DYSPLASIA DETECTION	Dr. David Bermejo-Peláez	• **Introduction**: Manual bone marrow aspirate (BMA) analysis is essential but inconsistent and time-consuming. AI offers promise, yet current tools lack flexibility and affordability in routine hematology practice. • **Methodology**: A smartphone-based imaging platform paired with cloud AI was developed and validated in 100 cases across three centers. A self-supervised model was trained on >6M unlabeled and 400K expert-labeled cells to classify 23 BMA cell types and detect dysplasia. • **Results:** The AI achieved 92.5% overall agreement with hematologist consensus. Lineage-level accuracy ranged from 90.9% to 99.9%. Dysplasia detection reached ~94% accuracy. AI reduced 500-cell classification time by 81% and showed higher consistency ($\kappa = 0.76$) than manual review ($\kappa = 0.52$). • **Conclusions:** This smartphone-based AI tool delivers accurate, efficient, and scalable BMA analysis, enhancing diagnostic reproducibility and accessibility without specialized equipment.
15 June 2025	REFINEMENT AND INTERNATIONAL VALIDATION OF A MACHINE LEARNING ALGORITHM FOR CLASSIFYING ACUTE LEUKEMIA SUBTYPES USING ROUTINE LABORATORY DATA	Mr. Merlin Engelke	• **Introduction**: Early diagnosis of acute leukemias (AL), particularly APL, is critical yet often delayed in resource-limited settings. AI models trained on French data showed promise, but global validation remained untested. • **Methodology**: An XGBoost-based ML model was validated across 5,511 AL patients from 14 countries using routine lab data (e.g., leukocytes, fibrinogen, LDH, prothrombin activity). SHAP analysis identified key features, and outlier detection (LOF, Isolation Forest) improved performance in ambiguous cases. • **Results:** For "confident" predictions, AUCs were 99.7 (APL), 98.8 (AML/ALL). Global F1 scores remained high (AML = 0.97, ALL = 0.94). Outlier detection raised AUROC in lower-performing cohorts (e.g., ALL from 0.73 to 0.80). • **Conclusions:** This AI tool shows strong generalizability and diagnostic accuracy for AL subtypes, supporting real-time triage in under-resourced settings and emergency care.

Notable Presentations At EHA 2025
AI / ML (15/20)

Date	Title	Author	Summary
Publication only	ARTIFICIAL INTELLIGENCE AND KNOWLEDGEMENT IN HEMOPHILIA AND ACQUIRED HEMOPHILIA: GENERATING SYNERGIES	Manuel R. Lopez	• **Introduction**: While ChatGPT4o® demonstrates utility in hematology, domain-specific tools may offer enhanced contextual accuracy. This study evaluates HemophiliAPP, a chatbot specialized in congenital and acquired hemophilia, developed with SETH. • **Methodology**: HemophiliAPP integrates recovery-assisted generation (RAG) and expert-curated sources. Experts scored its responses and those from ChatGPT4o® across domains including accuracy, clarity, contextualization, and ethics, using a standardized question set. • **Results:** HemophiliAPP outperformed ChatGPT4o® (mean score: 83.2 vs. 77.7/100). Most differences were modest, except for ethics/safety, where one expert rated HemophiliAPP markedly higher (90 vs. 60), citing national regulatory safeguards. • **Conclusions:** Ultra-specialized chatbots like HemophiliAPP provide accurate, secure, multilingual decision support, with potential for integration into hemophilia care and education. Further clinical validation is warranted.
Publication only	POTENTIAL USE OF ARTIFICIAL INTELLIGENCE (AI) TO ESTIMATE EFFICIENCY IN MANAGEMENT OF VWD: ABOUT A SIMULATION	Manuel R. Lopez	• **Introduction**: AI offers a novel approach to comparative treatment analyses in Von Willebrand Disease (VWD), potentially complementing or enhancing traditional indirect methods like MAICs. • **Methodology**: ChatGPT4o® was used to simulate comparative efficiency analyses between recombinant VWF (rVWF) and plasma-derived VWF (pdVWF) based on clinical trial data (Leebeck 2023, Sidonio 2024), including cost assumptions in Spain. • **Results:** Both therapies were effective, with rVWF showing a higher—but not statistically significant—rate of bleed-free patients. Weekly VWF consumption was slightly higher with pdVWF (192 IU difference). Cost analysis favored pdVWF unless rVWF is priced below €0.39/unit. Patient preference and prior experience also play roles. • **Conclusions:** AI-supported evaluations suggest clinical equivalence of rVWF and pdVWF, with cost likely influencing treatment choice. While promising, AI's role in treatment efficiency analysis requires further validation for routine adoption.

Notable Presentations At EHA 2025
AI / ML (16/20)

Date	Title	Author	Summary
Publication only	ASC4REAL: HARNESSING AI TO REVEAL REAL-WORLD INSIGHTS ON THE EFFECTIVENESS OF ASCIMINIB IN PRE- AND POST-PONATINIB TREATED CML PATIENTS	Anchit Khanna	• **Introduction**: Asciminib, a novel allosteric ABL inhibitor, has shown efficacy in CML patients resistant/intolerant to prior TKIs. AI tools enable integrated analyses of real-world outcomes across studies. • **Methodology**: Microsoft Copilot was used to aggregate data from seven real-world studies (n>200) comparing asciminib efficacy in CML patients with (PPT) and without (Non-PPT) prior ponatinib exposure. Key molecular endpoints included MR2, MMR, and MR4.5 at 12 months. • **Results:** Non-PPT patients showed higher response rates across endpoints: MR2 = 66.2% vs. 33.3%, MMR = 63.1% vs. 22.9%, and MR4.5 = 19.5% vs. 10.5% (Non-PPT vs. PPT). Asciminib was less effective in ponatinib-refractory patients but maintained activity in ponatinib-intolerant cases • **Conclusions:** AI-enabled analysis supports greater asciminib efficacy in Non-PPT CML patients. Prior ponatinib resistance predicts limited response, underscoring the importance of treatment sequencing in TKI-exposed populations.
Publication only	SMARTCYTOFLOW 2.0: INTEGRATING GENERATIVE AI FOR EXPLAINABLE AND ACTIONABLE FLOW CYTOMETRY ANALYSIS IN NON-HODGKIN LYMPHOMA DIAGNOSIS	Adrian Mosquera-Orgueira	• **Introduction**: Flow cytometry aids NHL diagnosis but lacks consistency due to manual variability. SmartCytoFlow 2.0 integrates GPT-4o to enhance diagnostic reasoning and interpretability. • **Methodology**: Built on a SOM–random forest ML pipeline analyzing EuroFlow panel data, SmartCytoFlow 2.0 adds a GPT-4o generative layer using RAG with cluster frequencies, marker annotations, and expert rules to generate context-aware explanations and uncertainty assessments. • **Results:** The system maintained strong performance (OOB AUC = 96.6%, test AUC = 91.1%) while providing human-like diagnostic insights, uncertainty explanations, and differential guidance, enhancing transparency and clinical actionability. • **Conclusions:** GPT-4o integration enables SmartCytoFlow 2.0 to deliver interpretable, robust AI support in NHL diagnostics, bridging ML outputs with clinician reasoning

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Date	Title	Author	Summary
Publication only	REAL-WORLD CHARACTERISTICS, TREATMENT, AND OUTCOMES IN MULTIPLE MYELOMA PATIENTS ON SECOND-LINE THERAPY: A MULTICENTER STUDY USING NATURAL LANGUAGE PROCESSING AND MACHINE LEARNING	Joaquín Martínez-López	• **Introduction**: Real-world data on second-line (2L) multiple myeloma (MM) therapy—particularly daratumumab (D)-based regimens—remains limited, especially in older patients (>75y). This study analyzes outcomes using NLP/ML-enhanced EHR data across Spanish hospitals. • **Methodology**: Retrospective 2015–2021 EHR analysis from 9 hospitals using EHRead® NLP/ML tools to extract structured clinical data. Patients diagnosed 2015–2020 and initiating 2L from 2019 were included. Outcomes assessed: response rates, survival (OS/PFS), and adverse events by regimen (DVd/DRd) and age group. • **Results:** Among 188 patients (mean age 66.9y), 47.9% received D regimens. ORR was 33.3% with D (34.4% DRd; 26.9% DVd); CR = 10%, VGPR = 16.7%. OS at 2 years was 57.9% with D (65.4% DRd), but only 32.3% in >75y vs. 60.8% in ≤75y. Anemia, diarrhea, and infections were frequent, notably higher in >75y. • **Conclusions:** D-based 2L therapy is effective and tolerable in elderly MM patients, though outcomes worsen with age. NLP/ML tools offer valuable RWE insights for optimizing individualized treatment decisions.
Publication only	VIABILITY AND ACCURACY OF ARTIFICIAL INTELLIGENCE IN EXPLORING AND EXTRACTING DATA FROM ELECTRONIC HEALTH RECORDS OF PATIENTS WITH RELAPSED/REFRACTORY MULTIPLE MYELOMA: THE MYHRAI STUDY	Mercedes Gironella Mesa	• **Introduction**: AI has potential to advance multiple myeloma (MM) care through diagnostic enhancement and cost-effective data extraction. Validation in real-world settings is essential for clinical integration. • **Methodology**: The MYHRAI 2-phase study compared AI-based NLP extraction from EHRs with manual electronic data capture (EDC) in a 53-patient pilot. Sixty-four variables were evaluated across three training iterations, using 100% data monitoring to assess accuracy. • **Results:** Of 2,880 data points, 407 discrepancies (14.13%) were initially observed; 97 were later deemed non-relevant, yielding a final discrepancy rate of 10.7%. No single observation showed full variable-level concordance. • **Conclusions:** AI with NLP shows promising accuracy in extracting MM-related EHR data, supporting its future use for real-world evidence generation in routine hematologic practice.

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Date	Title	Author	Summary
Publication only	PROOF-OF-CONCEPT AND EVALUATION SCORE PROPOSAL FOR AI GENERATIVE MODELS IN CLINICAL FOLLOW-UP OF HAEMATOLOGIC MALIGNANCIES	Andre Pardal	• **Introduction**: Generative AI, particularly large language models (LLMs), may alleviate documentation burdens in hematology by auto-generating structured clinical follow-up templates. • **Methodology**: Three LLMs—ChatGPT-4, Claude.AI, and Gemini—were tested against a gold-standard hematology manual using a myeloma-based prompt adapted to nine malignancies. Scoring rewarded accuracy, penalized errors, and normalized performance for comparability. • **Results:** Claude.AI outperformed all (CpS 36.5, NmS 1.00), surpassing the reference score (CpS 34). ChatGPT-4 scored well (CpS 31, NmS 0.75), while Gemini underperformed (CpS 15, NmS 0.00). Threshold for LLM suitability was set at CpS 30.6. • **Conclusions:** Claude.AI and ChatGPT-4 reliably generated hematology templates, validating their clinical utility; Gemini lacked sufficient accuracy for recommendation.
Publication only	THE IMPACT OF RACE ON MACHINE LEARNING MODELS FOR MYELOMA PROGNOSTICATION	Ehsan Malek	• **Introduction**: Racial disparities in MM outcomes prompt the need for unbiased predictive tools. This study applies machine learning (ML) to assess if race/ethnicity meaningfully contributes to predicting M-protein burden. • **Methodology**: Two random forest models (A and B) were trained on 619 MM patient observations using 13 variables. The impact of race inclusion on predictive accuracy was tested via root mean squared error (RMSE) and R^2 metrics. • **Results:** Model A's R^2 changed minimally with race (0.7440 → 0.7445); Model B's accuracy decreased slightly when race was included (R^2: 0.7670 → 0.7604). Overall differences in RMSE and R^2 were negligible. • **Conclusions:** Race and ethnicity did not significantly enhance model performance. M-spike prediction appears independent of racial inputs, supporting bias-resistant ML model development in MM care.

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Date	Title	Author	Summary
Publication only	ESTABLISHING NLR CUTOFF VALUES: A COMBINED STATISTICAL AND MACHINE LEARNING APPROACH	Athanasia Sergounioti	• **Introduction**: The neutrophil-to-lymphocyte ratio (NLR) is a key inflammatory biomarker. This study aims to establish clinically relevant NLR cutoffs using statistical and ML methods. • **Methodology**: Analysis of 9,515 hematology samples across age groups was performed. Outliers were removed via 1.5 IQR; a 97.5th percentile cutoff was calculated. K-Means clustering, optimized by the elbow method, identified natural NLR groupings. • **Results:** The 97.5th percentile yielded a statistical cutoff of 3.03 (severe cases: 2.5%). ML clustering defined a lower cutoff of 1.69, categorizing 40.39% as higher-risk. • **Conclusions:** The dual-cutoff model enables stratified NLR interpretation—3.03 for critical thresholds, 1.69 for broader screening—enhancing clinical utility.
Publication only	A NOVEL ARTIFICIAL INTELLIGENCE-ASSISTED CELLS TARGETING APPROACH FOR PRECISE DIAGNOSIS OF HEMATOLOGIC TUMOR	HAO WANG	• **Introduction**: Precise cell targeting is crucial in hematologic malignancy diagnostics. This study explores an AI-enhanced workflow to correlate morphology with genetic abnormalities via Wright's staining and FISH. • **Methodology**: Three AML-related cases underwent AI-based image analysis integrating Wright-stained bone marrow smears and post-FISH scans. AI matched cell morphology with FISH signals to localize gene abnormalities (BCR::ABL, CBFβ::MYH11, TP53). • **Results:** AI confirmed BCR::ABL fusion in myeloblasts, eosinophils, and metamyelocytes, supporting a CML-BC diagnosis. CBFβ::MYH11 fusion was localized to monocytic precursors. TP53 breakage was specifically mapped to myeloblasts in a post-treatment case. • **Conclusions:** AI-assisted cell localization enhances diagnostic precision, enabling direct genotype-phenotype correlation to guide AML classification, treatment, and prognosis.

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Date	Title	Author	Summary
Publication only	INDIRECT COMPARISON IN REAL LIFE BETWEEN 2 ORAL TREATMENTS IN ITP USING ARTIFICIAL INTELLIGENCE	Manuel R. Lopez	• **Introduction**: ChatGPT-4o was used to conduct an AI-assisted indirect comparison of fostamatinib vs avatrombopag in ITP, leveraging real-world national study data to inform potential treatment decisions. • **Methodology**: Two real-life studies were summarized in a comparative table. ChatGPT-4o applied normalized scoring (0–1) across multiple metrics: response rates, adverse events, rescue therapy need, and cost per effective day. Statistical comparisons (Z-test, chi-square) were also performed. • **Results:** Avatrombopag had a higher efficiency score (1.0 vs 0.71), fewer adverse events, and lower cost/day of response (€100.54 vs €130.85). Thrombotic event rates did not significantly differ. • **Conclusions:** Despite methodological limitations, AI-assisted analysis suggested avatrombopag as the more efficient option, especially under cost constraints, though clinical judgment remains paramount.
Publication only	ACCURATE DIAGNOSIS OF HEMOGLOBINOPATHIES WITH MACHINE LEARNING BASED ON HIGH-THROUGHPUT PROTEOMICS	Assoc. Prof. Andreas Glenthøj	• **Introduction**: Hemoglobinopathies like sickle cell disease and β-thalassemia remain diagnostic challenges. Traditional methods are accurate but resource-intensive and limited in mutation detection scope. • **Methodology**: A machine learning framework integrated with data-independent acquisition mass spectrometry (DIA-MS) was applied to red blood cell tryptic peptides from 127 patients. Random forest models were trained to classify β-thalassemia and structural hemoglobin variants. • **Results:** Structural variant detection achieved 99.9% accuracy (AUC 1.000); β-thalassemia trait classification reached 96.9% accuracy (AUC 1.000). A single peptide enabled 92% accuracy using a simple decision tree. • **Conclusions:** This AI-proteomics platform offers a rapid, scalable, and highly accurate alternative for hemoglobinopathy diagnosis with strong clinical implementation potential.

Strategic Insights and Strategy Development is our focus