



Leading from the front -
keep learning, keep excelling!
(page : 5)

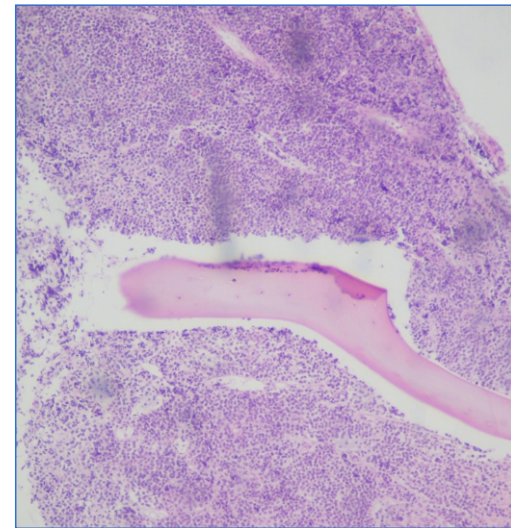
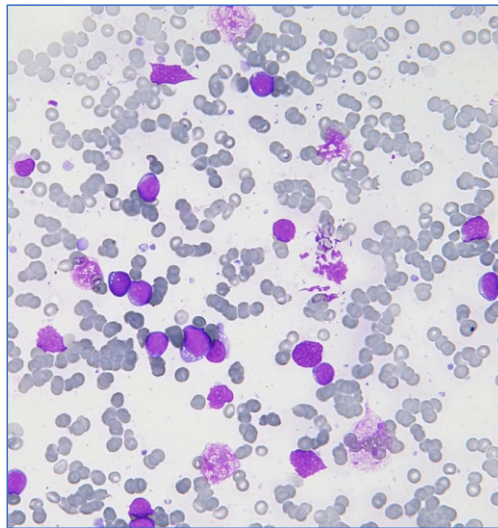
PATHWEL times

BIMONTHLY NEWSLETTER
2025 | MAY - JUN | VOL 2.3

Picture Quiz by Dr Sidra Barlas, Consultant Hematologist PATHWEL

Thirty-year-old male presented with fever, generalized weakness, profuse sweating and bilateral lower limb pain restricting his mobility for the last 3 weeks. On examination he was unwell, febrile, pale, and sweating profusely. He was hemodynamically stable with no lymphadenopathy or visceromegaly. CBC showed WBC $13.62 \times 10^9/L$, Hb 7.2 g/dl, Platelets $19 \times 10^9/L$. Peripheral smear demonstrated 11-12% abnormal lymphoid blasts. LFTs, RFTs, and electrolytes were within normal limit. HIV serology was Positive. What is the diagnosis?

Answer on page : 17



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8 MAY 2025
World Thalassaemia Day

**Uniting for
Awareness, Action & Hope**



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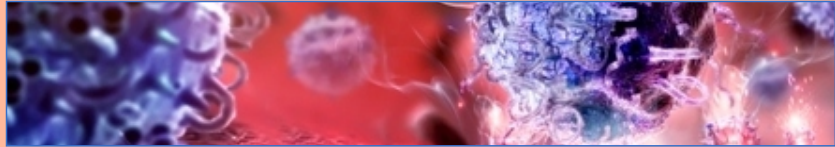
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From Editor's Desk



Clinical hematology is one of the most demanding yet extremely rewarding disciplines in medicine. It is a field where precision meets complexity, and where cutting-edge science translates directly into lifesaving therapies. From the delicate balance of hemostasis to the aggressive biology of blood cancers, from the mysteries of bone marrow transplantation to the evolving frontiers of cellular therapy—hematology demand both intellectual rigor and compassionate care.

The specialty encompasses a vast spectrum of conditions and care — from managing patients with severe bleeding or life-threatening clotting disorders, to treating those who are immunocompromised, or battling blood cancers. It involves everything from performing bone marrow biopsies to conducting life-saving bone marrow transplants, from administering blood transfusions to advancing cellular therapies. Bridging laboratory diagnostics with bedside treatment, clinical hematology demands a deep and comprehensive mastery unlike any other field.

A hematologist must be as comfortable interpreting a peripheral smear or flow cytometry report as they are counseling a patient on the risks and benefits of intensive chemotherapy. The field moves at a breathtaking pace—new molecular markers, targeted therapies, and immunotherapies emerge constantly, demanding lifelong learning.

At PATHWEL, we embrace these challenges with dedication and innovation. Our mission is to provide affordable, evidence-based, patient-centered care, integrating the latest advancements while maintaining the human touch that defines great medicine.

To young physicians considering hematology: this is a field that will test your limits but reward you with unparalleled intellectual stimulation and the profound satisfaction of curing the incurable. To our patients and colleagues: we thank you for trusting us in this journey. Together, we continue pushing boundaries, one blood cell at a time.

Kevin



Welcome “welcome to the team! We're thrilled to have you with us”

It is with great pleasure that we welcome **Dr Nasir Mahmood** as the new Medical Superintendent of PATHWEL. A seasoned medical administrator, Dr. Mahmood brings a wealth of knowledge from his distinguished career in government service, retiring in Grade 20 after serving in key leadership roles, including Medical Superintendent at Benazir Bhutto Hospital (BBH), Holy Family Hospital, and RIU Hospital, Rawalpindi. As a proud alumnus of Rawalpindi Medical University (RMU) and a local of Rawalpindi, his deep-rooted connection to the community aligns perfectly with our mission of compassionate, patient-centered care.



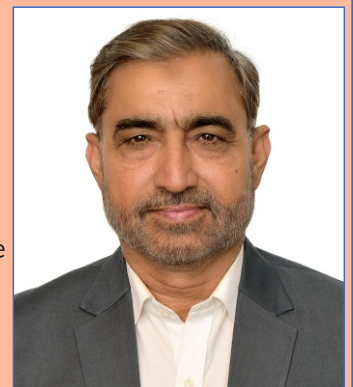
Under his leadership, we look forward to strengthening PATHWEL, enhancing specialized hematology services, and continuing our life-saving free blood transfusion program for thalassemia patients. Dr. Mahmood’s vision for operational excellence and patient welfare will further solidify PATHWEL’s reputation as a beacon of hope for those in need. Please join us in extending a heartfelt welcome to Dr. Nasir Mahmood. We are excited about this new chapter and invite your support in making our shared goals a reality. Welcome aboard, Dr. Mahmood!

We are pleased to welcome **Mr. Asad Ali Shah** to the Executive Council of the Pakistan Thalassemia Welfare Society (PTWS). With over 35 years of professional experience in Accounting, Audit, Finance, and Strategic Management, Mr. Shah is a seasoned leader and a valuable addition to our team. He is a Fellow Member of the Institute of Chartered Accountants of Pakistan, a Certified Public Accountant (USA), and a member of both ISACA and the Institute of Management Accountants (USA).



Mr. Shah has held key leadership roles, including Partner at a Big 5 audit firm in Pakistan and senior executive positions in a major U.S. accounting firm. His global experience spans the USA, Middle East, and Pakistan. He also served the Hashoo Group for 14 years in pivotal roles such as Director Finance Projects, Group Director Audit, and CEO of its Industrial Division. Mr. Shah’s expertise in financial planning, business transformation, and strategic leadership will greatly support PATHWEL’s mission of excellence in patient care and institutional growth. Welcome aboard, Mr. Asad Ali Shah!

We are delighted to welcome **Mr. Khalid Mahmood Malik** to the Executive Council of the Pakistan Thalassemia Welfare Society (PTWS). With over 30 years of experience, Mr. Malik brings exceptional leadership, technical expertise, and a deep commitment to social welfare—qualities that will greatly support our mission to combat thalassemia in Pakistan.



A graduate of the University of Engineering & Technology, Rasul, Mr. Malik began his career as a civil engineer and has since completed advanced management training across the Middle East, Europe, and Pakistan. His specialization includes engineering software and reverse engineering in mechanical production. He served on Pakistan’s most prestigious classified project under the ATCOP Group, Pakistan Atomic Energy Commission (PAEC), where he contributed to high-level reverse engineering initiatives. Beyond engineering, Mr. Malik has actively led social initiatives. As former Vice President of Nigar-e-Watan Society (R), Punjab, he promoted blood donations, education, and drug rehabilitation. Currently, he is the CEO of NAWAK Engineering, a leading motorcycle parts manufacturer in Islamabad.

We warmly welcome Mr. Malik and are confident that his insight and dedication will advance our goals for thalassemia care, awareness, and advocacy.

Blood Camps' Diary

By Ms. Nigar Shah
PRO & Camp Coordinator, PTWS



Due to the holy month of Ramazan, no blood camp was held in March. Then there was post Eid lull and only 2 camps were organized in April.

Pakistan Bait ul Mal (PBM) Head Office Sector H-8 / 4 Islamabad || 17 April 2025

This blood donation camp was organized with the kind approval of Senator Captain (R) Shaheen Khalid Butt, MD Pakistan Bait ul Mal, who also inaugurated the camp. The event was graced by several notable attendees, including Dr. Sadia Shahzad from the Health Department, Mr. Bilal Anwar (Public Relation Officer), and Mr. Rizwan Ahmed (Director Administration).



Demonstrating exemplary leadership, MD Senator Shaheen Khalid Butt was the first to register and donate blood at the camp. PATHWEL extends heartfelt gratitude to all the volunteers and supporters who made this initiative a success.



Allama Iqbal Open University, Sector H-8 Islamabad 16 April 2025

PATHWEL organized a blood donation camp during the 2nd Sustainability Expo 2025, held at Allama Iqbal Open University on April 16, 2025. The event featured over 80 stalls representing a wide array of sectors including universities, schools, NGOs, artists, and the telecom industry. The VC of AIOU, Prof. Dr Nasir Mahmood, generously provided free space to PATHWEL to facilitate the blood donation drive. Dr. Saima Nasir, Head of the ORIC, extended strong support to PATHWEL in collaboration with HELP Foundation Rawalpindi. The camp was graced by the presence of Sardar Yasir Ilyas Khan, CEO of Centaurus, who attended as the chief guest.



PATHWEL Galaxy

Contributed by Dr Zohra J Wazir, Chief Medical Officer Thalassemia Wing



Rehan & Qasim Ibrahim



Subhan Ali



Salar Faizan



Owema Shahzad



Sawaira Imtiaz



Bano & Rimshah

Enhancing Excellence Through Continuous Training

At PATHWEL, we believe that continuous learning is the cornerstone of better patient care. Our 40-bed specialty hospital is dedicated to treating complex blood disorders, and we ensure that our staff is equipped with the requisite knowledge and best practices through regular training programs.

Commitment to Education and Leadership

Guided by our senior consultants and experienced staff, our training sessions comprehensively cover key aspects of clinical care, including:

- Infection Control & Barrier Nursing – Ensuring patient and staff safety.
- Hand Hygiene & Sterilization Protocols – Reducing hospital-acquired infections.
- Lab Work & Chemotherapy Preparation – Maintaining precision in critical procedures through regular training.
- Patient Care – Delivering compassionate and systematic care.



Brig (R) Kishwar Sultana, a seasoned nursing leader in hematology and BMT, shares her invaluable expertise with PATHWEL's nursing team. Her dedication to refining SOPs and mentoring staff ensures excellence in patient care. Mentoring with precision, passion, and a commitment to transformative patient care.

Leading from the Front

Maj Gen (Retd) Dr. Parvez Ahmed, Medical Director of PATHWEL, is one of the most distinguished clinical hematologists and a pioneer in bone marrow transplantation in Pakistan. It is a matter of great pride for PATHWEL that Dr Ahmed has been awarded annual CIBMTR Distinguished Service Award for 2026.

With a career marked by excellence, dedication, and leadership, he has played a pivotal role in advancing hematology and transplant medicine in the country. A visionary educator, Dr. Ahmed has been instrumental in training medical and paramedical professionals, shaping the future of clinical hematology in Pakistan. Known for leading by example, Dr. Ahmed continues to inspire through his unwavering commitment to patient care, education, and innovation. His contributions have not only elevated healthcare standards but also paved the way for the next generation of hematologists. We honor his remarkable service and enduring legacy in medicine.

(Cover Photo : Dr Ahmed demonstrating how to prepare stain to laboratory staff)

Our leaders not only teach but also lead by example, fostering a culture of accountability and excellence.

Why Training Matters

With hematology and transplant patients being highly vulnerable, well-trained staff are vital in preventing complications and improving outcomes.

Regular refreshers ensure that our team remains confident, competent, and up to date with evolving medical standards.

We are proud of our team's dedication to learning and growth. Together, we continue to raise the bar in hematology care at PATHWEL.



MD PATHWEL meeting with all departmental supervisors



Routine CQI meeting to discuss measures for quality improvement



Mr. Nazakat giving training to staff for fire fighting



Matron Capt (R) Tasneem Jameel delivering lecture to nursing staff

PATHWEL Stars

My Fight Against Leukemia: A Decade of Faith, Science, and Survival

By Kashaf | CML Survivor | BS Biochemistry | Cancer Awareness | Motivation

My Story

In 2015, I was a 14-year-old student, just entering 10th grade, when my life changed forever. I began experiencing pain in the left kidney area. An ultrasound revealed an enlarged spleen. My blood reports showed hemoglobin of 6.5 g/dL. A bone marrow biopsy from Aga Khan Lab in Lahore, diagnosed me with Chronic Myeloid Leukemia (CML). I was referred to the NIBD, Karachi, where my treatment began under the supervision of Dr. Tahir Shamsi. He later referred me to Nishtar Hospital Multan, where I received five years of treatment with Imatinib.

During this time, I faced many emotional and physical challenges but I never let my disease define me. I continued my education and stayed mentally strong, refusing to give in to despair. I developed side effects, experienced depression, mood swings, and fear especially when my medicine caused adverse reactions.

In 2020, a mutation rendered Imatinib ineffective. I was then switched to Dasatinib. Unfortunately, due to a lack of proper follow-up and negligence of treating doctor, the mutation worsened. Despite all this, I completed my BS in Biochemistry.

Balancing Dreams and Disease

During my Bachelor's, I began teaching, learned content writing, and offered home tuition. I even opened a marketing agency, joined various social work societies, and led them as President, Vice President and Management Head. I participated in

35+ national & international research workshops, projects, attended events in top universities across Pakistan, joined prestigious scientific societies, and represented Pakistan as a female youth leader at a UNICEF platform. I received over 30 awards, certificates, and honorary shields. I also published more than four scientific articles, research papers, book chapters & won a Scientific Research Writing Award.

When Dreams Were Interrupted

In 2023, I was working & had just been selected for a fully funded scholarship to study in Italy. But once again, my disease returned aggressively. I consulted Dr. Hafiz Nadeem, who informed me that the only curative option was a bone marrow transplant.

July to October 2023 was the most traumatic phase of my illness, during which I even faced suicidal thoughts due to the intense emotional and physical suffering. As there was no fully matched donor and only a 50% match was found, I was referred for a haploidentical transplant (a far more complex and risky procedure) to the PATHWEL, where I was treated

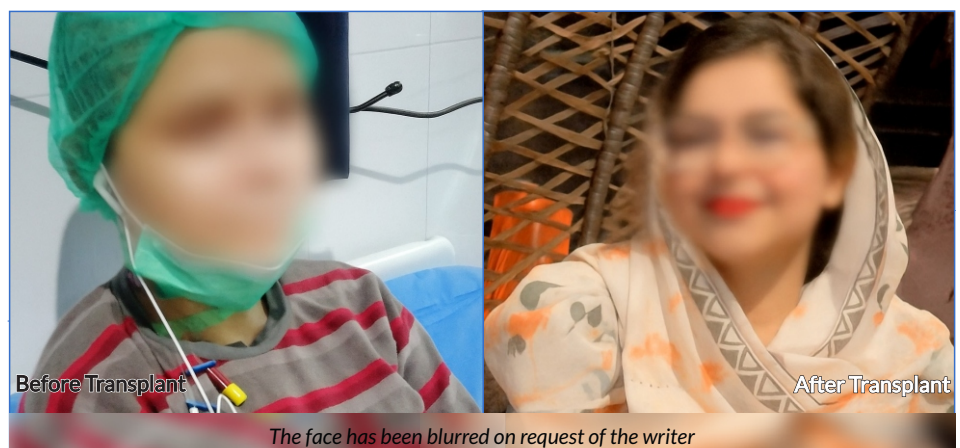
under the expert care of Dr General Parvez, supported by Dr. Khalil, Brig Dr Kamran, General Dr Qamar, Dr Hina, Dr Shahzad, Dr Ayesha and the kindhearted and supportive nursing staff. These doctors, alongside my family, became my strength.

My Brother – My Donor, My Hero

Both my mother and my brother were found to have a 50% match, but it was my brother who ultimately donated his stem cells for transplants. He went through countless tests and endured the pain during the donation process all out of love & support for me. His sacrifice & emotional strength gave me another chance at life. I will always be grateful to him for standing by me as a true warrior in this fight.

The Transplant Journey – My Hardest Phase

On 1st Dec 2023, I was admitted. Chemotherapy began on 4th Dec, marking the most painful and testing time of my life. I lost my hair, experienced severe weakness, and faced debilitating side effects. On 11th December, first transplant was done. However, my body did not



Before Transplant

After Transplant

The face has been blurred on request of the writer

accept the cells. My nervous system was affected, leading to seizures, short-term memory loss, migraine attacks, and muscle weakness. Still, I refused to surrender.

Second Transplant, Second Chance

On 6th March 2024, I underwent a second transplant. This time, slowly but surely, my body began to heal. Emotionally, though, I was struggling with depression, loneliness, financial burdens, and the pain of losing loved ones. I had to let go of my dream of studying abroad and even lost close relationships. Yet, I reminded myself daily: "I am more than what I've lost."

Healing, Achievements, & Advocacy

In 2025, I am alive. I am healing. I've resumed my studies. Though I still experience occasional memory lapses, mood swings, and fatigue, I am moving forward with hope. This decade-long journey has not only made me a survivor but also a voice for others. I want every patient, every caregiver, and every doctor to remember: "You don't have to be fearless. You just have to keep going even when you're scared." Cancer didn't stop my life, it paused it. And now, with God's grace, my family's prayers, and my doctors' efforts, I'm pressing play again. I lost my hair, my health (just a temporary loss), and parts of my past. But I gained strength, vision, and a new beginning.

Current Medical Status

Alhamdulillah, all of my major cancer-related medications have now been stopped. I only take medicine for fits, an anti-viral, some multivitamins, and hormonal medicines. My vaccination schedule has been completed as well.

Gratitude for My Parents and Family

None of this journey would have been

possible without the unwavering love & sacrifices of my family. My mother has been by my side every moment through hospital stays, sleepless nights, and painful procedures. Her strength, patience, & prayers have been my constant support. My father stood as the silent warrior managing finances, running around for medications, and carrying the weight of hope when I had none left. To my entire family: your love kept me alive. Your belief kept me going. I am forever grateful.

From My Heart – A Survivor's Perspective

Fighting cancer is more than just surviving treatments it's about rediscovering life in the middle of pain. I've lived through hopelessness & healing, loss & love, fear & faith. This journey shaped who I am today resilient, empathetic, & empowered.

If you're reading this as a patient, know that your diagnosis does not define your destiny. Hold on. Take one day at a time. Keep learning, growing, & believing. If you're a caregiver, know that your presence matters more than you realize. And if you're a survivor, let your story light the way for others. We are not victims of cancer; we are victors over it.

Gratitude for My Doctors and Medical Staff

I am deeply grateful to Dr Parvez and the entire medical team at PATHWEL. Their tireless efforts, medical excellence, heartfelt prayers, and constant motivation were a pillar of strength during the darkest days of my life. From the smallest care to the most critical decisions, every team member stood by me with compassion, patience, and professionalism. Their belief in my recovery gave me hope when I had none. I will forever carry

their kindness & courage in my heart.

Gratitude for Friends, Relatives, and Supporters

No words can fully capture the love and support I received from friends, relatives, and well-wishers. From emotional check-ins and surprise visits to encouraging messages and generous financial help every act of kindness became a lifeline. Some friends became family, and some strangers became angels. Every dua, every hug, every kind word stitched my broken pieces together. To each person who stood by me you made my pain bearable & my recovery possible. I carry your compassion in every heartbeat of my second chance at life.

My Message to Cancer Patients and Survivors

To every cancer warrior out there whether you are newly diagnosed, in treatment, or a survivor know this: you are not alone. The road may be tough, the pain may be real, and the nights may be long, but you are stronger than you think.

Be patient with yourself. Healing takes time. Surround yourself with positivity and never hesitate to ask for help. Your mental health is just as important as your physical health.

Prioritize a healthy lifestyle. Eat well, rest enough, and stay active in whatever capacity your body allows. These small daily choices become powerful tools in your healing.

Have faith in God, in science, in your support system, and most importantly, in yourself. There is life beyond diagnosis. There is hope beyond pain.

With love, resilience, and hope,
Kashaf Tariq

Grand Round

Unusual Presentation of CML with Strikingly High Blood Counts: A Clinical Perspective

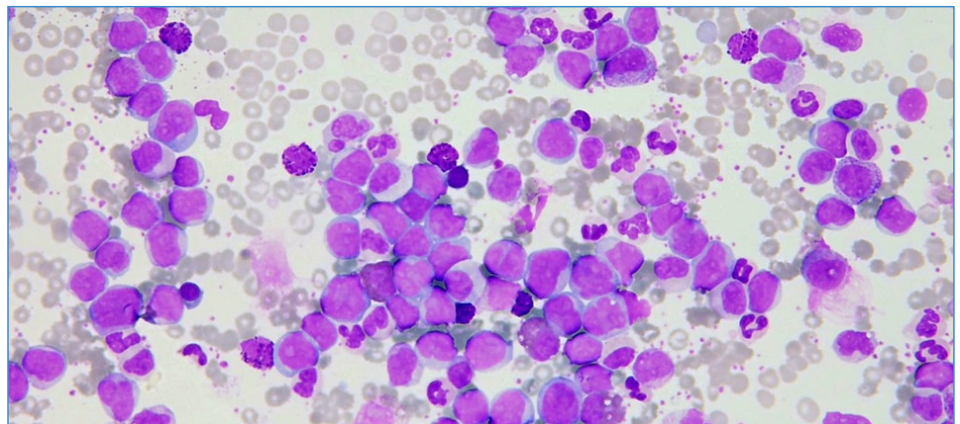
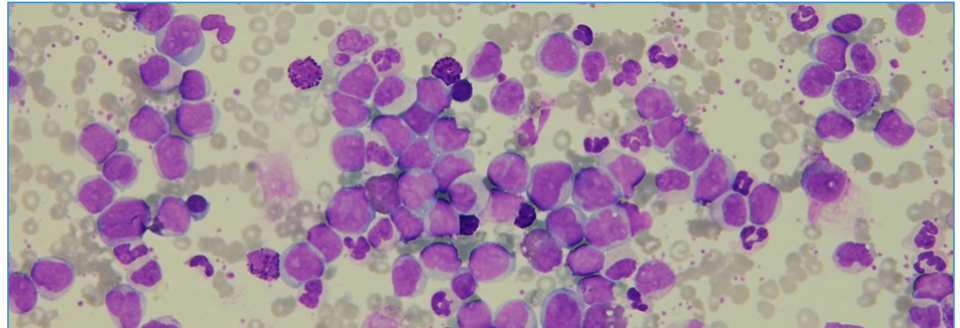
By Summaira Naseeb, final year trainee of fellowship in clinical hematology, PATHWEL



It began with something as simple, seemingly harmless as green tea. A 70-year-old woman, mother of 6, previously managing her long-standing osteoarthritis with tramadol and paracetamol, noticed a gradual decline in her appetite around December 2024. Alongside it came an unintentional weight loss. Reluctant to seek medical attention, she attributed her symptoms to recent dietary changes, especially a recent habit of drinking green tea. Life continued, quietly concealing a storm.

By late February 2025, things escalated. She developed fever and persistent dry cough. This time, she took oral antibiotics and antipyretics, which offered temporary relief. On March 1st, she underwent routine cataract surgery. A CBC done that day (results unavailable at the time) would later become a vital piece in the puzzle. Her fever was back after 1 day of the surgery, repeat CBC startled the medical team: her WBC had skyrocketed to $289 \times 10^9/L$, with Hb at 9.8 g/dL and platelets at $920 \times 10^9/L$, again treated with antibiotics. This time a peripheral film was also advised and the next CBC revealed WBC $585 \times 10^9/L$, hemoglobin 6.5 g/dL, and platelets $1357 \times 10^9/L$. Peripheral film showed immature granulocytes, basophilia, nucleated RBCs, 49% atypical mononuclear cells or blasts, and marked thrombocytosis.

She reported to Pathwel Center of Hematology and BMT OPD in critical condition. She was dyspneic, tachypneic, and confused. Examination revealed pallor, hypoxia



(SpO₂ 66% on room air), GCS 13/15, bilateral edema, hepatosplenomegaly, and chest crepitations. Lab findings showed 49% blasts, electrolyte imbalances, high LDH, and inflammatory markers. Immunophenotyping confirmed 20% myeloid blasts, suggesting CML in blast crisis. The team initiated urgent cytoreduction. She was started on IV hydration, Allopurinol, and supplemental oxygen (4–5 L/min). A session of leukapheresis removed 300 mL of total cell volume. Concurrently, she received cytarabine and was managed for tumor lysis syndrome and hyperkalemia. After clinical deterioration on Day 2, supportive measures were intensified. By day 5, her WBC declined, and she was started on a tyrosine kinase inhibitor. Her condition improved significantly

by day 7, with reduced oxygen requirements and normalization of WBC count. By day 9, she was off oxygen, her vital signs stabilized, body aches resolved, and she was mobile. The final pieces of the diagnostic puzzle were confirmed:

- PCR for BCR-ABL P210: Positive
- PCR for FLT3: Negative
- Bone marrow aspirate: Diluted but showed occasional blasts.
- Trepine biopsy: Hypercellular marrow (75–80%), bimodal myelopoiesis, reduced megakaryocytes, focal blast infiltration, reticulin fibrosis MF II.

She was discharged with the plan of escalation to hypomethylating agents + Venetoclax in combination with a TKI.



Every year World Thalassemia Day is celebrated on 8th May. However, due prevailing situation in the country, this year PATHWEL organized a commemorative function on 17th June 2025 at the prestigious auditorium of Rawalpindi Medical University (RMU). The venue was graciously provided by the Vice Chancellor of RMU, whose support added significant value to the event.

The function was graced by the presence of the President of Rawalpindi Chamber of Commerce and Industry Mr. Usman Shaukat as the Chief Guest, underscoring the growing



Subhan Ali reciting Holy Quran



Chief Guest Mr. Usman Shaukat
President RCCI

support of the business community towards the cause of thalassemia care. The event drew a large gathering of thalassemia patients, their families, friends of PATHWEL, distinguished members of civil society, and the Members of Executive Council of Pakistan Thalassemia Welfare Society (PTWS).

Prominent personalities in attendance included the DG Operations of Pakistan Bait-ul-Mal (PBM) Dr. Zeeshan Danish, Dr. Sadia Shahzad Dy Director Medical (PBM), Mr. Rizwan Ahmed and Mr. Haroon ur Rashid from



Maj Gen (R) Dr. Sohaib Ahmed,
President of PTWS

Alkhidmat Foundation, Mr. Suleman Khalid from Akhuwat, Maj Gen (R) Hamid Shafique VC HITEC-IMS, and the CEO of Hajra Hamza Foundation, Maj Gen (R) Abid Latif Khan. Their presence reflected the strong collaboration between charitable organizations, government bodies, and the medical community in the fight against thalassemia.

The program commenced with a warm welcome by Maj Gen (R) Dr. Sohaib Ahmed, President of PTWS, who highlighted the tremendous efforts and the persistent challenges faced by



the society in sustaining free treatment programs. He emphasized that the Society is providing over 300 free blood transfusions every month to children with thalassemia—a lifeline for many families. He thanked PBM for their all-out support for the patients of PATHWEL, with out which many patients would go untreated.

Medical Director of PATHWEL, Maj Gen (R) Dr. Parvez Ahmed, presented an in-depth overview of PATHWEL's workload, achievements, and remarkable growth over the past three years. His presentation shed light on



Hosts of the Day: Ms. Nigar Shah, Dr Sumyia Abbasi, Mr. Husnain Ali



From L to R: Maj Gen (R) Hamid Shafiq, Dr Jamal Nasir, Mr. Usman Shukat, Mr. Zeeshan Danish, Mr. Khalid Farooq, Maj Gen (R) Abid Latif, Maj Gen (R) Parvez Ahmed



the relentless commitment of the PATHWEL team in enhancing patient care and expanding services.

A heartwarming highlight of the day was the performance by children with thalassemia, which moved the

audience and served as a reminder of the resilience and spirit of these young fighters. The event also featured an



Highlight of the Day: Performance by children with thalassemia



“Chhoti si chubhan” a skit by the staff of PATHWEL



Executive Members with the Chief Guest (L to R): Brig (R) Syed Kamran Mahmood, Col (R) Dr Lubna Zafar, Dr Abdul Qayyum, Maj Gen (R) Sefvan Majed, Dr Jamal Nasir, Dr Zeeshan Danish, Mr. Usman Shaukat, Maj Gen (R) Suhaib Ahmed, Maj Gen (R) Dr Parvez Ahmed, Mr. Khalid Mahmood, Mr. Murtaza Ali Burhani, Dr Nasir Mahmood, Mr Asad Ali Shah

engaging and thought-provoking skit performed by the staff of PATHWEL, led by Ms. Nigar, which was met with enthusiastic applause and appreciation from the audience.

In recognition of the generous contributions and support from various individuals and organizations, shields and mementos were distributed by the President of PTWS to distinguished supporters of the society. The program concluded with a Hi-Tea, providing an opportunity for networking, discussion, and renewed commitment towards the shared mission of eradicating thalassemia.



Friends of PATHWEL:

Professor Dr. Muhammad Zeeshan Danish

We are excited to introduce a new segment, 'Friends of PATHWEL,' where we will showcase the remarkable individuals who have been forthcoming in their support for our patients.

Director General of Pakistan Bait ul Mal (PBM), is a renowned scientist and academic leader. With a distinguished career spanning over two decades, he has made significant contributions to healthcare and education, both nationally and internationally.



Prof. Dr. Danish holds a PhD in Gene Therapy from the prestigious School of Pharmacy, University of Nottingham, UK. His research expertise encompasses nanotechnology, advanced drug delivery, gene silencing, and aptamer therapeutics. He has completed international patent-based DNA and RNA gene technology projects for medical and environmental applications, demonstrating his innovative approach to scientific inquiry.

Prof. Dr. Danish has an impressive publication record, with over 70 impact factor peer-reviewed articles and more than 70 abstracts published in national and international proceedings and conferences. He serves as the Chief Editor of the Journal of United Medical and Pharmaceutical Sciences (JUMPS) and is a distinguished editor of the International Journal of RNAi and Gene Silencing. He is also a PhD supervisor for several universities, including institutions in the UK, Germany, France, and Malaysia.

We extend our heartfelt gratitude to Professor Dr. Muhammad Zeeshan Danish and Pakistan Bait ul Mal for their unwavering support and contributions to PATHWEL. Their commitment to improving healthcare and social welfare has been instrumental in advancing our mission and making a positive impact on the lives of many.

Morphology Updates

A Transfusion Reaction due to Anti-ER5 in a Hyposplenic $\beta 0$ Thalassemia Major Patient

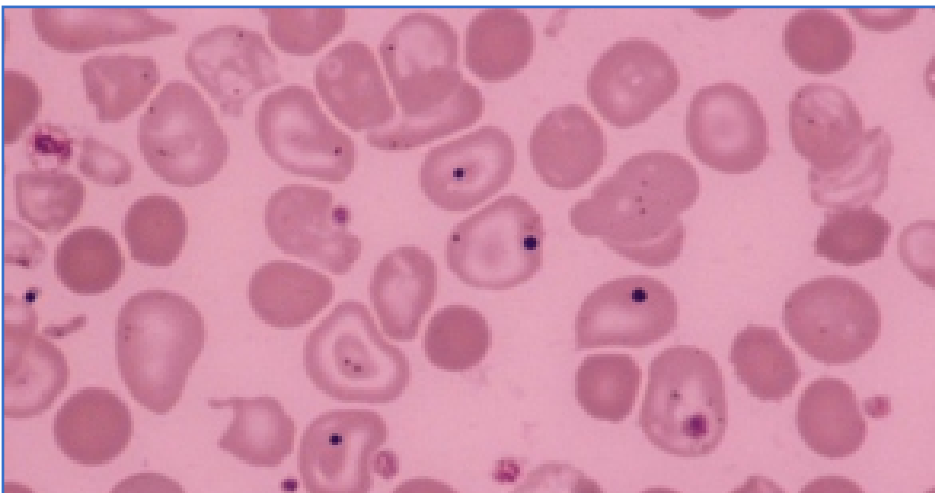
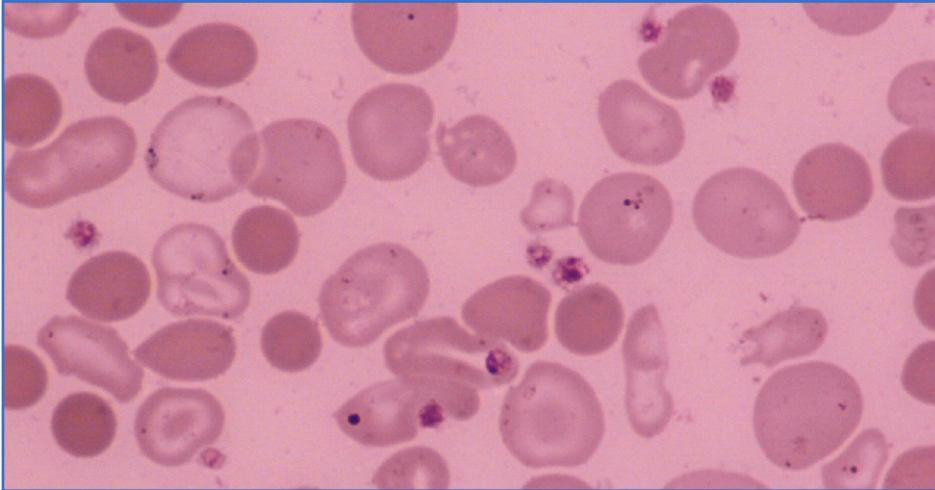
Arun Thomas 1 | Kirstin Lund 2 | Vivienne Ballon 3 | Barbara J. Bain 4

1. Dep of Paediatric Haematology, Imperial College Healthcare NHS Trust, St Mary's Hospital, London, UK

2. Blood Sciences, Imperial College Healthcare NHS Trust, St Mary's Hospital, London, UK

3. Centre for Haematology, St Mary's Hospital Campus of Imperial College Faculty of Medicine, London, UK

4. Centre for Haematology, St Mary's Hospital Campus of Imperial College Faculty of Medicine, London, UK
<https://doi.org/10.1002/ajh.27623>



A 6-year-old boy of Libyan ethnic origin was referred to pediatric hematology 3 months after entering the United Kingdom as a refugee. The child was known to have thalassemia major. His parents were first cousins. He had previously been transfused every 4 weeks, received chelation therapy and had been splenectomized. More

recently, transfusion requirement had increased to every 2 weeks and he had developed posttransfusion hemoglobinuria, which was not ameliorated by corticosteroids. He had not been transfused since arriving in the United Kingdom and his hemoglobin concentration (Hb) was 72 g/L. Anti-c and anti-E were present together with a

panagglutinating antibody directed at the high frequency antigen, ER5. It was not possible to source ER5-negative blood and he was therefore transfused with Rh-typed red cells under cover of intravenous immunoglobulin, methylprednisolone, and eculizumab. Transfusion led to an initial rise of Hb to 96 g/L but, despite the precautions taken, by 3 days the Hb had fallen to 65 g/L. His mother reported that following the transfusion his urine had again become red.

Post-transfusion his blood film (both images, $\times 100$ objective) showed hypochromic red cells, target cells, Howell-Jolly bodies, Pappenheimer bodies, schistocytes, alpha chain inclusions within hypochromic erythrocytes (upper image), and nucleated red blood cells. In addition to the evidence of thalassemia and hyposplenism, there were also considerable numbers of spherocytes, indicating a transfusion reaction. The direct antiglobulin test was positive for immunoglobulin G (+). Molecular analysis showed homozygosity for $\beta 0$ thalassemia, specifically NM_000518.4: c93-22_95del p.? In addition, there was homozygosity for the Xmn1 (-158) polymorphism of the HBG2 gene, which leads to some increase in hemoglobin F synthesis.

ER5 is a recently recognized, high incidence antigen, antibodies to which can cause hemolytic disease of the fetus and newborn. Future management of the child will be fraught with problems.

Conflicts of Interest

The authors declare no conflicts of interest.

Reference

1. V. K. Crew, L. A. Tilley, T. J. Satchwell, et al., "Missense Mutations in PIEZO1, Which Encodes the Piezo1 Mechanosensor Protein, Define Er Red Blood Cell Antigens," *Blood* 141, no. 2 (2022): 135-146.

Tidbits Tidbits Tidbits Tidbits Tidbits Tidbits Tidbits

High-dose cytarabine with idarubicin consolidation for acute myeloid leukemia in first complete remission: a randomized controlled trial

Zhang, Y., Feng, Z., Du, J. *et al.* *Leukemia* (2025). <https://doi.org/10.1038/s41375-025-02655-x>



Whether adding anthracycline to intermediate or high-dose cytarabine as consolidation is beneficial remains unclear in acute myeloid leukemia (AML). Eligible AML patients in first complete remission were randomly assigned (1:1) to

receive either high-dose cytarabine with idarubicin (IA3+3) (idarubicin 10mg/m², d1-3 and cytarabine 2g/m², every 12h, d1-3) or high-dose cytarabine (HDAC) (cytarabine 3g/m², every 12h, d1-3) regimens as first consolidation. The primary endpoint was the rate of negative measurable residual disease (MRD⁻) after first consolidation.

Between November 2018 and December 2021, 407 patients were assigned to IA3+3 (n=204) or HDAC (n=203) groups. MRD⁻ after first consolidation for IA3+3 and HDAC groups was 65.2% (95%CI: 58.6–71.8%) and 53.2% (46.3–60.1%)

(P=0.009). The 3-year cumulative incidence of relapse was 22.6% and 34.0% (P=0.014), DFS was 68.4% and 52.9% (P=0.003), OS was 75.5% and 69.6% (P=0.18) and treatment-related mortality was 8.8% and 13.0% (P=0.23) in two groups, respectively. Eighty-seven (43%) and 114 (56%) patients underwent allogeneic hematopoietic stem cell transplantation, respectively (P=0.006).

IA3+3 regimen results in deeper remissions and reduces relapse compared to HDAC. This deeper remission improves DFS and translates into treatment advantage, with fewer patients undergoing allo-HSCT.

Venetoclax and decitabine vs intensive chemotherapy as induction for young patients with newly diagnosed AML

J. Lu, S. Xue, Y. Wang, X. He *et al*; *blood* 29 May 2025; doi.org/10.1182/blood.2024027217.



Venetoclax (VEN) combined with hypomethylating agents is approved for frontline therapy in older/unfit patients with AML. This study investigated the efficacy & safety of VEN plus decitabine (VEN-DEC) as induction in untreated young fit patients with AML in a randomized trial.

Patients aged 18 to 59 years eligible for intensive chemotherapy were randomized 1:1 to receive VEN DEC or IA-12 (idarubicin and cytarabine). All patients achieved composite complete remission (CRc) underwent high-dose cytarabine consolidation. The primary end point was CRc rate after induction.

Of 255 screened, 188 were enrolled and randomly assigned, with 94 in each group. In the intention-to-treat population, CRc was 89% (84/94) in the VEN-DEC group vs 79% (74/94) in the IA-12 group (noninferiority P = .0021), with measurable residual disease negativity rates of 80% (67/84) vs 76% (56/74), respectively. VEN-DEC showed superior CRc in patients

aged ≥40 years (91% vs 75%) and those with adverse risk (91% vs 42%) or epigenetic mutations (91% vs 67%), but lower CRc in RUNX1::RUNX1T1 fusion cases (44% vs 88%) than IA-12. Patients in the VEN-DEC group experienced fewer grade ≥3 infections (32% vs 67%) and shorter severe thrombocytopenia duration (median, 13 vs 19 days; P < .001). At a median follow-up of 12.1 months, overall and progression-free survival were similar between groups.

In conclusion, VEN-DEC demonstrated noninferior response rates with superior safety over IA-12 in young patients with AML.



Tidbits Tidbits Tidbits Tidbits Tidbits Tidbits Tidbits

Maternal weight during pregnancy and risk of childhood acute lymphoblastic leukemia in offspring

J. Liu, E. Kharazmi, Q. Liang et al; *Leukemia* (2025) 39:590–598; doi.org/10.1038/s41375-025-02517-6



In addition to biological factors, maternal exposures during pregnancy can contribute to leukemogenesis in offspring. We conducted a population-based cohort study in Sweden to investigate the association between risk of acute

lymphoblastic leukemia (ALL) in offspring and maternal anthropometrics during pregnancy.

A total of 2,961,435 live-born singletons during 1983–2018 were followed from birth to ALL diagnosis, end of age 18, or end of 2018. 1388 children were diagnosed with ALL (55.6% boys). We observed an increased risk of ALL among daughters of overweight/obese mothers in early pregnancy [Body mass index (BMI) \geq 25kg/m²; Standardized incidence ratio (SIR) = 1.4, 95% CI: 1.2–1.6] compared with the risk in daughters of mothers with normal BMI. This association was not found in their sons (SIR = 1.0, 95%

CI: 0.9–1.1). Similar results were found for the association between ALL and maternal BMI before delivery. We did not find an association between low or high gestational weight gain (GWG) and risk of ALL (both SIRs=1.0) in male/female offspring.

These suggest that maternal overweight/obesity are important risk factors for childhood ALL in daughters, whereas GWG is not associated with risk of ALL. Further research on this mother-daughter association may shed light on a possible sex hormone/chromosome-related etiology of ALL.



Primary antifungal prophylaxis in hematological malignancies. Updated clinical practice guidelines by the European Conference on Infections in Leukemia (ECIL)

Livio Pagano , Georg Maschmeyer, Frederic Lamothe et al; *Leukemia*; https://doi.org/10.1038/s41375-025-02586-7

[Recommendations for antifungal prophylaxis in patients with AML receiving intensive remission induction/reinduction chemotherapy.](#)

Intention	Intervention	SoR	QoE	ECIL 5-6
Prevent IFD in AML patients, excluding allogeneic HSCT	posaconazole, tablet 300 mg q24h p.o. (q12h on day 1)	A	I ¹	A-I
	amphotericin B, liposomal, inhalation ^{2,3} 10 mg twice weekly	B	I	B-I
	fluconazole ⁴ 400 mg q24h, p.o. or i.v.	B	I	B-I
	voriconazole ² 6 mg/kg/12 h first day then 4 mg/kg q12h, i.v. or p.o.	B	IIu	B-II
	isavuconazole 200 mg q8h p.o first 2 days then 200 mg q24h	B	II t	NR
	micalfungin 50 mg q24h i.v.	B	II u,t	NR
	amphotericin B, liposomal, i.v. ² 1-3 mg/kg q24h	C	II	C-II
	caspofungin ² 50 mg q24h i.v. (70 mg on day 1, 70 mg q24h in patients >80 kg)	B	II t	NR
	itraconazole 2.5-7.5 mg/kg q24h i.v. or 200 mg q24h p.o.	C	I	B-I
	SUBA-itraconazole 200 mg q12h p.o.	C	II t	NR

AML acute myeloid leukemia, IFD invasive fungal disease, HSCT hematopoietic stem cell transplantation, NR No recommendation. 1 = recommendation for AML under remission induction chemotherapy; 2 = no approval for prophylaxis of IFD; 3 = formulation not approved; 4 = Only recommended if the incidence of mold infections is low. Fluconazole may be part of an integrated care strategy together with a mold-directed diagnostic approach.

Transplant Tidings Transplant Tidings Transplant Tidings

Addition of mycophenolate mofetil (MMF) to a calcineurin inhibitor (CNI) & post-transplant cyclophosphamide (PT Cy) results in lower incidence of extensive chronic GVHD in HLA-matched allogeneic HSCT for AML in complete remission: a matched-pair analysis on behalf of the ALWP of the EBMT

Battipaglia G., Labopin M., Kulagin A. et al; *Bone Marrow Transplant* (2025). doi.org/10.1038/s41409-025-02610-5



Whether one or two agents added to PTCy are needed in HLA-matched allo-HSCT with peripheral blood stem cells (PBSC) is debated. We retrospectively compared PTCy in association with a CNI (PTCy+CNI) or with a CNI plus MMF (PTCy+CNI+

MMF) in adult patients transplanted for acute myeloid leukemia in first complete remission and receiving PBSC in the period from 2010 to 2020.

Propensity score matching was performed using exact matching for donor type (related or unrelated) and the nearest neighbor for other variables (i.e. age, adverse cytogenetics, Karnofsky performance status, patient and donor cytomegalovirus serology, conditioning intensity). Each group comprised 146 patients, with 63% in total undergoing

matched unrelated-allo-HSCT.

Median follow up was longer for PTCy+CNI (36 [IQR 31–39] months versus 25 [IQR 19–30] months for PTCy+CNI+MMF, $p < 0.01$). At 2 years, PTCy+CNI was associated with a higher incidence of extensive chronic GVHD (16% [95% CI 10–22] versus 6% [95% CI 3–12] for PTCy+CNI+MMF, $p < 0.03$) while no differences were observed for all the other transplant outcomes. Addition of MMF to PTCy and CNI may help to prevent extensive chronic GVHD in HLA-matched allo-HSCT with PBSC.

Intermediate-dose post-transplantation cyclophosphamide (PTCy) for myeloablative HLA-haploidentical bone marrow transplantation

M. A. Hyder, D. Dimitrova, R. Sabina et al;

High-dose PTCy, given at 50 mg/kg/day on days +3/+4, is a standard-of-care GVHD prophylaxis for allogeneic HSCT. We conducted a single-institutional prospective phase 1/2 trial to reduce PTCy dosing to 25 mg/kg/day on days +3/+4 or on day +4 only for myeloablative HLA-haploidentical bone marrow HSCT using PTCy, sirolimus, & mycophenolate mofetil.

Among 35 patients, 89% were ethnic/racial minorities, 46% had high/very-high-risk disease, and median comorbidity score was 3. The phase 1 dose limiting-toxicity, grade III-IV acute GVHD, was not observed

after either reduced-PTCy dose level. PTCy 25 mg/kg/day on days +3/+4 (intermediate-dose (ID)-PTCy; $n = 23$), the phase 2 dose, resulted in no grade II-IV acute GVHD; 2-year cumulative incidences of chronic GVHD requiring systemic immunosuppression, non-relapse mortality, and relapse were 13%, 17%, and 22%, and 2-year OS, DFS, & GVHD-free/relapse-free survival were 61%, 61%, and 52%.

In exploratory analysis compared with HD-PTCy ($n = 5$), ID-PTCy resulted in significantly faster engraftment & T-cell reconstitution, fewer transfusions, less mucositis,

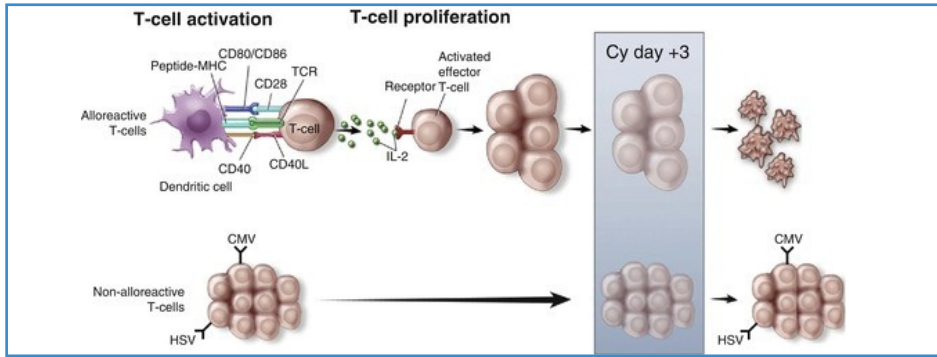
and reduced severity of BK-virus-associated cystitis/urethritis; area-under-the-curve exposure of 4-hydroxycyclophosphamide (4HCY), a key cyclophosphamide metabolite, correlated with these outcomes but not with chronic GVHD occurrence. Ideal-body-weight-based PTCy dosing best approximated 4HCY exposure. ID-PTCy is effective and has apparent clinical benefits compared with HD-PTCy.

Before broader implementation, further studies are needed to confirm these findings and define optimal PTCy dosing across various donor/graft types.

Transplant Tidings Transplant Tidings Transplant Tidings

Graft-versus-Host Disease Prophylaxis with Cyclophosphamide & Cyclosporin

D.J. Curtis, S.S. Patil, J. Reynolds et al; NEJM; DOI: 10.1056/NEJMoa2503189



Allogeneic peripheral-blood stem-cell transplantation (SCT) from a matched related donor (MRD) after myeloablative conditioning (MAC) is the preferred curative treatment for patients with high-risk blood cancers. The combination of a calcineurin inhibitor (CNI) and an antimetabolite remains standard care for GVHD prophylaxis. Data from two randomized trials have suggested that post-transplantation cyclophosphamide (PTCy) can reduce the risk of GVHD after SCT from a matched donor when it is added to or

replaces the antimetabolite.

We randomly assigned adults who were undergoing SCT from a MRD after myeloablative or reduced-intensity conditioning to receive either PTCy-cyclosporin (experimental prophylaxis) or cyclosporin-methotrexate (standard prophylaxis). The primary end point was GVHD-free, relapse-free survival (GFRFS). Among 134 patients who underwent randomization, 66 were assigned to receive experimental prophylaxis and 68 to receive standard prophylaxis.

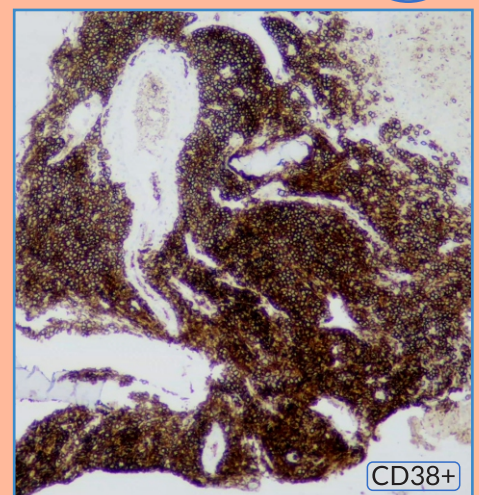
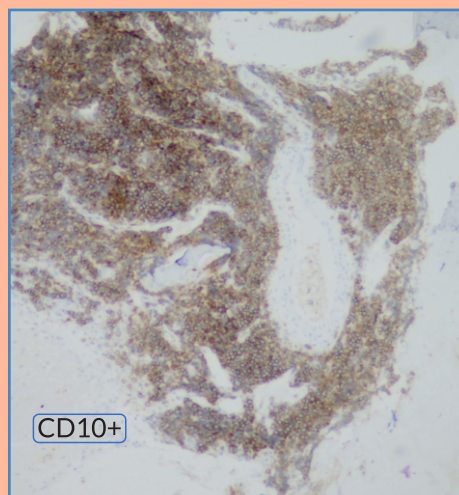
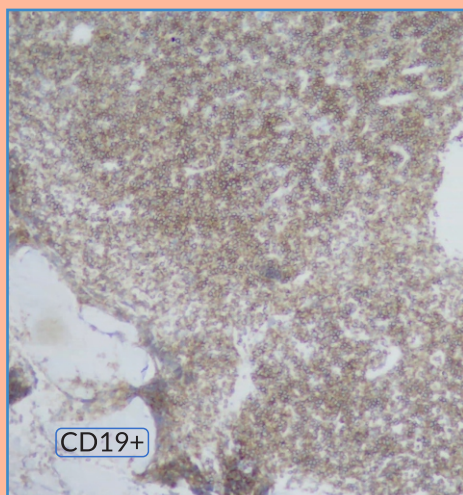
GFRFS was significantly longer with experimental prophylaxis (median, 26.2 months) than with standard prophylaxis (median, 6.4 months; $P < 0.001$). GFRFS at 3 years was 49% with experimental prophylaxis and 14% with standard prophylaxis (hazard ratio for GVHD, relapse, or death, 0.42). The cumulative incidence of grade III-IV acute GVHD at 3 months was 3% in the experimental-prophylaxis group and 10% in the standard prophylaxis group. At 2 years, overall survival was 83% and 71%, respectively. The incidence of serious adverse events was similar in the two groups in the first 100 days after SCT.

The combination of PTCy and a CNI led to longer GFRFS than standard prophylaxis after transplantation from a MRD with either reduced-intensity or MAC in patients with blood cancers.



Picture Quiz Answer *by Dr Sidra Barlas, Consultant Hematologist PATHWEL*

Immunodeficiency Associated Burkitt Lymphoma.



World Hemophilia Day at PIMS by Hemophilia Patients Welfare Society

By Ms. Hina Fatima

Date: April 10, 2025

Venue: Cardiac Center Auditorium, PIMS, Islamabad

Organized by: Blood Bank, PIMS Islamabad & Hemophilia Patients Welfare Society, Rawalpindi (HPWS Rwp)

Total Participants: 79 (Doctors, MBBS Students, Speakers, Staff, Patients)

To mark World Hemophilia Day 2025, a seminar titled “Women and Girls Bleed Too” was held at PIMS, Islamabad, organized by the Hemophilia Patients Welfare Society in collaboration with the PIMS Blood Bank. The event highlighted the unique challenges faced by women and girls with inherited bleeding disorders (WGBD), aiming to promote awareness, improve care, and strengthen advocacy.

The session began with a Tilawat and national anthem, followed by a welcome address from Dr. Farwa Sijjeel, who outlined the critical role of multidisciplinary care at the PIMS Hemophilia Treatment Center. Dr. Hira presented a successful case study of a woman with Glanzmann’s Thrombasthenia, showcasing the importance of coordinated care.

Educational highlights included a student-made video on platelet function, a diagnostic talk by HPWS President Dr. Lubna Zafar, and a psychosocial session by Dr. Abeera Maheen, emphasizing the mental and emotional toll on WGBD. A live infusion was conducted by the Hemophilia Treatment Center (HTC) Coordinator, who is also a patient, to emphasize the importance of proper factor preparation and to demonstrate key steps that must be carefully followed during the infusion process.

Additionally, a global video message from Dawn Rotellini, Chair of the World Federation of Hemophilia (WFH) Women and Girls with Bleeding Disorders (WGBD) Committee, further enriched the program. Her message was highly encouraging, as she expressed her strong commitment to supporting women and girls living with bleeding disorders. She assured that she would continue to provide all possible assistance to help improve their quality of life worldwide. The event also featured advocacy and leadership speeches from Dr. Samina Amanat and Dr. Farhat (OGDCL), urging stronger public-private collaboration, early diagnosis programs, and policy support.

The seminar concluded with certificate distribution and refreshments, offering a space for networking and knowledge exchange.

Conclusion

This impactful event at PIMS served as a vital platform to amplify the voices of women and girls with bleeding disorders. It called for equity in diagnosis and care, reinforcing the message that no one should suffer in silence.



تھیلیسیسیا جیسے امراض میں مبتلا ہے ہر چند ہفتوں بعد خون کے منتظر ہوتے ہیں۔ ان کے لیے خون کوئی عام دوا نہیں، بلکہ زندگی کا سہارا ہے۔ بد قسمتی سے کچھ لوگ کہتے ہیں "ہم اپنا خون کیوں ایسے بچوں پر ضائع کریں؟" یہ جملہ صرف ایک بے حسی نہیں، بلکہ انسانیت سے منہ موڑنے کے مترادف ہے۔

صحت مند پیدا ہونا ہمارا کمال نہیں، اللہ کا انعام ہے۔ اور بیمار ہونا ان معصوم بچوں کا گناہ نہیں، بلکہ ان کی آزمائش۔ اللہ کو غرور پسند نہیں۔ جو نعمت ہمیں ملی ہے، وہ آزمائش بھی ہے۔ کہ ہم اس کا استعمال کیسے کرتے ہیں؟ خون دینا، کسی کی مدد کرنا، یا صرف اچھا رویہ رکھنا۔ سب نیکی کے درجے میں آتے ہیں۔



زندگی کا صدقہ۔ خون کا عطیہ

تحریر: نگار شاہ

ہیں لوگ وہی جہاں میں اچھے
آتے ہیں جو کام دوسروں کے

ایک سادہ سا جملہ، مگر پورا فلسفہ زندگی اپنے اندر سموئے ہوئے ہے۔ ہمارے معاشرے میں ایک عام تاثر پایا جاتا ہے کہ خون دینے سے انسان کمزور ہو جاتا ہے۔ لیکن سائنسی حقائق اور طبی اصول اس کے برعکس بات کرتے ہیں۔ ہر صحت مند نوجوان کے لیے سال میں تین سے چار مرتبہ خون دینا نہ صرف ممکن بلکہ فائدہ مند عمل ہے۔

خون دینے کے بعد جسم میں نیا اور صحت مند خون پیدا ہوتا ہے، جو مدافعتی نظام کو مزید مضبوط بناتا ہے۔ ہمارے جسم میں موجود خون کی زندگی صرف دن ہے۔ اس کے بعد یہ خود بخود تبدیل ہو جاتا ہے۔ تو کیوں نہ ہم اس بدلنے ہوئے خون کو کسی کی زندگی بچانے کا ذریعہ بنا دیں؟ جب کوئی شخص خون دیتا ہے تو وہ صرف ایک بوتل خون نہیں دیتا وہ امید دیتا ہے، زندگی دیتا ہے، روشنی بانٹتا ہے۔

کچھ افراد اس عمل کو بے فائدہ یا اپنا "قیمتی خون ضائع" کرنے کے مترادف سمجھتے ہیں۔ وہ شاید یہ بھول جاتے ہیں کہ "جس نے ایک انسان کی جان بچائی، گویا اس نے پوری انسانیت کی جان بچائی۔" خون کا رنگ سب انسانوں میں ایک جیسا ہوتا ہے۔ نہ کالا، نہ گورا۔ یہ ہمیں یاد دلاتا ہے کہ انسانیت کا رنگ، نسل اور عقیدے سے بالاتر ہے۔

"میسے کا قرض وقت پر ادا ہو جاتا ہے، لیکن رویے کا قرض ہمیشہ رہتا ہے۔" یہ سچ ہے: کچھ زخم لفظوں سے گلتے ہیں، کچھ خاموشی سے۔ اس لیے ہمیں اپنے رویے کو ہمیشہ نرم، شفاف اور انسان دوست بنانا چاہیے۔ اکثر لوگ رزق کو صرف کھانے پینے کی چیزوں تک محدود سمجھتے ہیں، مگر رزق درحقیقت وہ صلاحیتیں ہیں جو ہمیں عطا کی گئی ہیں: علم، وقت، صحت، طاقت، ہنر، جذبہ، محبت۔ اگر ان کا استعمال ہم نے انسانیت کی خدمت کے لیے نہیں کیا، تو کل ہمیں ان سب کا حساب دینا ہو گا۔ اللہ پاک فرماتے ہیں: "بروز قیامت میں تمہیں تمہارے دیئے گئے رزق کا حساب لوں گا۔"

آپ کی ایک بوتل خون، کسی ماں کے آنسو روک سکتی ہے۔ کسی باپ کی دعائیں بن سکتی ہے۔ کسی بچے کے چہرے کی مسکراہٹ بن سکتی ہے۔ مشکل وقت میں کسی کے کام آنا، اندھیرے میں جگنو بن جانا۔ یہی اصل انسانیت ہے۔ اور یہی وہ نیکی ہے جس کا بدلہ صرف اللہ دے سکتا ہے۔ یہ دنیا ایک بازار ہے، جو عنقریب بند ہو جائے گا۔ غنفلند وہ ہے، جو اس بازار سے اپنے اصل گھر آخرت کے لیے کچھ جمع کر لے۔

اللہ رب العزت ہم سب کو عاجزی، خدمتِ خلق، اور آخرت کی تیاری کی توفیق عطا فرمائے۔ آمین۔

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PATHWEL Launches Official YouTube Channel

PATHWEL – Spreading Awareness on Blood Disorders & Bone Marrow Transplantation

We are excited to announce the launch of PATHWEL's official YouTube channel – @pathwelvepk!

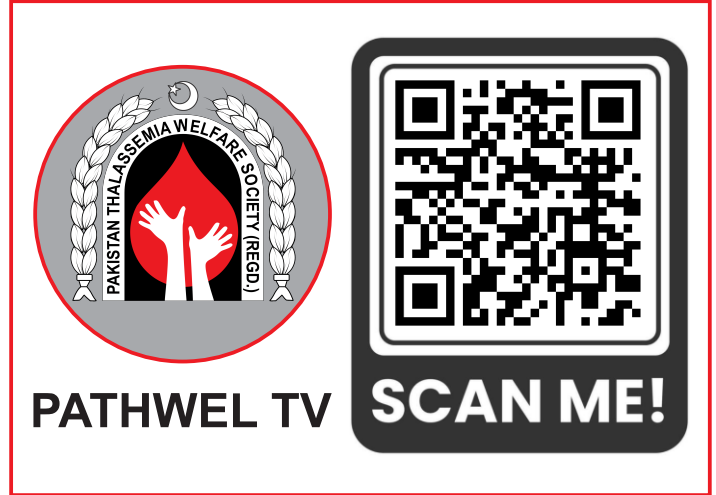
This new digital platform is designed to educate and raise awareness about a wide spectrum of blood disorders and their treatments. Our goal is to make trusted, expert-driven information easily accessible to patients, caregivers, and the wider community.

Topics featured on the channel include:

- Thalassemia
- Hemophilia
- Leukemia & Lymphoma
- Multiple Myeloma
- Bone Marrow Transplantation (BMT)
- Nursing care and many other blood-related conditions

What you can expect:

- ✓ Expert talks and awareness videos
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- ✓ Patient education and treatment options
- ✓ Real-life stories & interviews with survivors & specialists



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