

EEMEA Scientific Seminars

2023 Krakow, Poland

werfen









Dear esteemed Delegate,

The multidisciplinary Seminars held in Krakow brought together leading experts and practitioners from various fields to explore critical advancements in autoimmunity, hemostasis, and acute care diagnostics. This gathering served as a platform for the exchange of cutting-edge research and innovative practices, fostering interdisciplinary collaboration among attendees. The advanced scientific seminars provided valuable insights into the complexities of autoimmune diseases, the intricacies of hemostatic processes, and the latest diagnostic techniques in acute care settings.

With a focus on enhancing scientific education, the Seminars not only highlighted current trends and breakthroughs but also encouraged robust discussions on future directions in these vital areas of healthcare.
The diverse backgrounds of the delegates enriched the dialogue, allowing for a comprehensive understanding of the challenges and opportunities facing the healthcare community today.

These proceedings compile the findings and discussions from the congress, serving as a crucial resource for ongoing education and research. We hope they inspire further inquiry and collaboration among professionals committed to advancing the science and practice of medicine in an increasingly interconnected world.

With warm regards,

Marketing Director

Multi-Disciplinary Joint Session: Healthcare Data and Cybersecurity

In today's healthcare landscape, the effective management and sharing of patient data are paramount for optimizing patient pathways and ensuring high-quality care. However, this endeavor is inextricably linked to robust cybersecurity measures. Democratizing healthcare data, by breaking down silos between laboratories, wards, and other departments, enables a more comprehensive and coordinated approach to patient care.

By sharing information seamlessly, healthcare providers can make more informed decisions, reduce medical errors, and improve overall patient outcomes. However, this increased connectivity also exposes healthcare organizations to a heightened risk of cyberattacks.

Therefore, 360° view of the patient data flow for better patient outcomes and the risks associated with the digitalization of data and vulnerabilities are an integral part of delivering effective healthcare services.

Werfen's mission of Powering Patient Care is focused on both these aspects of improved specialized connectivity to enhance patient outcomes and provide the most secure environment to Powering Patient Care.



SPEAKERS AND TALKS

Democratizing healthcare data from Laboratory to wards, to optimize patient pathway

Daniele Bellavia
Research Fellow, LIUC
Carlo Cattaneo University - Italy

Cybersecurity: the value for medical applications

Andrew Sargent
Product Security Director, Werfen - USA




Donat Spahn
Ecaterina Scarlatescu
Klaus Görlinger



Introduction
Acute Care Diagnostics

In today's healthcare environment, interdisciplinary dialogue and collaboration are essential for driving progress in patient care, especially in acute care settings. With this goal in mind, the EEMEA Acute Care Experts Meeting has become a valued forum, making a notable clinical and scientific impact in the EEMEA region.

The 2023 edition, hosted in Krakow, Poland, gathered 14 international experts from various healthcare specialties such as cardiologists, perfusionists, anesthesiologists, surgeons, emergency department physicians, experts in hemostasis and hematologists, as well as Point-of-Care testing and laboratory professionals.

This event, guided by chairs Klaus Görlinger and James H. Nichols enabled lively discussions on real-world experiences and evidence-based practices, allowing approximately 100 delegates to deeply engage with the topics and share institutional best practices.

This symposium has been carefully organized with the unequivocal objective of fostering dynamic dialogues centered around the multifaceted challenges and opportunities that lie in enhancing patient care and safety.

The sessions were meticulously curated to address specific challenges encountered in various clinical settings and have been divided in different chapters as follows:

Part 1 **Cardio-vascular and Cardio-thoracic Surgery**

Part 2 **Complications in Anesthesia and Intensive Care Unit**

Part 3 **Emergency and trauma**

Part 4 **Optimizing patient care, a common goal for Diagnostic Testing**

Part 5 **Ensuring quality with the rise in Point-of-Care testing solutions**

Part 6 **The role of Connectivity in managing Point-of-Care testing devices**

Cardio-vascular and Cardio-thoracic Surgery

PART 1

The session on **Cardio-vascular and Cardio-thoracic Surgery** addressed the complexities of heparin administration during cardiopulmonary bypass and differentiating between surgical and coagulopathic bleeding.

Gunilla Kjellberg discussed the nuances of managing heparin and protamine dosages, covering factors affecting Activated Clotting Time (ACT), dosing methods, and protocols used at Uppsala Akademiska Hospital to manage anticoagulation, reducing bleeding and thrombotic risks.

Alexey Schramko then shared his experience with goal-directed bleeding management in complex cardiac surgeries, highlighting how Point-of-Care devices and specific algorithms enable timely therapies, reduce unnecessary blood transfusions, lower costs, and improve patient care.

A lively panel discussion followed, emphasizing the importance of fast, accurate Point-of-Care results to enhance treatment decisions and patient outcomes during cardiopulmonary bypass surgeries.

Topics and Speakers



Heparin monitoring during cardiac surgery

Gunilla Kjellberg
Perfusionist at Department of Thoracic Surgery and Anesthesia,
Uppsala University Hospital
Uppsala, Sweden



Bleeding management in complex cardiac surgery

Alexey Schramko
Head Physician, Adjunct Professor at Perioperative and Intensive Care, Surgery and Anesthesia Unit K,
Jorvi Hospital - Helsinki University Hospital Helsinki,
Finland

Complications in Anesthesia and Intensive Care Unit

PART 2

This session focused on complications in anesthesia and intensive care units (ICUs), particularly in bleeding, anticoagulation, and respiratory management, and the strategies needed to minimize risks and ensure patient safety.

Jan Pluta addressed bleeding management in post-surgical complications, sharing strategies across pre-, intra-, and post-operative phases. He emphasized how Point-of-Care viscoelastic testing allows early treatment of coagulopathy, reducing post-operative bleeding.

Mariusz Kowalewski focused on anticoagulation and respiratory management during Extracorporeal Membrane Oxygenation (ECMO). He discussed anticoagulation monitoring systems like Activated Clotting Time (ACT), highlighting their importance in achieving precise control during ECMO therapy.

The session concluded with a panel discussion on common postoperative complications and the tests used for anticoagulation monitoring, facilitating valuable exchanges among participants.

Topics and Speakers



Bleeding Management in post-surgical complications and case discussion

Jan Pluta
MD, Ph.D at 1st Department of Anaesthesiology and Intensive Care UCKWUM - Medical University of Warsaw Warsaw, Poland



Anticoagulation and respiratory management in Extra Corporeal Membrane Oxygenation

Mariusz Kowalewski
MD, Heart Surgeon at Central Clinical Hospital of the Ministry of Interior in Warsaw, Department of Cardiac Surgery, Warsaw, Poland

Emergency and Trauma

PART 3

This session covered a range of topics related to hemodynamic and hemostatic complications in trauma cases.

Ecaterina Scarlatescu provided a detailed explanation of how hemorrhagic shock causes severe disruptions in the body's stability, impacting hemodynamic, respiratory, hemostatic, and metabolic functions. She emphasized the need for a comprehensive, immediate approach to restore balance and address the root causes.

Donat Spahn discussed the European Trauma Treatment Guidelines, highlighting the positive outcomes of individualized goal-directed coagulation management using viscoelastic methods for major trauma patients.

Marius Rimaitis focused on the management of severe traumatic brain injury and coagulopathy in the emergency department, particularly emphasizing the importance of measuring coagulation parameters and using the latest diagnostic and treatment protocols to improve outcomes.

Klaus Görlinger presented an engaging case discussion, demonstrating how Point-of-Care viscoelastic testing can tailor individualized, goal-directed coagulation management in acute bleeding situations, leading to improved patient outcomes.

The session concluded with a panel discussion where participants shared experiences and best practices regarding the management of hemodynamic and hemostatic complications in trauma, with a focus on goal-directed bleeding management to enhance patient care.

Topics and Speakers



Hemodynamic, respiratory, hemostatic and metabolic derangements in hemorrhagic shock

Ecaterina Scarlatescu,
MD, Ph.D at University of Medicine and Pharmacy "Carol Davila," Bucharest and Department of Anaesthesia and Intensive Care, Fundeni Clinical Institute, Bucharest, Romania



The European Guideline on Management of Major Bleeding and Coagulopathy Following Trauma: Sixth Edition

Donat Spahn
Prof. & Chairman at Institute of Anaesthesiology, University Hospital Zurich, Zurich, Switzerland



Progression of intracranial haemorrhage and clinical outcomes in traumatic brain injury

Marius Rimaitis
MD, PhD at Hospital of Lithuanian University of Health Sciences Kauno Klinikos, Clinic of Anesthesiology Department of Neuroanesthesia Kauno, Lithuania



Case discussion on acute bleeding conditions in complex clinical scenarios

Klaus Görlinger
Medical Director Patient Blood Management, Werfen Munich, Germany

Optimizing patient care, a common goal for Diagnostic Testing

PART 4

In today's healthcare landscape, Point-of-Care (POC) testing and central laboratory testing complement each other, enhancing diagnostic speed and accuracy in healthcare.

Bogdan Solnica highlighted the importance of collaboration between Point-of-Care testing and Laboratory teams in managing quality control, operator management, and workflow efficiency, emphasizing its role in improving patient outcomes.

John Parissis discussed the benefits of Point-of-Care testing in emergency departments, showing how rapid results aid in quicker triage and management of life-threatening conditions, improving overall efficiency.

The panel discussion featured numerous questions and lively audience interaction, emphasizing the growing importance of integrating POC testing into medical practice.

Topics and Speakers

Synergies between Point-of-Care testing and laboratory teams

Bogdan Solnica
MD, PhD at Department of Clinical Biochemistry Jagiellonian University Medical College, Krakow, Poland

Improving patient pathways: benefits of Point-of-Care testing in the Emergency Department

John Parissis
Professor of Cardiology-Emergency Medicine National and Kapodistrian University of Athens, Chair of University Department of Emergency Medicine, ATTIKON University Hospital Athens, Greece

Ensuring quality with the rise in Point-of-Care testing solutions

PART 5

This session focused on the importance of quality management in Point-of-Care (POC) testing, emphasizing its growing relevance as Point-of-Care testing expands.

Jaya George discussed the benefits and challenges of Point-of-Care testing implementation, stressing the importance of strong Quality Management processes. She highlighted the need to address potential error sources, such as sample handling and operator variability, by utilizing regular training, competency assessments, and advanced connectivity for real-time monitoring.

James H. Nichols presented advancements in blood gas testing technology, showcasing how real-time monitoring and continuous error detection have improved quality management. Through a multisite study discussion, he emphasized that these technologies can quickly identify and correct errors, ensuring accurate results.

The panel discussion underscored that patient safety is central to Quality Management in Point-of-Care testing, with robust quality control and continuous monitoring being essential for reliable diagnostics and patient care.

Topics and Speakers

Ensuring Quality in Point-of-Care diagnostic testing: what are the challenges and how do we overcome them?

Jaya George
PhD Department of Chemical Pathology, University of the Witwatersrand Wits Johannesburg, South Africa

Advances in quality management systems in Point-of-Care testing: Experience from a multisite study across 4 sites in USA and UK

James H. Nichols
PhD, DABCC, FAACC, Professor of Pathology, Microbiology and Immunology, Medical Director, Clinical Chemistry and Point-of-Care Testing, Vanderbilt University School of Medicine Nashville, TN, USA

The role of Connectivity in managing Point-of-Care testing devices

PART 6

This session highlighted the critical role of connectivity solutions in managing Point-of-Care instruments across multiple sites, especially when operated by non-technical staff.

Ivana Baršić shared her experience managing various Point-of-Care devices across multiple locations using connectivity systems. She emphasized how real-time data integration and monitoring improve Point-of-Care testing efficiency, reducing analytical errors and enhancing patient outcomes.

Malak Almashali presented a quality improvement project focused on standardizing user practices for blood gas services. She demonstrated how centralized connectivity solutions streamline Point-of-Care operations, reduce errors, and enhance operator training and competency by providing a unified platform for monitoring and education.

The session concluded with a dynamic discussion on how connectivity solutions can improve efficiency, minimize errors, and ultimately enhance patient care.

Topics and Speakers



Oversight and management of POCT in a large health institution - Experience from Croatia

Ivana Baršić
European Specialist in Laboratory Medicine, POCT Coordinator, Clinical Department for Laboratory Diagnostics, University Hospital Center Zagreb, School of Medicine University of Zagreb, Croatia



Powering patient care with connectivity at the POC: continuous improvement projects

Malak Almashali
Head of Point of Care Division at Prince Sultan Military Medical City and Cardiac Centre, Riyadh, Saudi Arabia


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Introduction
Autoimmune Diagnostics

Thanks to the global network of clinical and translational researchers who gather at key scientific conferences to discuss their advancements, our understanding of autoimmune diseases is progressing at an unprecedented rate. These events also enable the exchange of ideas, theories, and research tools across diverse fields, fostering new opportunities for collaboration and innovative investigations.

In this summary, we highlight and discuss significant findings and concepts presented at the 10th International Autoimmunity Seminar, held on November 7-8, 2023, in Krakow, Poland, and look ahead to the 11th International Seminar of Autoimmunity, scheduled for November 4-5, 2024, in Riyadh, Saudi Arabia.

Chaired by Yehuda Shoenfeld and Daniele Ielo, the Krakow event facilitated dynamic discussions on practical experiences and evidence-based practices. Approximately 150 delegates participated, deeply engaging with the topics, and sharing best practices from their institutions.

The sessions were meticulously curated to address specific challenges encountered in various clinical settings and have been divided in different chapters as follows:

Part 1 **Diagnostics and clinical insights on systemic lupus erythematosus**

Part 2 **New developments on antiphospholipid antibodies**

Part 3 **Serological biomarkers in Rheumatoid Arthritis**

Part 4 **The risk of interstitial lung disease in autoimmunity**

Part 5 **New insights into primary cholangitis**

Part 6 **Inflammatory Bowel Disease: from pathogenesis to laboratory testing**



Diagnostics and clinical insights on systemic lupus erythematosus

PART 1

Systemic Lupus Erythematosus (SLE) is a complex autoimmune condition with diverse clinical presentations, sparking debate over whether it is a single disease or a collection of related syndromes. Classification criteria, such as the 2019 ACR/EULAR guidelines, aid in categorizing SLE but are not intended for direct diagnosis or treatment. While ANA is a useful criterion, it is not specific to SLE.

There are various assays for ANA detection, each with different sensitivities and specificities, requiring clinicians to select the most appropriate test based on the clinical context. Diagnosing connective tissue diseases (CTDs) is challenging due to overlapping features among them. Autoantibodies serve as essential biomarkers in this diagnostic process. Recent research highlights the importance of early diagnosis, patient stratification, and precision medicine in managing CTDs.

Undifferentiated connective tissue disease (UCTD) lacks well-defined criteria. Advanced diagnostic platforms and multi-analyte analysis techniques, such as PMAT, aid in identifying high-risk patients. Specific antibody profiles, including anti-dsDNA, anti-RNP, anti-Ro52, and anti-centromere, can indicate progression to more definitive CTDs like SLE. This research brings hope for early intervention and better management of CTDs.

Topics and Speakers

ANA as an entry criterion for the classification of SLE

Prof. Pier Luigi Meroni
Istituto Auxologico Italiano University of Milan
Italy

Multi center evaluation of Aptiva CTD panels as an aid in the diagnosis of ANA-associated rheumatic disease: clinical significance

Dr. Nicola Bizzaro
Laboratory of Clinical Pathology, Azienda Sanitaria Universitaria Integrata di Udine, Tolmezzo - Italy

Diagnostics and Clinical Insights on SLE

Prof. Katarzyna Fischer
Pomeranian Medical University in Szczecin,
Individual Laboratory for Rheumatologic Diagnostics

Predicting progression from undifferentiated connective tissue disease to clinically overt disease using particle-based multi-analyte technology

Prof. Savino Sciascia
University Center of Excellence on Nephrological, Rheumatologic and Rare Diseases,
San Giovanni Bosco Hub Hospital, Turin – Italy

New developments on antiphospholipid antibodies

PART 2

The diagnosis of antiphospholipid syndrome (APS) hinges on the detection of antiphospholipid antibodies (aPL), which include Lupus Anticoagulant (LA), anti-cardiolipin (aCL), and anti-beta2 glycoprotein I (anti-β2GPI) tests. APS classification criteria require persistent positivity in at least one of these assays combined with clinical symptoms. Most positive results are due to antibodies against β2GPI, though some are mediated by phosphatidylserine-prothrombin (PS-PT) complex antibodies.

IgG aPL antibodies have a stronger association with clinical manifestations, while the roles of IgM and IgA are still debated. LA positivity, especially when combined with anti-PS/PT antibodies, is a strong predictor of clinical complications. However, there is ongoing debate about including anti-PS/PT antibodies in the formal criteria. Antibodies targeting a specific epitope in domain 1 (D1) of β2GPI are highly predictive but might be less sensitive than tests targeting the entire molecule. Conversely, anti-β2GPI antibodies specific to domains 4 and 5 (D4,5) are not useful for APS diagnosis.

Selecting and interpreting aPL assays is crucial to prevent overdiagnosis, with biomarker panels aligning with precision medicine principles. In summary, accurate APS diagnosis depends on the careful consideration of multiple factors in aPL detection.

Another crucial discussion focuses on the distinction between classification criteria and diagnostic criteria for APS. Classification criteria are primarily designed for research purposes and should not be mistaken for diagnostic criteria, which encompass a much broader range of APS patients. While classification criteria aim to create a standardized framework for identifying APS in research settings, diagnostic criteria are intended to guide clinical practice, ensuring that all potential APS patients receive appropriate evaluation and care. Understanding this distinction is essential for both clinicians and researchers to avoid misdiagnosis and ensure accurate patient assessment.

Topics and Speakers

New developments in the classification of the APS

Prof. Pier Luigi Meroni
Istituto Auxologico Italiano University of Milan - Italy

How do we manage APS patients when the aPL profile turns negative?

Prof. Savino Sciascia
PhD, DABCC, FAACC, Professor of Pathology, Microbiology University Center of Excellence on Nephrological, Rheumatologic and Rare Diseases, San Giovanni Bosco Hub Hospital, Turin - Italy

Serological biomarkers in Rheumatoid Arthritis

PART 3

Rheumatoid arthritis (RA) is a chronic inflammatory joint disease that primarily affects women. Without treatment, RA can lead to disability and increased mortality, making early diagnosis crucial to prevent joint damage. To aid in early RA detection and standardize research, the 2010 ACR/EULAR criteria were developed. These criteria offer higher sensitivity, but lower specificity compared to the 1987 criteria, allowing for earlier identification of RA with a risk of misclassification.

Autoantibodies such as rheumatoid factor (RF) and anti-citrullinated protein antibodies (ACPA) play a crucial role in RA diagnosis. Both are included in the 2010 criteria, with ACPA being more specific and having higher diagnostic value. While clinical diagnosis of RA lacks formal criteria, initiating treatment with drugs like methotrexate serves as a valuable diagnostic indicator.

Circulating calprotectin, a protein complex of S100A8 and S100A9, is a marker for systemic inflammation and is released from activated neutrophils and other immune cells at inflammation sites. Elevated levels are linked to inflammatory conditions like RA, systemic lupus erythematosus, and inflammatory bowel disease (IBD). Measuring circulating calprotectin aids in diagnosing these diseases, monitoring disease activity, and assessing treatment response. In IBD, high blood levels correlate with disease activity and mucosal healing. Calprotectin offers advantages over traditional markers like CRP and ESR, being more sensitive and specific to inflammation and providing early detection. Ongoing research aims to standardize assays and explore its utility in various inflammatory diseases.

Topics and Speakers

Circulating Calprotectin (cCLP) in autoimmune diseases

Dr. Maria Infantino
Laboratorio Immunologia Allergologia, Ospedale San Giovanni di Dio Firenze

Biomarkers as a tool for precision medicine in Rheumatoid Arthritis (RA)

Dr. Laura Martinez Prat
Precision Medicine Lead, Research and Development Autoimmunity

The risk of interstitial lung disease in autoimmunity

PART 4

Systemic autoimmune rheumatic diseases (SARD) and connective tissue diseases (CTD) often present with complications like interstitial lung disease (ILD) or interstitial pneumonia with autoimmune features (IPAF). These conditions encompass a spectrum of disorders associated with inflammation and lung fibrosis, including autoimmune inflammatory myopathies (AIM), systemic sclerosis (SSc), rheumatoid arthritis (RA), primary Sjögren syndrome (SjS), mixed connective tissue disease (MCTD), and systemic lupus erythematosus (SLE).

Diagnosing SARD-ILD poses challenges due to nonspecific symptoms, but research criteria strive to standardize diagnosis based on clinical, serological, and morphological parameters. Biomarkers play a crucial role in supporting diagnosis and predicting outcomes. Specific biomarkers, such as calprotectin and anti-MDA-5 in AIM-ILD, anti-Ro52/TRIM21 in SARD-ILD, and anti-PAD3/4 in RA-ILD, provide valuable insights into disease severity and prognosis.

Effective management requires collaborative efforts between rheumatologists, respirologists, and laboratory specialists. Implementing multi-analyte arrays can further enhance patient outcomes by harnessing the predictive power of these biomarkers, reducing morbidity, and lowering mortality rates.

Topics and Speakers

Lung involvement in autoimmune rheumatic disease

Dr. Ilaria Cavazzana
ASST- Spedali Civili UO
Reumatologia e Immunologia Clinica

New insights into primary cholangitis

PART 5

Primary sclerosing cholangitis (PSC) and primary biliary cholangitis (PBC) are distinct autoimmune liver disorders, each presenting unique diagnostic challenges and characteristics.

PSC is a chronic liver condition characterized by inflammation and fibrosis, often progressing to end-stage liver disease. Approximately half of PSC patients may require liver transplantation, and there is a significantly increased risk of cholangiocarcinoma (CCA).
The clinical progression of PSC varies widely and is frequently associated with inflammatory bowel disease. Diagnosing PSC primarily relies on imaging techniques such as magnetic resonance cholangiography (MRC) or endoscopic retrograde cholangiography (ERC), due to the absence of specific blood markers. Recent research into biomarkers related to the gut-liver axis may help identify PSC subgroups and offer new therapeutic options.

On the other hand, PBC predominantly affects middle-aged women and is diagnosed through clinical features and specific immunological markers. Anti-mitochondrial antibodies (AMA) are highly specific for PBC, present in over 90% of patients, and can predict future PBC development. These antibodies primarily target liver-related proteins. In cases where patients are AMA-negative (less than 5% of PBC patients), disease-specific anti-nuclear antibodies (ANA) assist in diagnosis. Recent studies have identified novel biomarkers, such as antibodies against KLHL12 and HK1, which are particularly useful in AMA-seronegative PBC cases, improving diagnostic accuracy and understanding of the disease.

In conclusion, PSC and PBC are distinct autoimmune liver diseases. Advances in biomarker research hold promise for better diagnosis and understanding of these conditions, potentially leading to improved therapeutic strategies.

Topics and Speakers

Primary Biliary Cholangitis (PBC): the disease of 100 autoantibodies

Prof. Dimitrios Bogdanos
Department of Rheumatology and Clinical Immunology, Faculty of Medicine, School of Health Sciences, University of Thessaly, Larissa - Greece

May autoantibodies predict outcome in Primary Sclerosis Cholangitis?

Dr. Eva Wunsch
Poland Department of Translational Medicine Pomeranian Medical University

Inflammatory Bowel Disease: from pathogenesis to laboratory testing

Inflammatory Bowel Disease (IBD), which includes Crohn's disease (CD) and ulcerative colitis (UC), involves chronic inflammation of the gastrointestinal tract with complex origins. Genetic factors, such as the NOD2 gene, influence immune response and intestinal barrier integrity. CD is associated with a Th1/Th17 response, while UC involves a Th2 response, both leading to chronic inflammation. Environmental factors like diet, smoking, antibiotic use, and stress can exacerbate IBD by altering gut microbiota. Dysbiosis, or an imbalance in the gut microbiome, is common in IBD, disrupting mucosal barriers and triggering inflammation.

Diagnosis and monitoring of IBD require clinical evaluation, endoscopy, imaging, and laboratory tests. Blood tests include Complete Blood Count (CBC) for anemia and inflammation markers like C-Reactive Protein (CRP) and Erythrocyte Sedimentation Rate (ESR). Stool tests such as Fecal Calprotectin and Fecal Lactoferrin indicate intestinal inflammation and help differentiate IBD from IBS. Serologic tests like Anti-Saccharomyces cerevisiae Antibodies (ASCA) for CD and Perinuclear Anti-Neutrophil Cytoplasmic Antibodies (pANCA) for UC aid in diagnosis. Genetic testing identifies specific mutations linked to IBD.

Understanding these factors and using appropriate tests are crucial for effective diagnosis and management of IBD.

Topics and Speakers

Inflammatory Bowel Disease: from pathogenesis to laboratory testing

Prof. Grazyna Rydzewska
Central Clinical Hospital of the Ministry of Interior in Warsaw
Department of Gastroenterology



Introduction
Hemostasis

The Hemostasis Seminar is a long-standing tradition bringing together hundreds of attendees each year to listen to and exchange with an esteemed cohort of international speakers.

At Werfen we strive to Powering Patient Care through, among other things, our continued commitment to sharing the latest scientific content that enables healthcare professionals and institutions to improve patient outcomes.

This event continues to be possible because of the guidance and support of our chairman Professor Armando Tripodi who has been helping us in developing and sustaining the event from its inception up until this event.

The 14th edition that took place in Krakow, Poland in November of 2024 and was quite eventful with exciting new topics and significant participation.

The sessions were meticulously curated to address specific challenges encountered in various clinical settings and have been divided in different chapters as follows:

Part 1 **Talks from our Chairman.**

Part 2 **Von Willebrand Factor and Hemophilia.**

Part 3 **Hemostasis and Liver, Cancer, and HIV.**

Part 4 **Thrombotic Microangiopathies.**

Part 5 **Heparin Induced Thrombocytopenia (HIT), Artificial Intelligence (AI), D-Dimer (DD)**

Part 6 **Thrombophilia and Antiphospholipid Syndrome**

Talks from our Chairman

PART 1

We begin the first part of the sessions with a couple of talks that were delivered by Professor Armando Tripodi who has a distinguished academic and researcher career in the field of Clinical Biochemistry and Clinical Molecular Biology. Throughout his thirty-year career at the Università degli Studi, he became a Full Professor and now holds the same position at the Faculty of Medicine and Surgery of the International University "Humanitas University."

Dr. Tripodi's research primarily focuses on the development and standardization of laboratory methods for diagnosing hemorrhagic and thrombotic diseases, laboratory control of anti-hemorrhagic and antithrombotic therapies, and understanding blood coagulation mechanisms. He has an impressive publication record of over 450 articles in international scientific journals, with an H Index of 65.

Topics and Speakers

Armando Tripodi
Full Professor of Laboratory Medicine at Humanitas University. Established Investigator, Angelo Bianchi Bonomi Hemophilia and Thrombosis Center, IRCCS Maggiore Hospital Foundation, Italy.



FIRST TALK
History of Phenotypic Testing in Hemostasis



SECOND TALK
Updates on the Laboratory Diagnosis of the Antiphospholipid Syndrome in Anticoagulated patients

Von Willebrand Factor and Hemophilia

PART 2

Von Willebrand factor (VWF) is a large multimeric glycoprotein that plays a crucial role in hemostasis. It helps platelets adhere to the damaged vessel wall, a critical step in the blood clotting cascade. VWF also helps platelets to aggregate, forming a platelet plug that seals the damaged vessel.

In the first two sessions we cover the two interesting aspects of this factor, the first being an exciting field of research related to the many novel biological roles of VWF and the second session related to the most common inherited bleeding disorder when VWF is missing or dysfunctional and the implementation of the new guidelines.

The third session covers the topic of Hemophilia which is a rare genetic disorder where the blood lacks essential clotting factors, resulting in prolonged bleeding and difficulty in clot formation. The two most common types are Hemophilia A (deficiency of factor VIII) and Hemophilia B (deficiency of factor IX).

Topics and Speakers

Novel biological roles of von Willebrand Factor

Jamie M. O'Sullivan
Research Lecturer and Principal Investigator, Irish Centre for Vascular Biology Royal College of Surgeons, Ireland

Implementation of Guidelines on the Diagnosis of VWD

Alberto Tosetto
Head of the Hemostasis and Thrombosis Center
Saint Bortolo Hospital, Vicenza
Italy

How many hemophilias are there?

Joanna Zdziarska
Department of Hematology of the Jagiellonian University Medical College

Hemostasis and Liver, Cancer, and HIV

PART 3

Hemostasis is a complex process that maintains normal blood fluidity and prevents bleeding. It involves a delicate balance of procoagulant and anticoagulant factors, which work together to stop bleeding when needed and prevent clot formation when not.

Several conditions may have an impact on the balance of Hemostasis and this section is dedicated to 3 of these conditions. The first of these conditions is related to the challenges of managing the hypercoagulable state that occurs in Cancer patients.

The second of these conditions is related to the rebalancing situation that occurs in Liver diseases that poses challenges in diagnosis and management of patients.

The third is related to the Hemostatic changes that occur when a patient is infected with the human immunodeficiency virus (HIV) and how the risks of bleeding an thrombosis are modified.

Topics and Speakers



Hemostasis Biomarkers and Cancer - Findings from the HYPERCAN

Anna Falanga
Full Professor of Hematology at the University of Milan Bicocca and Chief of the Department of Immunohematology and Transfusion at Hospital Papa Giovanni XXIII, Bergamo Italy



Hemostasis and Liver Disease

Jecko Thachil
Consultant Haematologist, Manchester Royal Infirmary United Kingdom



Hemostasis and HIV

Barry Jacobson
Adjunct Professor of the Molecular Medicine a nd Haematology Department,
University of the Witwatersrand, Johannesburg South Africa

Thrombotic Microangiopathies

PART 4

Thrombotic Microangiopathies (TMAs) are a family of thrombotic conditions that combines diverse pathologies with different treatments but with similar clinical presentations that creates a diagnostic challenge for healthcare professionals.

During Pregnancy it is quite challenging to differentiate the Non-Pregnancy induced TMAs from the Pregnancy induced TMAs like Preeclampsia and HELLP Syndrome.

Our first talk focuses on these challenges from a clinical and laboratory perspective.
The second talk focuses on the implementation of an ADAMTS13 Activity assay in a Tertiary hospital that has implications for the overall workflow of the management of Thrombotic Microangiopathies and more specifically about Thrombotic Thrombocytopenic Purpura (TTP).

Topics and Speakers



Thrombotic Microangiopathies and Pregnancy

Prof. Elvira Grandone
Associate Professor Obstetrics and Gynaecology,
Italy University of Foggia



Implementation of rapid ADAMTS13 asssay in a tertiary care center Tuukka Helin – Finland

Dr. Tuukka Helin
Clinical Instructor, Department of Clinical Chemistry Finland and Hematology HUSLAB, Helsinki University Hospital Finland

Heparin Induced Thrombocytopenia (HIT), Artificial Intelligence (AI), D-Dimer (DD)

PART 5

PF4 (Platelet Factor 4) immune-mediated complications are a serious concern with heparin use. HIT occurs when antibodies form against the heparin-PF4 complex, leading to platelet activation and a prothrombotic state. This condition can cause life-threatening thrombosis. Timely recognition and discontinuation of heparin are essential in managing HIT.

The first talk addresses a current algorithm that utilizes a combination of assays in a sequence to identify the risk of HIT and guiding the management of patients.

The second talk reviews a Machine Learning Algorithm that combines a mix of clinical and laboratory criteria to calculate the risk of HIT and guide the management of the patients.

The third talk here pivots and reviews several challenges that are facing In-Vitro Diagnostics related to standardization of assays and reviews these challenges with an example on one of the most talked about markers in recent years in hemostasis: D-Dimer.

Topics and Speakers

Combination of rapid immunoassays for HIT Diagnosis

Lorenzo Alberio
Head of the Department and Central Lab of Hematology, CHUV (Centre Hospitalier Universitaire Vaudois), Lausanne Switzerland

Artificial Intelligence and machine-learning algorithms in thrombosis and hemostasis

Michael Nagler
University Institute for Clinical Chemistry and Center for Laboratory Medicine INSELSPITAL University Hospital, Bern Switzerland

D-Dimer and Standardization challenges

Valdas Banys
Laboratory Medicine Physician at Medicina Practica Lithuania

Thrombophilia and Antiphospholipid Syndrome

PART 6

Thrombophilia is a medical condition where the blood has an increased tendency to form clots, posing risks like deep vein thrombosis. Antiphospholipid Syndrome (APS) is a specific type of thrombophilia characterized by the presence of antiphospholipid antibodies that increase clotting risk. APS can lead to various complications, including stroke, recurrent miscarriages, and pregnancy complications. It's essential for individuals with thrombophilia, especially APS, to receive proper diagnosis and management, which may include long-term anticoagulant therapy, to mitigate these risks and maintain optimal health.

The first talk addresses the many controversies in the diagnosis and management of patients affected by the Antiphospholipid Syndrome.

The other two talks discuss many of the challenges that Thrombophilia poses in the clinical and laboratory fields. From identifying the right patients that benefit from the right testing profiles to the challenges of adequate collaboration among clinicians and laboratorians to provide the best patient care.

Topics and Speakers

Controversies in APS Diagnosis

Jacek Musiał
Professor and Chairman, Dept. of Medicine at Jagiellonian University in Krakow, Poland

Inherited thrombophilia: new insights and clinical implications

Paolo Simioni
Director, Thrombotic and Hemorrhagic Diseases Unit, Department of Medicine University of Padua Medical School Italy

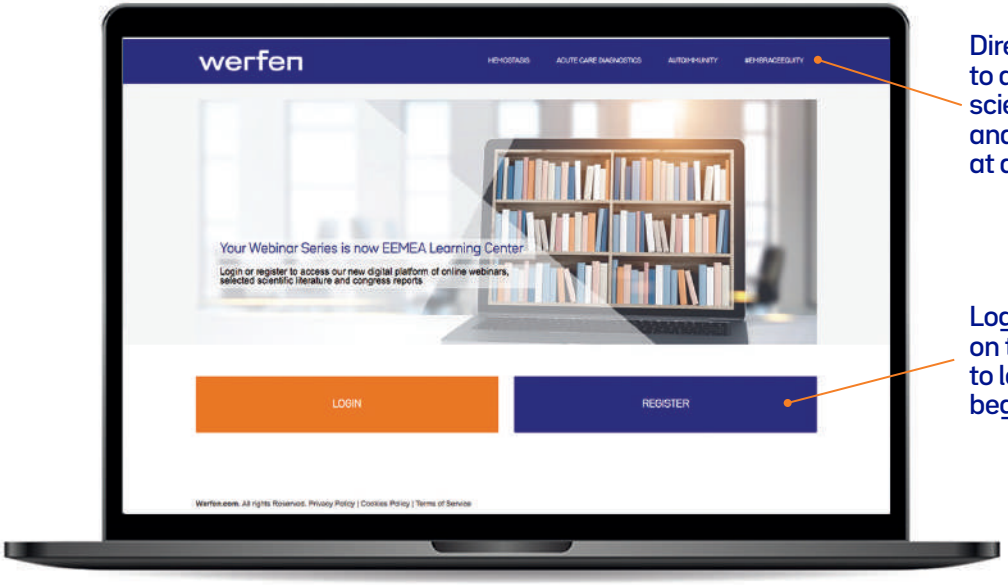
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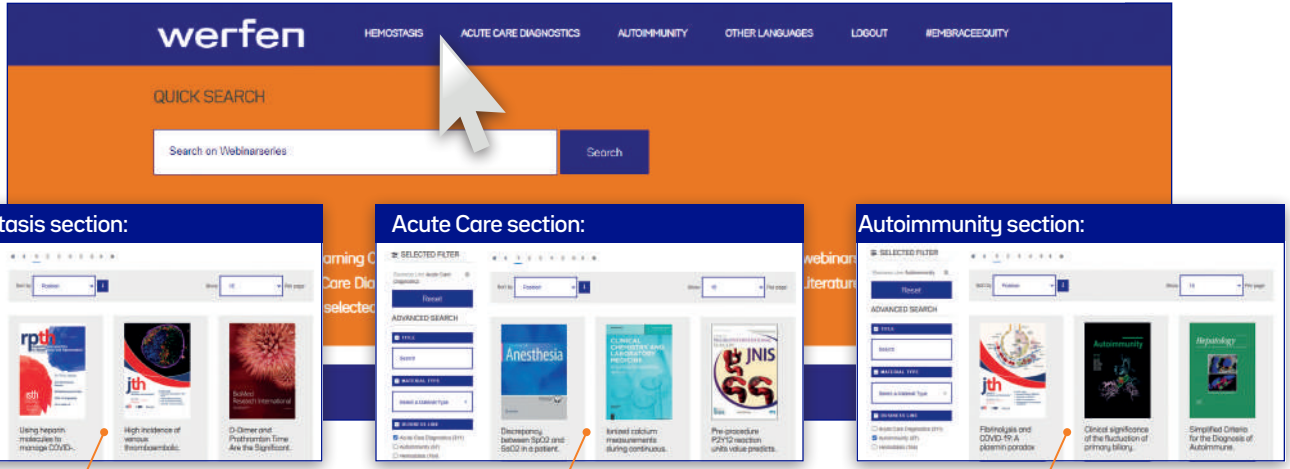


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