

Editorial

64th Annual Congress of the Gesellschaft für Thrombose- und Hämostaseforschung e.V. in Bremen

Novel Concepts for a Lifetime Challenge (Part II)

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Dear colleagues,

After a highly successful congress of the Society of Thrombosis and Haemostasis Research (GTH) it is our great pleasure to present this second special congress issue. The current issue of *Hämostaseologie – Progress in Haemostasis* publishes brief review articles that summarize highlights of some key presentations given at this year's 64th GTH Annual Meeting in Bremen, February 18 to 21. The past conference attracted a thousand participants spanning from physicians, scientists, PhD and master students to nurses and laboratory technicians and many more who share their dedication to thrombosis and haemostasis. In addition to presenting brilliant science, cutting-edge studies and stunning novel data, the conference offered the opportunity to experience Hanseatic culture and lifestyle during the opening ceremony and the networking evening. We are convinced that the attendees fell in love with the city of Bremen and its cultural diversity.

The articles in the current special issue reflect the broad range of topics and emerging challenges in the field of thrombosis and haemostasis and adjacent areas. More information about the past congress, the book of abstracts and interesting short-video interviews of some of our speakers can be found online at: <https://www.gth2020.org/gth-2020-congress-review/>.

Drs Hechler and Gachet are world-known pioneers in the field of platelet purinergic receptors. Their ground-breaking work was key to the current understanding of the complex biochemistry and cellular signalling of these cell-surface

receptors. In their plenary lecture, they gave a comprehensive and well-structured overview about the complex and versatile effects of purinergic receptors in the cardiovascular field and their clinical use as emerging anti-platelet drug targets.¹

In addition to their canonical roles in thrombosis and haemostasis, platelets are emerging effector cells involved in inflammation, innate immunity, extracellular matrix reorganization and fibrosis, maintenance of barrier and organ integrity, and host response to pathogens. Thrombotic and inflammatory events both contribute to acute organ damage in a process that is termed thrombo-inflammation. Thrombo-inflammation is best characterized in the setting of ischaemic stroke, and the article by **Dr Burkard and colleagues** summarizes these exciting novel concepts.²

Time delay between the onset of clinical symptoms and diagnosis constitutes a major challenge in childhood arterial ischaemic stroke. **Dr Gerstl and colleagues** give a state-of-the-art overview on risk factors and clinical management of childhood arterial ischaemic stroke.³ Clearly, this important disease state is not yet fully recognized and requires more attention.

In addition to presenting a strong prothrombotic risk factor, the anti-phospholipid syndrome is of critical importance during pregnancy and represents an important cause of recurrent abortions or preterm delivery. **Drs Bergmann and Czwalińska** summarize novel information on the diagnostics and therapy for this immunologic disease state with specific importance for obstetric, perinatal and paediatric medicine.⁴

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Direct oral thrombin and factor Xa inhibitors have become the standard armamentarium for prevention and treatment of thromboembolic disorders. However, the pharmacokinetics and pharmacodynamics of these drugs have remained challenging. **Dr Moner-Banet and colleagues** present an overview on this important topic spanning biochemistry, pharmacology, diagnostics and patient care.⁵

Anticoagulant drugs are key in the management of thromboembolic complications, but may cause life-threatening bleeding. Over recent years, novel agents have been developed for safe and efficacious neutralization of oral and parenteral anticoagulants. **Dr Koscielny and colleagues** provide a comprehensive overview and highlight critical clinical implications of these emerging novel reversal agents.⁶

The post-thrombotic syndrome is a common, yet not fully appreciated complication of deep vein thrombosis. **Dr Bruning and colleagues** shed some light on the complex diagnostics and management of this clinically important complication that constantly gains importance in our aging population.⁷

Bleeding contributes to the high mortality of patients receiving extracorporeal membrane oxygenation (ECMO) therapy. The development of acquired von Willebrand syndrome (AVWS) has been recognized as an important complication in this setting. **Dr Schlagenhauf and colleagues** present recent clinical findings on the pathology of AVWS after implantation and the recovery of von Willebrand factor function after termination of ECMO therapy, respectively.⁸

The perinatal management of female haemophilia carriers and their newborns presenting with haemophilia is highly challenging and requires an experienced interdisciplinary team. **Drs Streif and Knöfler** provide practical guidance for genetic counselling, prenatal diagnosis and bleeding prevention during delivery. In addition, current

treatment recommendations for the management of neonates with inherited factor VIII or IX deficiency are summarized.⁹

It was our great honour to host the 64th Annual Congress of our society and it was our pleasure to present the two special issues. We cordially thank everyone who spent energy and time in preparing and reviewing these articles that summarize the state of the art in our field. Your work is greatly appreciated! We look forward to seeing you all in Lausanne 2021!

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