VIA MEDICA

CONGRESS REPORT

Journal of Transfusion Medicine
2022, vol. 15, no. 1, 63–64
DOI: 10.5603/JTM.2022.0006
Copyright © 2022 Via Medica
ISSN 1689-6017
eISSN 2080-1505

Selected items from the ISTH 2021 Congress

Magdalena Łętowska

Blood Transfusion Department, Institute of Hematology and Transfusion Medicine, Warsaw, Poland

The 2021 virtual ISTH Congress was organized in Philadelphia (July 17–22). From numerous oral and poster presentations as well as educational lectures I selected several topics which offer insight into new options of thrombosis management.

Ciraparantag is a small molecule for anticoagulant reversal of drugs such as VKAs and DOACs. In two randomized, placebo-controlled, dose-ranging studies with 80 healthy adults, Ciraparantag was administered in single IV doses ≥ 60 mg to show rapid and sustained anticoagulant reversal of apixaban or rivaroxaban. Ciraparantag was well tolerated [1].

Direct oral anticoagulants (DOACs) represent an off-label, but potential alternative to traditional therapy for heparin-induced thrombocytopenia (HIT). Assessment reports on DOACs for HIT are infrequent; mostly related to scarce retrospective studies with small cohorts and case series. In a retrospective cohort study of 77 HIT patients, DOACs were associated with low rates of thrombotic and hemorrhagic events [2].

TTP is a life-threatening, microvascular occlusion characterized by systemic platelet clump formation, ischemia and organ failure, profound thrombocytopenia and fragmentation of RBCs leading to hemolytic anemia. TTP is caused by a severe deficiency of the metalloproteinase, ADAMTS13 (< 10% of normal enzyme activity), the enzyme that cleaves HMW vWF multimers. The deficiency in ADAMTS13 function occurs via one of two mechanisms: cTTP (< 5% of TTP cases), autosomal recessive homozygous or compound heterozygous mutations in the ADAMTS13 gene leading to reduced enzyme function and iTTP: antibody-mediated reduction in enzyme activity and/or accelerated enzyme clearance.

TAK-755 is a fully glycosylated recombinant human ADAMTS-13 protein produced in the CHO mammalian expression system in a plasma-protein free milieu that restores ADAMTS13 function. It seems to be a new option for TTP therapy. Phase 1 results were promising and showed that TAK-755 was well tolerated by patients with cTTP, and increased ADAMTS13 activity. Clinical trials were continued. The ongoing study phase 3 is focused on assessment of the safety and efficacy of TAK-755 in the prophylactic and on-demand management of cTTP. Study phase 2 (SOAR-HI) — investigates PK safety, and TAK-755efficacy as supplementation to standard care of ITTP patients [3].

To evaluate local tolerability of recombinant ADAMTS13 (rADAMTS13) the drug was subcutaneously injected to rabbits. It was demostrated that a single rADAMTS13 sc injection gave no dermal or histopathologic findings [4].

Therapeutic plasma exange (TPE) is still indicated for iTTP caused by autoantibodies to ADAMTS13. **Caplacizumab** limits the need forTPE and improves platelet recovery and survival, though indicated as TPE support. Clinical experience with caplacizumab suggests that platelet increase occurs much faster than with TPE alone. TTP management without TPE may also be considered. RCT are still required

Correspondence address: prof. dr hab. n. med. Magdalena Łętowska, Blood Transfusion Department, Institute of Hematology and Transfusion Medicine, ul. Gandhi Street 14, 02–776 Warsaw, phone: 22 349 63 71, e-mail: letowska@ihit.waw.pl

Translation: mgr Krystyna Dudziak

This article is available in open access under Creative Common Attribution-Non-Commercial-No Derivatives 4.0 International (CC BY-NC-ND 4.0) license, allowing to download articles and share them with others as long as they credit the authors and the publisher, but without permission to change them in any way or use them commercially.

to demonstrate whether caplacizumab alone is sufficient for ITTP patients or whether TPE is still necessary [5].

Conflict of interest: none declared

References

1. Ansell J., Bakhru S., Villano S., Luo X. Efficacy and safety of ciraparantag in reversing apixaban and rivaroxaban as measured by whole blood clotting time in healthy adults. https://abstracts.isth.org/search-results/?text=PB0302.
2. Davis K., Sebaaly J., Wooten L. i wsp. A multicenter retrospective evaluation of direct oral anticoagulants for the treatment of heparin induced thrombocytopenia. https://abstracts.isth.org/search-results/?text=PB0857.
3. Jain N., Marquez C., Martell L. Design of a phase 3, randomized, controlled study of prophylactic and on-demand treatment with recombinant ADAMTS13 for patients with severe congenital thrombotic thrombocytopenic purpura. https://abstracts.isth.org/search-results/?text=PB0837.
4. Blank J., McNulty J., Nunes J. Evaluation of the local tolerability of recombinant ADAMTS13 following subcutaneous injection in rabbits. https://abstracts.isth.org/search-results/?text=PB0845.
5. Knoebl P., Thaler J., Krstic M. i wsp. Is therapeutic plasma exchange (TPE) still necessary for the treatment of thrombotic thrombocytopenic purpura (TTP)? https://abstracts.isth.org/search-results/?text=PB1881.