

## Letter to the Editor

## Platelet Aggregation Inhibitors and Anticoagulants in Gastroenterological and Visceral Surgical Procedures—an Update

by Dr. med. Benedikt A. Aulinger, Prof. Dr. med. Fuat H. Saner, Dr. med. Konstantin Stark, Prof. Dr. med. Julia Mayerle, and Univ. Prof. Dr. med. Christian M. Lange in issue 49/2022

## Addenda

From the perspective of intensive care medicine, I wish to add two items to the review article (1).

In case of thrombopathy induced by acetylsalicylic acid, the application of desmopressin can be considered. Within 30 minutes this will trigger a release of von Willebrand factor, clotting factor VIII, and tissue type plasminogen activator from the vascular endothelium, which in turn will trigger increased thrombocyte adhesion. With the simple dose of one vial per 10 kg body weight, the application can be repeated every six hours, but the subendothelial storage of these clotting factors is exhausted after about four applications. The antidiuretic effect of synthetically produced pituitary hormone (arginine vasopressin) has to be considered in existing congestive heart failure.

To counteract life threatening bleeding in patients taking direct oral anticoagulants (DOACs), in the worst case scenario prothrombin complex concentrate preparations (PPSB) can be given in addition to specific antidotes. These consist of activated clotting factors II, VII, IX, and X, and will lead to notable clotting activation 30 minutes after administration (20–30 IU/kg body weight), which is maintained for about six hours.

## In Reply:

We thank Dr Wildenauer for his additional comments to our article, which emphasize the importance of desmopressin in thrombopathy induced by acetylsalicylic acid and of prothrombin complex concentrate preparations in case of life threatening bleeds in patients treated with direct oral anticoagulants (DOACs). We agree that these measures can be considered especially in the setting of life threatening bleeds.

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If administered repeatedly, the thrombogenicity of the factor concentrates needs to be considered.

All measures have in common that the fundamentals of efficient hemostasis—such as a normal body temperature, a sufficiently high (ionized) calcium concentration ( $> 0.9$  mmol/L), a sufficient number of thrombocytes ( $> 100\,000/\mu\text{L}$ ), and a pH above 7.2—need to be observed. These recommendations have for several years now been part of the guidelines on treating perioperative bleeding published by European medical societies.

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## Reference

1. Aulinger BA, Saner FH, Stark K, Mayerle J, Lange CM: Platelet aggregation inhibitors and anticoagulants in gastroenterological and visceral surgical procedures—an update. *Dtsch Arztebl Int* 2022; 119: 851–60.

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## Conflict of interest statement

The author is the chair of the surgical working group for intensive care and emergency medicine of the German Society of Surgery.

## Reference

1. Aulinger BA, Saner FH, Stark K, Mayerle J, Lange CM: Platelet aggregation inhibitors and anticoagulants in gastroenterological and visceral surgical procedures—an update. *Dtsch Arztebl Int* 2022; 119: 851–60.

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## Conflict of interest statement

The author declares that no conflict of interest exists.