

# Hemostatic agents

**Hemostatic agents** are drugs that promote hemostasis in excessive bleeding. According to the place where they interfere with the process of hemostasis, we divide them into:

- **vasoconstrictive**,
- **antiplatelet (platelet aggregation inhibitors)**,
- **anticoagulants**,
- **fibrinolytic (thrombolytic)**.

## Vasoconstrictive phase

We use **vasopressin** (ADH) derivatives and  **$\alpha$ -mimetics** to artificially constrict the vessel and reduce its flow (or to completely stop blood flow).

## Platelet phase

We use **etamsylate** to facilitate the adhesion and formation of the primary plug.

## Coagulation phase

### For local effect

**The clotting sponge** contains fibrinogen and thrombin on the surface. After activation by endogenous coagulation factors, a fibrin network is formed and the sponge undergoes complete degeneration.

### For general effect

#### Coagulation factors

Most often as a substitution for genetic diseases - Hemophilia A - **factor VIII**, Hemophilia B - **factor IX**. Both can be replaced with fresh plasma or factor concentrates.

K-dependent factors II, VII, IX, X are used in case of overdose by oral anticoagulants ( Warfarin ), liver diseases, broad-spectrum ATB treatment. The so-called PIVKA (= proteins induced in vitamin K absence) is created.

#### Vitamin K

*For more information see Vitamin K*

It occurs naturally in plants, in the human body, it is formed by saprophytic bacteria in the intestine. K-dependent coagulation factors - II, VII, IX, X.

Indication:

- prevention or treatment of bleeding,
- prevention of neonatal hemorrhage,
- excessive use of oral anticoagulants,
- sprue, celiac disease, steatorrhea, absence of bile in the duodenum (obstructive icterus/jaundice).

#### Protamin sulfate

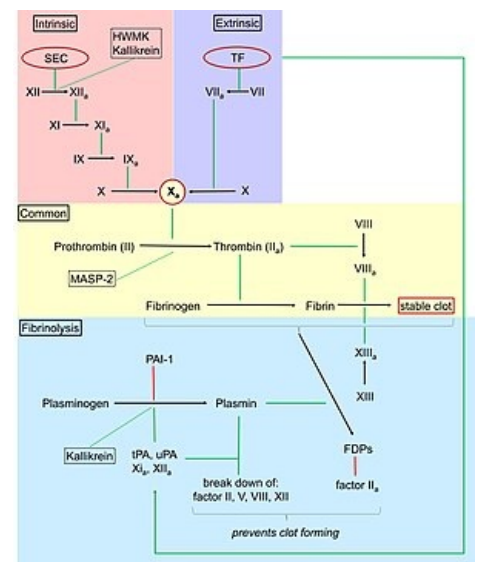
Protein, heparin antagonist (forms irreversible complexes with heparin). Its dose depends on residual heparin level in the body because protamine sulfate has an anticoagulant effect at higher doses.

## Phases of fibrinolysis

**Antifibrinolytics** work as:

- Inhibitors of plasminogen activators - **tranexamic acid, aminocaproic acid**,
- direct inhibitors of plasmin - **aprotinin**.

## References



Clotting pathway

## Related articles

- Hemostasis
- Coagulopathy
- Hemophilia disorders
- 

## Source

- MARTÍNKOVÁ, Jiřina. *Farmakologie pro studenty zdravotnických oborů*. 1. edition. 2007. ISBN 978-80-247-1356-4.