

ANTI-COAGULANT MEDICATIONS

WARFARIN

Vitamin K-dependent clotting factor antagonist

- II / VII / IX / X

Vitamin K dependent regulatory factors antagonist

- Protein C / Protein S / Protein Z

Reversible:

- Vitamin K / Octaplex / Beriplex

DABIGATRAN

Direct Factor IIa (Thrombin) inhibitor

Reversible:

- Idarucizumab

RIVAROXABAN APIXABAN EDOXABAN

Direct Factor Xa inhibitor

Reversible:

- Andexanet alfa

HEPARINS UNFRACTIONATED LMWH ENOXAPARIN DALTEPARIN TINZAPARIN

Indirect Thrombin (Factor II) / Factor Xa / other Protease inhibitor

- Binds to Anti-thrombin (AT III) inhibits factors

Reversible:

- Protamine Sulfate

FONDAPARINUX

Indirect specific Factor Xa inhibitor

- Binds to Anti-thrombin (AT III) which inhibits Factor Xa

Lower risk of Heparin-induced thrombocytopenia (HIT)

No clear reversible agent

PRO-COAGULANT MEDICATIONS

TRANEXAMIC ACID

Directly inhibits conversion of Plasminogen to Plasmin (which is part of Fibrinolysis process)

DESMOPRESSIN

Synthetic ADH that increases Von Willebrand factor (vWF) production

- vWF binds to Factor VIII (reducing degradation of Factor VIII)
- vWF binds to platelets leading to aggregation

PROTHROMBIN COMPLEX CONCENTRATE OCTAPELX BERIPLEX

Contain clotting factors:

- II / VII / IX / X

Used in reversal of Vitamin K-dependent clotting factor antagonist

FRESH FROZEN PLASMA (FFP)

Contains all clotting factors in normal concentrations

Has INR 1.6 so won't lower INR < 1.7

CRYOPRECIPITATE

Precipitated from slowly thawing and centrifuged FFP

Contains high concentration:

- Factor VIII / XIII / vWF / Fibrinogen

COAGULATION PATHWAY OVERVIEW

INTRINSIC PATHWAY

EXTRINSIC PATHWAY

Factors: XII / XI / IX / VIII

Factor: VII

WARFARIN

WARFARIN

COMMON PATHWAY

Factors: X / V / II

WARFARIN

DABIGATRAN

RIVAROXABAN

APIXABAN

EDOXABAN

HEPARIN

FONDAPARINUX

COAGULATION MEASUREMENT

PROTHROMBIN TIME (PT)

Measures extrinsic and common pathway factors:

- Factors I / II / V / VII / X

INTERNATIONAL NORMALISED RATION (INR)

Derived from PT due to variance of technique producing PT

INR used to monitor WARFARIN

ACTIVATED PARTIAL THROMBOPLASTIN TIME (APTT)

Measures Intrinsic and Common pathway factors:

- Factors I / II / V / VIII / IX / X / XI / XII

APTT used to Monitor HEPARIN