Factor Xa Inhibitors

Direct factor Xa inhibitors are medications that inhibit factor X in the coagulation cascade. These drugs often end in the suffix "-xaban" and include apixaban (Eliquis) and rivaroxaban (Xarelto). They are indicated to treat patients with pulmonary embolism, nonvalvular atrial fibrilliation, or deep vein thrombosis. The antidote is andexanet alfa if major bleeding occurs.



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Characteristics

Inhibit Factor Xa
Inhibiting-chains on Factory with (10) Tin and A-apple
Factor X is an important convergence of the intrinsice and extrinsic coagulation cascade pathways. Activation of factor X to Xa causes downstream thrombogenic effects. Inhibiting this factor will prevent downstreem thrombogenesis.

-xaban
Xa-banned Sign
Direct factor Xa inhibitors are recognizable by their suffix "-xaban". The "-Xa-" stands for factor Xa and the "-ban" stands for inhibition.

Drugs

Apixaban
Apple tree-Xa banned sign (apiXaban)
Apixaban (brand name Eliquis) is a commonly prescribed factor Xa inhibitor. Observational studies show that apixaban has less major bleeding events than rivaroxaban. Apixaban is administered PO with a plasma half?life of 8-15 hours.

Rivaroxaban
River-Xa banned sign (rivaroXaban)
Rivaroxaban (brand name Xarelto) is another commonly prescribed Xa inhibitor. Rivaroxaban is administered via oral with a plasma half?life of 8-15 hours.

Indications

Pulmonary Embolism
Lungs Elmo
Pulmonary embolism (PE) is a sudden blockage of pulmonary arteries. About 10% of patients die in the first hour and 30% die subsequently from recurrent embolism. Direct factor Xa inhibitors are indicated for treatment and secondary prophylaxis of PE.

Nonvalvular Atrial Fibrillation
Nun Valve Atrial-heart Alarm-clock
Direct Xa inhibitors are used to prevent stroke in non-valvular atrial fibrillation patients. The irregular rhythm of atrial fibrillation causes blood to pool in atria and has a chance of forming clots. These blood clots can dislodge and travel to the brain causing a stroke. Direct factor Xa inhibitors or vitamin K antagonists (e.g. warfarin) are currently indicated in these patients.

Deep Vein Thrombosis
Deep V-neck Trombone
Deep vein thrombosis is a condition that clot forms in the deep veins, especially the legs. This clot can dislodge and travel to the lungs, causing a life-threatening pulmonary embolism. Direct factor Xa inhibitors are indicated for treatment and secondary prophylaxis of DVTs.

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Considerations

Andexanet Alfa

And-X Afro cleaning

The main side effect of direct factor Xa inhibitors is bleeding. If a patient develops major bleeding, andexanet alfa can be used as an antidote to reverse the anticoagulant activity of the direct Xa inhibitor. It acts as a decoy to sequester direct factor Xa inhibitors.

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