**fondaparinux** (fon-da-par-i-nux)

**Synonyms**: Arixtra

**Classification**: Therapeutic: anticoagulants  Pharmacologic: active factor X inhibitors

**Pregnancy Category**: B

**Indications**
Prevention and treatment of deep vein thrombosis and pulmonary embolism. Unlabeled Use: Systemic anticoagulation for other diagnoses.

**Action**
Binds selectively to antithrombin III (AT III). This binding potentiates the neutralization (inactivation) of active factor X (Xa). Therapeutic Effects: Interruption of the coagulation cascade resulting in inhibition of thrombus formation. Prevention of thrombus formation decreases the risk of pulmonary emboli.

**Pharmacokinetics**
Absorption: 100% absorbed following subcutaneous administration. Distribution: Distributes mainly throughout the intravascular space. Metabolism and Excretion: Eliminated mainly unchanged in urine. Half-life: 17–21 hr.

**TIME/ACTION PROFILE (anticoagulant effect)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcut</td>
<td>rapid</td>
<td>3 hr</td>
<td>24 hr</td>
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</table>

**Contraindications/Precautions**
Contraindicated in: Hypersensitivity; Severe renal impairment (CCr <30 mL/min; ↑ risk of bleeding); Body weight <50 kg (for prophylaxis) (markedly ↑ risk of bleeding); Active major bleeding; Bacterial endocarditis; Thrombocytopenia due to fondaparinux antibodies.

Use Cautiously in: Mild-to-moderate renal impairment (CCr 30–50 mL/min); Untreated hypertension; Recent history of ulcer disease; Body weight <50 kg (for treatment of DVT or PE) (may ↑ risk of bleeding); Geri: Patients >65 yr (↑ risk of bleeding); Pregnancy: History of hepatitis B or C, risk of development of thrombocytopenia; OB, Lactation, Pedi: Safety not established; use during pregnancy only if clearly needed.

**Adverse Reactions/Side Effects**

**Interactions**
Drug-Drug: ↑ risk of bleeding may be by concurrent use of warfarin or drugs that affect platelet function, including aspirin, NSAIDs, dipyridamole, some cephalosporins, valproates, clopidogrel, ticlopidine, abciximab, eptifibatide, tirofiban, and dextran.

**Route/Dosage**

**Treatment of DVT/PE**
Subcut (Adults): ♦ 50 kg — 5 mg once daily for at least 5 days until therapeutic anticoagulation with warfarin is achieved (INR 2 for 2 consecutive days); warfarin may be started within 72 hr of fondaparinux (has been used for up to 26 days); 50–100 kg — 7.5 mg once daily for at least 5 days until therapeutic anticoagulation with warfarin is achieved (INR 2 for 2 consecutive days); 100 kg — 10 mg once daily for at least 5 days until therapeutic anticoagulation with warfarin is achieved (INR 2 for 2 consecutive days); fondaparinux may be started within 72 hr of fondaparinux.

**Prevention of DVT/PE**
Subcut (Adults): 2.5 mg once daily, starting 6–8 hr after surgery, continuing for 5–9 days (up to 11 days) following abdominal surgery or knee/hip replacement or continuing for 24 days following thoracic surgery (up to 32 days).

**Missed Dose**
If treatment is interrupted, restart treatment when therapy is resumed; if treatment is discontinued, restart treatment when therapy is resumed.

**Special Population**
- Cautions with use in: History of congenital or acquired bleeding disorder; Severe uncontrolled hypertension; Hemorrhagic stroke; Recent CNS or ophthalmologic surgery; Active GI bleeding/ulceration; Retinopathy (hypertensive or diabetic); Spinal/epidural anesthesia or spinal puncture (↑ risk of spinal/subdural hematoma that may lead to long-term or permanent paralysis).

**Exercise Extreme Caution in:**
NURSING IMPLICATIONS

Assessment

● Assess for signs of bleeding and hemorrhage (bleeding gums, nosebleed, unusual bruising, black, tarry stools, hematuria; fall in hematocrit; sudden drop in BP; guaiac positive stools; bleeding from surgical site). Notify health care professional if these occur.
● Assess for evidence of additional or increased thrombosis. Symptons will depend on area of involvement. Monitor neurologival status frequently for signs of impair-ment, especially in patients with intrathecal epidural catheters for administration of analgesia or with concomitant use of drugs affecting hemostasis (NSAIDs, platelet inhibitors, other anticoagulants). Risk is increased by traumatic or repeated epidural or spinal punctures. May require urgent treatment.

● Lab Test Considerations: Monitor platelet count closely; may cause thrombocytopenia. If platelet count is \( \leq 100,000/\mu l \), discontinue fondaparinux.

● Fondaparinux is not accurately measured by prothrombin time (PT), activated thromboplastin time (aPTT), or international standards of heparin or low molecular weight heparins. If unexpected changes in coagulation parameters or major bleeding occurs, discontinue fondaparinux.

● Monitor CBC, serum creatinine levels, and stool occult blood tests routinely during therapy.

● May cause asymptomatic increase in ALT. Elevations are fully reversible and not associated with jaundice.

● May cause asymptomatic increase in AST and ALT. Elevations are fully reversible and not associated with jaundice.

Potential Nursing Diagnoses

Ineffective tissue perfusion (Indications)

Implementation

● Fondaparinux cannot be used interchangeably with heparin, low molecular weight heparins, or heparinoids as they differ in manufacturing process, ant-Xa and ant-IIa activity, units, and dose. Each of these medications has to be titrated to ensure

● Initial dose should be administered 6-8 hr after surgery. Administration before 6 hr after surgery has been associated with risk of major bleeding.

● Route: Administer subcut into fatty tissue, alternating sites between right and left anterolateral or posterolateral abdominal wall. Inject entire length of needle at a \( 90^\circ \) angle into a skin fold held between thumb and forefinger; hold skin fold throughout injection. Do not aspirate or massage. Rotate sites frequently. Do not administer IM because of danger of hemothorax formation. Solution should be clear; do not inject solution containing particulate matter. Do not mix with other medications.

● Fondaparinux is provided in a single-dose prefilled syringe with an automatic needle protection system. Do not expel air bubble from prefilled syringe before injection to prevent loss of drug.

Patient/Family Teaching

● Advise patient to report any symptoms of unusual bleeding, bruising, dizziness, itching, rash, fever, swelling, or difficulty breathing to health care professional immediately.

● Instruct patient not to take aspirin or NSAIDs without consulting health care professional immediately.

Evaluation/Desired Outcomes

● Prevention and treatment of deep vein thrombosis and pulmonary embolism.

Why was this drug prescribed for your patient?