Nursing In-Service
Using 100 mL vial or 250 mL bag (50 mcg/mL units)

Please note: This presentation is not for administration using the 250 mcg/mL bolus vial.
**Aggrastat (tirofiban hydrochloride)**

**Important Safety Information**

**Indication:** Aggrastat is indicated to reduce the rate of thrombotic cardiovascular events (combined endpoint of death, myocardial infarction, or refractory ischemia/repeat cardiac procedure) in patients with non-ST elevation acute coronary syndrome (NSTE-ACS).

**Contraindications:** Known hypersensitivity to any component of Aggrastat; history of thrombocytopenia with prior exposure to Aggrastat; active internal bleeding, or history of bleeding diathesis, major surgical procedure or severe physical trauma within the previous month.

**Warnings and Precautions:** Aggrastat can cause serious bleeding. If bleeding cannot be controlled discontinue Aggrastat; thrombocytopenia: discontinue Aggrastat and heparin.

**Adverse Reactions:** Bleeding is the most commonly reported adverse reaction.
**Aggrastat (tirofiban hydrochloride)**

**High-Dose Bolus Regimen (HDB)**

- Single bolus followed by **infusion up to 18 hours**
- **ACC/AHA/SCAI Class I recommended**

**Clinical Experience**

In clinical studies, Aggrastat HDB was administered in combination with aspirin, clopidogrel & heparin or bivalirudin to over 8,000 ACS* patients for typically ≤24 hours in the setting of PCI.

>90% platelet inhibition in

10 min

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*Dosing information provided on slide 9

* Acute Coronary Syndrome

1 Amsterdam EA et al. J Am Coll Cardiol. 2014;64:2645-2687
2 Levine GN et al. J Am Coll Cardiol. 2011;58:e44-e122

Please refer to slide 2 for Important Safety Information
# Aggrastat (tirofiban hydrochloride)

## Guideline Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Tirofiban</th>
<th>Eptifibatide</th>
<th>Abciximab</th>
</tr>
</thead>
</table>
| **NS-T-AcS**<sup>1</sup>  
In patients treated with an early invasive strategy and DAPT with intermediate/high-risk features (e.g. positive troponin), a glycoprotein IIb/IIIa inhibitor may be considered as part of initial antiplatelet therapy. |           | Class: IIb   |           |
|                                                                                  |           | Level of Evidence: B |           |
| **PCI**<sup>2</sup>                                                             | Class: I  |               |           |
| In U/A/STEMI patients with high-risk features (e.g. elevated troponin level)  | Level of Evidence: A |               |           |
| not treated with bivalirudin and not adequately pretreated with clopidogrel, it is useful at the time of PCI to administer a GP IIb/IIIa inhibitor. |           |               |           |

1 Amsterdam EA et al. J Am Coll Cardiol. 2014;64:2645-2687  
2 Levine GN et al. J am Coll Cardiol. 2011;58:e44-e122

Please refer to slide 2 for Important Safety Information
Aggrastat (tirofiban hydrochloride)

Mechanism of Action

- Blocks final common pathway to platelet aggregation.
- Reversible antagonist of fibrinogen that binds to the GP IIb/IIIa receptor.
- Competitive removal of already bound fibrinogen can result in disaggregation of newly formed thrombus.
- Platelet inhibition is reversible following cessation of infusion.
- Half-life of 2 hours with approximately 90% of patients achieving baseline platelet function within 4-8 hours after discontinuation.
- Cleared largely by renal excretion and is removed by hemodialysis.

Please refer to slide 2 for Important Safety Information
Aggrastat (tirosiban hydrochloride)
Mechanism of Action

- clopidogrel, prasugrel, ticagrelor, cangrelor
- ADP (P2Y12)
- Epinephrine
- Plasmin
- Platelet-activating factor
- Collagen
- Thromboxane A2
- ASA

GP IIb/IIIa Receptor Activation

- Shear Forces
- Serotonin
- Thrombin receptors
- Vorapaxar

Activated Platelets

- Prothrombin
- Thrombin
- Heparin (reduces thrombin generation)
- Bivalirudin & argatroban (inactivates thrombin)

Please refer to slide 2 for Important Safety Information
### Aggrastat (tirofiban hydrochloride)

**50 mcg/mL Product Details**

- 3 year shelf-life
- No refrigeration required
- Do not freeze
- Protect from light during storage

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<table>
<thead>
<tr>
<th>How Supplied</th>
<th>5 mg/100 mL Pre-Mixed Vial</th>
<th>12.5 mg/250 mL Pre-Mixed Bag</th>
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</thead>
<tbody>
<tr>
<td><strong>Bolus</strong></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Infusion</strong></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Bolus + Infusion</strong></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

(upper) supplied from same vial or bag

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Please refer to slide 2 for Important Safety Information
**Aggrastat (tirofiban hydrochloride)**

**Administration Instructions**

1. Using the 100 mL vial or 250 mL bag (both 50 mcg/mL), administer the bolus dose of AGGRASTAT within 5 minutes via IV pump.

2. Immediately following the bolus dose administration, administer the maintenance infusion of AGGRASTAT from the same 100 mL vial or 250 mL bag via IV pump.

Please see prescribing information for complete dosing and administration instructions.

Please refer to slide 2 for Important Safety Information.
Aggrastat (tirofiban hydrochloride) Injection

Dosing & Administration: Using 100 mL vial or 250 mL bag (50 mcg/mL units)

**BOLUS**
Using 50 mcg/mL Units
25 mcg/kg within 5 minutes

<table>
<thead>
<tr>
<th>Weight (lb)</th>
<th>Weight (kg)</th>
<th>Volume (mL)</th>
<th>Rate (mL/hr)</th>
<th>CrCl* &gt;60 mL/min Rate (mL/hr)</th>
<th>CrCl* ≤60 mL/min Rate (mL/hr)</th>
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<td>17</td>
<td>999</td>
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<td>3</td>
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<td>999</td>
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<td>25</td>
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<td>63 - 70</td>
<td>33</td>
<td>999</td>
<td>12</td>
<td>6</td>
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<tr>
<td>156 - 174</td>
<td>71 - 79</td>
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<td>999</td>
<td>13.5</td>
<td>6.75</td>
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<tr>
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<td>7.5</td>
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<td>193 - 210</td>
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<td>999</td>
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<tr>
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<td>12.75</td>
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<tr>
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<td>146 - 153</td>
<td>75</td>
<td>999</td>
<td>27</td>
<td>13.5</td>
</tr>
</tbody>
</table>

**INFUSION**
Using 50 mcg/mL Units

- Bolus dose and infusion are administered out of the same 50 mcg/mL unit.
- Bolus volume is dependent on patient weight.
- Aggrastat is to be initiated with heparin.

Please refer to slide 2 for Important Safety Information.
**Aggrastat (tirofiban hydrochloride)**

**Dosing Formulas**

1. **Bolus Volume (mL)**
   **Using 50 mcg/mL Units**
   All Patients:
   
   \[
   \frac{25 \text{ mcg/kg} \times \text{body weight (kg)}}{50 \text{ mcg/mL}}
   \]

2. **Infusion Rate (mL/h)**
   **Using 50 mcg/mL Units**
   
   **CrCl > 60 mL/min:**
   
   \[
   \frac{0.15 \text{ mcg/kg/min} \times \text{body weight (kg)} \times 60 \text{ min/h}}{50 \text{ mcg/mL}}
   \]

   **CrCl ≤ 60 mL/min:**

   \[
   \frac{0.075 \text{ mcg/kg/min} \times \text{body weight (kg)} \times 60 \text{ min/h}}{50 \text{ mcg/mL}}
   \]

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Please refer to slide 2 for Important Safety Information
Aggrastat (tirofiban hydrochloride)
Renal Insufficiency

Creatinine clearance (CrCl) can be calculated using the Cockcroft-Gault equation:

**Males:**
\[
CrCl = \frac{(140\text{-age}) \times (\text{actual body wt in kg})}{72 \times (\text{serum creatinine (mg/dL)})}
\]

**Females:**
\[
CrCl = \frac{(140\text{-age}) \times (\text{actual body wt in kg})}{72 \times (\text{serum creatinine (mg/dL)})} \times 0.85
\]

Adjust dose for CrCl ≤ 60 mL/min:

- **Bolus dose is not adjusted.**
- Reduce maintenance infusion to 0.075 mcg/kg/min.

**High-Dose Bolus Regimen (Renal Impairment)**
- 25 mcg/kg bolus (within 5 minutes)
- + 0.075 mcg/kg/min maintenance infusion

Please refer to slide 2 for Important Safety Information
Aggrastat (tirofiban hydrochloride)

Administration Considerations

Drug Compatibilities

May be administered in the same IV line as heparin, atropine sulfate, dobutamine, dopamine, epinephrine hydrochloride (HCl), famotidine injection, furosemide, lidocaine, midazolam HCl, morphine sulfate, nitroglycerin, potassium chloride and propranolol HCl.

Do not administer Aggrastat through the same IV line as diazepam.

Administration

- Do not add other drugs or remove solution directly from bag with a syringe
- Discard any unused portion
- Ensure a vented IV set is used for administration using the 100 mL vial

Please refer to slide 2 for Important Safety Information
Aggrastat (tirofiban hydrochloride)
100 mL Vial Instructions

1. Place vial on hard flat surface. Ensure seal is intact. Remove cap.
2. Insert a vented IV set at a 90° angle.
3. Hang vial by plastic hanger. Adjust flow for appropriate dosing.

Please refer to slide 2 for Important Safety Information
Aggrastat (tirofiban hydrochloride)

250 mL Bag Instructions

- To open, first tear off foil overpouch
- Plastic may be opaque due to moisture absorption during sterilization but will diminish gradually
- Check for leaks by squeezing inner bag firmly (discard if leaks are found or sterility is suspect)
- Do not use bag unless solution is clear and the seal is intact

Please refer to slide 2 for Important Safety Information
**Aggrastat (tirofiban hydrochloride)**

General Risk of Bleeding

Bleeding is the most common complication.

Most bleeding occurs at the arterial access site for cardiac catheterization.

Minimize the use of traumatic procedures such as:

- Arterial and venous punctures
- Intramuscular injections
- Nasotracheal intubation, etc.

Concomitant use of fibrinolytics, oral anticoagulants and antiplatelet drugs increases the risk of bleeding.

Please refer to slide 2 for Important Safety Information
Care of the Femoral Artery Access Site

Prior to pulling the femoral sheath, discontinue heparin for 3 – 4 hours.

Ensure:

- activated clotting time (ACT) $< 150-180$ seconds\(^1\) is achieved or
- activated partial thromboplastin time (APTT) $< 50$ seconds\(^1\) is achieved

Use standard compressive techniques to obtain proper hemostasis after sheath removal.

\(^1\) Levine GN et al. J am Coll Cardiol. 2011;58:e44-e122

Please refer to slide 2 for Important Safety Information
Aggrastat (tirofiban hydrochloride)
Thrombocytopenia

- Monitor platelet counts beginning ~6 hours after treatment initiation and daily thereafter
- If platelet count decreases to <90,000/mm³, monitor platelet counts to exclude pseudothrombocytopenia
- If thrombocytopenia is confirmed, discontinue Aggrastat and heparin
- Previous exposure to a glycoprotein IIb/IIIa inhibitor may increase the risk of developing thrombocytopenia

Please refer to slide 2 for Important Safety Information
Aggrastat (tirofiban hydrochloride)

Contact Us

Aggrastat Product Specialist
1-800-509-0544
taggrastat@medicure.com

Medical Information
1-800-509-0544
medical.information@medicure.com

Additional Aggrastat Resources Available at:
www.aggrastatHDB.com

Report an Adverse Reaction: 1-800-509-0544, adverse.events@medicure.com