AGGRASTAT® (tirofiban hydrochloride) injection, for intravenous use
Initial U.S. Approval: 1998

Dosage and Administration (2)

Administer intravenously 25 mcg/kg within 5 minutes and then 0.15 mcg/kg/min for up to 18 hours. In patients with creatinine clearance ≤ 60 mL/min, give 25 mcg/kg within 5 minutes and then 0.075 mcg/kg/min. (2)

Dosage Forms and Strengths

Intravenous injection premixed: 5 mg/100 mL (50 mcg/mL) and 12.5 mg/250 mL (50 mcg/mL) with sodium chloride. (3)

Indications and Usage

AGGRASTAT® is a platelet aggregation inhibitor 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). (1)

Warnings and Precautions

• AGGRASTAT can cause serious bleeding. If bleeding cannot be controlled discontinue AGGRASTAT. (5.1)
• Thrombocytopenia: Discontinue AGGRASTAT and heparin. (5.2)

Adverse Reactions

Bleeding is the most commonly reported adverse reaction. (6.1)

Drug Interactions

• Coadministration of antiplatelet agents, thrombolytics, heparin, or aspirin increases the risk of bleeding. (7)

Use in Specific Populations

• Renal Insufficiency: Reduce the dose in patients with severe renal insufficiency. (8.6)

See 17 for PATIENT COUNSELING INFORMATION

Revised: 4/2015
1 INDICATIONS AND USAGE
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).

2 DOSAGE AND ADMINISTRATION
Administer intravenously 25 mcg/kg within 5 minutes and then 0.15 mcg/kg/min (or 0.075 mcg/kg/min for patients with serum creatinine ≤60 mL/min), for up to 18 hours. This is not the regimen that was used in studies that established effectiveness of AGGRASTAT [see Clinical Studies (14)].

The instructions by weight and creatinine clearance are tabulated in Table 1.

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>Within 5 min All Patients (mL)</th>
<th>Maintenance Infusion Rate (mL/hr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CrCl &gt;60 mL/min</td>
<td>CrCl ≤60 mL/min</td>
</tr>
<tr>
<td>30-37</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>38-45</td>
<td>21</td>
<td>7.5</td>
</tr>
<tr>
<td>46-54</td>
<td>25</td>
<td>9</td>
</tr>
<tr>
<td>55-62</td>
<td>29</td>
<td>10.5</td>
</tr>
<tr>
<td>63-70</td>
<td>33</td>
<td>12</td>
</tr>
<tr>
<td>71-79</td>
<td>37.5</td>
<td>13.5</td>
</tr>
<tr>
<td>80-87</td>
<td>42</td>
<td>15</td>
</tr>
<tr>
<td>88-95</td>
<td>46</td>
<td>16.5</td>
</tr>
<tr>
<td>96-104</td>
<td>50</td>
<td>18</td>
</tr>
<tr>
<td>105-112</td>
<td>54</td>
<td>19.5</td>
</tr>
<tr>
<td>113-120</td>
<td>58</td>
<td>21</td>
</tr>
<tr>
<td>121-128</td>
<td>62</td>
<td>22.5</td>
</tr>
<tr>
<td>129-137</td>
<td>66.5</td>
<td>24</td>
</tr>
<tr>
<td>138-145</td>
<td>71</td>
<td>25.5</td>
</tr>
<tr>
<td>146-153</td>
<td>75</td>
<td>27</td>
</tr>
</tbody>
</table>

Important Administration Instructions
1. To open the container, first tear off its foil overpouch. The plastic may be somewhat opaque because of moisture absorption during sterilization; the opacity will diminish gradually. Check for leaks by squeezing the inner bag firmly; if any leaks are found or sterility is suspect then the solution should be discarded. Do not use unless the solution is clear and the seal is intact. Suspend the container from its eyelet support, remove the plastic protector from the outlet port, and attach a conventional administration set.
2. You may administer AGGRASTAT in the same intravenous line as 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.
3. Do not add other drugs or remove solution directly from the bag with a syringe.
4. Do not use plastic containers in series connections; such use can result in air embolism by drawing air from the first container if it is empty of solution.
5. Discard any unused portion left in the bag.

3 DOSAGE FORMS AND STRENGTHS
FOR INTRAVENOUS USE ONLY
AGGRASTAT Injection Premixed 5 mg tirofiban per 100 mL (50 mcg per mL) and 12.5 mg tirofiban per 250 mL (50 mcg per mL) are clear, non-preserved, sterile solutions premixed in a vehicle made iso-osmotic with sodium chloride.

4 CONTRAINDICATIONS
AGGRASTAT is contraindicated in patients with:
• Severe hypersensitivity reaction to AGGRASTAT (i.e., anaphylactic reactions) [see Adverse Reactions (6.2)].
• A history of thrombocytopenia following prior exposure to AGGRASTAT [see Adverse Reactions (6.1)].
• Active internal bleeding or a history of bleeding diathesis, major surgical procedure or severe physical trauma within the previous month [see Adverse Reactions (6.1)].

5 WARNINGS AND PRECAUTIONS
5.1 General Risk of Bleeding
Bleeding is the most common complication encountered during therapy with AGGRSTAT. Most bleeding associated with AGGRSTAT occurs at the arterial access site for cardiac catheterization. Minimize the use of traumatic or potentially 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.

5.2 Thrombocytopenia
Profound thrombocytopenia has been reported with AGGRSTAT. Monitor platelet counts beginning about 6 hours after treatment initiation and daily thereafter. If the platelet count decreases to <90,000/mm³, monitor platelet counts to exclude pseudothrombocytopenia. If thrombocytopenia is confirmed, discontinue AGGRSTAT and heparin. Previous exposure to a glycoprotein (GP) IIb/IIIa receptor antagonist may increase the risk of developing thrombocytopenia [see Adverse Reactions (6.1)].

6 ADVERSE REACTIONS
6.1 Clinical Trial Experience
Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in clinical practice.

In the PRISM (Platelet Receptor Inhibition for Ischemic Syndrome Management), PRISM-PLUS (Platelet Receptor Inhibition for Ischemic Syndrome Management — Patients Limited by Unstable Signs and Symptoms) and RESTORE (Randomized Efficacy Study of Tirofiban for Outcomes and Restenosis) trials, 1946 patients received AGGRSTAT in combination with heparin and 2002 patients received AGGRSTAT alone for about 3 days. Forty-three percent of the population was >65 years of age and approximately 30% of patients were female. In clinical studies with the recommended regimen (25 mcg/kg bolus followed by a 0.15 mcg/kg/min maintenance infusion), AGGRSTAT was administered in combination with aspirin, clopidogrel and heparin or bivalirudin to over 8000 patients for typically ≤24 hours. Approximately 30% of the population was >65 years of age and approximately 25% were female.

Bleeding
PRISM-PLUS Regimen
The incidences of major and minor bleeding using the TIMI criteria in the PRISM-PLUS study are shown below.

<table>
<thead>
<tr>
<th></th>
<th>PRISM-PLUS (NSTE-ACS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bleeding</strong></td>
<td><em><em>AGGRSTAT</em> + heparin</em>*</td>
</tr>
<tr>
<td></td>
<td>(TIMI Criteria)† §</td>
</tr>
<tr>
<td>Major Bleeding</td>
<td>1.4%</td>
</tr>
<tr>
<td>Minor Bleeding</td>
<td>10.5%</td>
</tr>
<tr>
<td>Transfusions</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

* 0.4 mcg/kg/min initial infusion; 0.10 mcg/kg/min maintenance infusion.
† Major = Hemoglobin drop of >5.0 g/L with or without an identified site, intracranial hemorrhage, or cardiac tamponade.
§ Minor = Hemoglobin drop of >3.0 g/L with bleeding from a known site, spontaneous gross hematuria, hematemesis or hemoptysis.

The incidence rates of TIMI major bleeding in patients undergoing percutaneous procedures in PRISM-PLUS are shown below.
### Table 3 TIMI Major Bleeding Associated with Percutaneous Procedures in PRISM-PLUS

<table>
<thead>
<tr>
<th></th>
<th>AGGRASTAT + heparin</th>
<th>Heparin alone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Prior to Procedures</td>
<td>773</td>
<td>0.3</td>
</tr>
<tr>
<td>Following Angiography</td>
<td>697</td>
<td>1.3</td>
</tr>
<tr>
<td>Following PTCA</td>
<td>239</td>
<td>2.5</td>
</tr>
</tbody>
</table>

The incidence rates of TIMI major bleeding in patients undergoing coronary artery bypass graft surgery (CABG) in PRISM-PLUS within one day of discontinuation of AGGRASTAT were 17% on AGGRASTAT plus heparin (N=29) and 35% on heparin alone (N=31).

**Recommended (“High-Dose Bolus”) Regimen**

Rates of major bleeds (including any intracranial, intraocular or retroperitoneal hemorrhage, clinically overt signs of hemorrhage associated with a drop in hemoglobin of ≥3 g/dL or any drop in hemoglobin by 4g/dL, bleeding requiring transfusion of ≥2U blood products, bleeding directly resulting in death within 7 days or hemodynamic compromise requiring intervention) were consistent with the rates observed in subjects administered the PRISM-PLUS regimen of AGGRASTAT. There was a trend toward greater bleeding in ST segment elevation myocardial infarction (STEMI) patients treated with fibrinolytics prior to administration of AGGRASTAT using the recommended regimen during rescue PCI.

**Non-Bleeding**

The incidences of non-bleeding adverse events that occurred at an incidence of >1% and numerically higher than control, regardless of drug relationship, are shown below:

### Table 4 Non-bleeding Adverse Reactions in PRISM-PLUS

<table>
<thead>
<tr>
<th></th>
<th>AGGRASTAT + heparin</th>
<th>Heparin alone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=1953</td>
<td>N=1887</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td><strong>Body as a Whole</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edema/swelling</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Pain, pelvic</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Reaction, vasovagal</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Cardiovascular System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bradycardia</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Dissection, coronary artery</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td><strong>Musculoskeletal System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain, leg</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td><strong>Nervous System/Psychiatric</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dizziness</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td><strong>Skin and Skin Appendage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweating</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**Thrombocytopenia**

Patients treated with AGGRASTAT plus heparin, were more likely to experience decreases in platelet counts than were those on heparin alone. These decreases were reversible upon discontinuation of AGGRASTAT. The percentage of patients with a decrease of platelets to <90,000/mm³ was 1.5%, compared with 0.6% in the patients who received heparin alone. The percentage of patients with a decrease of platelets to <50,000/mm³ was 0.3%, compared with 0.1% of the patients who received heparin alone.

### 6.2 Post-Marketing Experience

The following additional adverse reactions have been identified during post-approval use of AGGRASTAT. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to the drug exposure.

**Hypersensitivity**: Severe allergic reactions including anaphylactic reactions have occurred during the first day of AGGRASTAT infusion, during initial treatment, and during readministration of AGGRASTAT. Some cases have been associated with severe thrombocytopenia (platelet counts <10,000/mm³). No information is available on the formation of antibodies to tirofiban.

Reference ID: 3735861
7 DRUG INTERACTIONS
Use of thrombolytics, anticoagulants, and other antiplatelet agents
Coadministration of antiplatelet agents, thrombolytics, heparin, and aspirin increases the risk of bleeding.

8 USE IN SPECIFIC POPULATIONS
8.1 Pregnancy
Pregnancy Category B
There are no adequate and well-controlled studies in pregnant women. Tirofiban has been shown to cross the placenta in pregnant rats and rabbits. Studies with tirofiban HCl at intravenous doses up to 5 mg/kg/day (about 5 and 13 times the maximum recommended daily human dose for rat and rabbit, respectively, when compared on a body surface area basis) have revealed no harm to the fetus.

8.3 Nursing Mothers
It is not known whether tirofiban is excreted in human milk. However, significant levels of tirofiban were shown to be present in rat milk. Because many drugs are excreted in human milk, and because of the potential for adverse effects on the nursing infant, discontinue nursing or discontinue AGGRASTAT.

8.4 Pediatric Use
Safety and effectiveness in pediatric patients have not been established.

8.5 Geriatric Use
Of the total number of patients in controlled clinical studies of AGGRASTAT, 43% were 65 years and over, while 12% were 75 and over. With respect to efficacy, the effect of AGGRASTAT in the elderly (≥65 years) appeared similar to that seen in younger patients (<65 years). Elderly patients receiving AGGRASTAT with heparin or heparin alone had a higher incidence of bleeding complications than did younger patients, but the incremental risk of bleeding in patients treated with AGGRASTAT in combination with heparin compared to the risk in patients treated with heparin alone was similar regardless of age. No dose adjustment is recommended for the elderly population [see Dosage and Administration (2)].

8.6 Renal Insufficiency
Patients with moderate to severe renal insufficiency have decreased plasma clearance of AGGRASTAT. Reduce the dosage of AGGRASTAT in patients with severe renal insufficiency [see Dosage and Administration (2) and Clinical Pharmacology (12.3)].

Safety and efficacy of AGGRASTAT has not been established in patients on hemodialysis.

10 OVERDOSAGE
In clinical trials, inadvertent overdosage with AGGRASTAT occurred in doses up to 2 times the recommended dose for initial infusion doses. Inadvertent overdosage occurred in doses up to 9.8 times the 0.15 mcg/kg/min maintenance infusion rate.

The most frequently reported manifestation of overdosage was bleeding, primarily minor mucocutaneous bleeding events and minor bleeding at the sites of cardiac catheterization [see Warnings and Precautions (5.1)].

Overdosage of AGGRASTAT should be treated by assessment of the patient’s clinical condition and cessation or adjustment of the drug infusion as appropriate.

AGGRASTAT can be removed by hemodialysis.

11 DESCRIPTION
AGGRASTAT contains tirofiban hydrochloride, a non-peptide antagonist of the platelet GP IIb/IIIa receptor, which inhibits platelet aggregation.

Tirofiban hydrochloride monohydrate is chemically described as N-(butylsulfonyl)-O-[4-(4-piperidinyl)butyl]-L-tyrosine monohydrochloride monohydrate.

Reference ID: 3735861
Its molecular formula is \( C_{22}H_{36}N_2O_5S \cdot HCl \cdot H_2O \) and its structural formula is:

![Structural formula of Tirofiban hydrochloride monohydrate](image-url)

Tirofiban hydrochloride monohydrate is a white to off-white, non-hygroscopic, free-flowing powder, with a molecular weight of 495.08. It is very slightly soluble in water.

AGGRASTAT Injection Premixed is supplied as a sterile solution in water for injection, for intravenous use only, in plastic containers of 100 mL or 250 mL. Each 100 mL of the premixed, iso-osmotic intravenous injection contains 5.618 mg tirofiban hydrochloride monohydrate equivalent to 5 mg tirofiban (50 mcg/mL) and the following inactive ingredients: 0.9 g sodium chloride, 54 mg sodium citrate dihydrate, and 3.2 mg citric acid anhydrous. Each 250 mL of the premixed, iso-osmotic intravenous injection contains 14.045 mg tirofiban hydrochloride monohydrate equivalent to 12.5 mg tirofiban (50 mcg/mL) and the following inactive ingredients: 2.25 g sodium chloride, 135 mg sodium citrate dihydrate, and 8 mg citric acid anhydrous.

The pH of the solution ranges from 5.5 to 6.5 and may have been adjusted with hydrochloric acid and/or sodium hydroxide. The flexible container is manufactured from a specially designed multilayer plastic (PL 2408). Solutions in contact with the plastic container leach out certain chemical components from the plastic in very small amounts; however, biological testing was supportive of the safety of the plastic container materials.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

AGGRASTAT is a reversible antagonist of fibrinogen binding to the GP IIb/IIIa receptor, the major platelet surface receptor involved in platelet aggregation. When administered intravenously, AGGRASTAT inhibits \textit{ex vivo} platelet aggregation in a dose- and concentration-dependent manner.

When given according to the PRISM-PLUS regimen of 0.4 mcg/kg/min over 30 minutes followed by a 0.1 mcg/kg/min maintenance infusion, >90% inhibition of platelet aggregation is attained by the end of the 30-minute infusion. When given according to the recommended regimen of 25 mcg/kg followed by a 0.15 mcg/kg/min maintenance infusion, >90% inhibition of platelet aggregation is attained within 10 minutes. Platelet aggregation inhibition is reversible following cessation of the infusion of AGGRASTAT.

12.2 Pharmacodynamics

AGGRASTAT inhibits platelet function, as demonstrated by its ability to inhibit \textit{ex vivo} adenosine phosphate (ADP)-induced platelet aggregation and prolong bleeding time in healthy subjects and patients with coronary artery disease. The time course of inhibition parallels the plasma concentration profile of the drug.

Following discontinuation of an infusion of AGGRASTAT 0.10 mcg/kg/min, \textit{ex vivo} platelet aggregation returns to near baseline in 4 to 8 hours in approximately 90% of patients with coronary artery disease. The addition of heparin to this regimen does not significantly alter the percentage of subjects with >70% inhibition of platelet aggregation (IPA), but does increase the average bleeding time, as well as the number of patients with bleeding times prolonged to >30 minutes. Similar platelet aggregation recovery rates are observed following discontinuation of a 0.15 mcg/kg/min infusion.

12.3 Pharmacokinetics

Tirofiban has a half-life of approximately 2 hours. It is cleared from the plasma largely by renal excretion, with about 65% of an administered dose appearing in urine and about 25% in feces, both largely as unchanged tirofiban. Metabolism appears to be limited.

Tirofiban is not highly bound to plasma proteins and protein binding is concentration independent over the range of 0.01 to 25 mcg/mL. The unbound fraction in human plasma is 35%. The steady state volume of distribution of tirofiban ranges from 22 to 42 liters.

In healthy subjects, the plasma clearance of tirofiban ranges from 213 to 314 mL/min. Renal clearance accounts for 39 to 69% of plasma clearance.

Special Populations

Reference ID: 3735861
There is no effect on clearance of tirofiban by sex, race, age, or hepatic impairment.

Renal Insufficiency
Plasma clearance of tirofiban is decreased about 40% in subjects with creatinine clearance <60 mL/min and >50% in patients with creatinine clearance <30 mL/min, including patients requiring hemodialysis [see Dosage and Administration (2)]. Tirofiban is removed by hemodialysis.

13 NONCLINICAL TOXICOLOGY
13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility
The carcinogenic potential of AGGRASTAT has not been evaluated.

Tirofiban HCl was negative in the in vitro microbial mutagenesis and V-79 mammalian cell mutagenesis assays. In addition, there was no evidence of direct genotoxicity in the in vitro alkaline elution and in vitro chromosomal aberration assays. There was no induction of chromosomal aberrations in bone marrow cells of male mice after the administration of intravenous doses up to 5 mg tirofiban/kg (about 3 times the maximum recommended daily human dose when compared on a body surface area basis).

Fertility and reproductive performance were not affected in studies with male and female rats given intravenous doses of tirofiban up to 5 mg/kg/day (about 5 times the maximum recommended daily human dose when compared on a body surface area basis).

14 CLINICAL STUDIES
Two large-scale clinical studies established the efficacy of AGGRASTAT in the treatment of patients with NSTE-ACS (unstable angina/non-ST elevation MI). The two studies examined AGGRASTAT alone and added to heparin, prior to and after percutaneous coronary revascularization (if indicated) (PRISM-PLUS) and in comparison to heparin in a similar population (PRISM). These trials are discussed in detail below.

PRISM-PLUS (Platelet Receptor Inhibition for Ischemic Syndrome Management — Patients Limited by Unstable Signs and Symptoms)
In the double-blind PRISM-PLUS trial, 1570 patients with documented NSTE-ACS within 12 hours of entry into the study were randomized to AGGRASTAT (30 minute initial infusion of 0.4 mcg/kg/min followed by a maintenance infusion of 0.10 mcg/kg/min) in combination with heparin (bolus of 5,000 U followed by an infusion of 1,000 U/h titrated to maintain an APTT of approximately 2 times control) or to heparin alone. All patients received concomitant aspirin unless contraindicated. Patients who were medically managed or who underwent revascularization procedures were studied. Patients underwent 48 hours of medical stabilization on study drug therapy, and they were to undergo angiography before 96 hours (and, if indicated, angioplasty/atherectomy, while continuing on AGGRASTAT and heparin for 12-24 hours after the procedure). AGGRASTAT and heparin could be continued for up to 108 hours. Exclusions included contraindications to anticoagulation, decompensated heart failure, platelet count <150,000/mm³, and serum creatinine >2.5 mg/dL. The mean age of the population was 63 years; 32% of patients were female and approximately half of the population presented with non-ST elevation myocardial infarction. On average, patients received AGGRASTAT for 71 hours.

A third group of patients was initially randomized to AGGRASTAT alone (no heparin). This arm was stopped when the group was found, at an interim look, to have greater mortality than the other two groups.

The primary endpoint of the study was a composite of refractory ischemia, new MI and death within 7 days. There was a 32% risk reduction in the overall composite primary endpoint. The components of the composite were examined separately and the results are shown in Table 5. Note that the sum of the individual components may be greater than the composite (if a patient experiences multiple component events only one event counts towards the composite).
Table 5 Primary outcomes at 7 days in PRISM-PLUS

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>AGGRASTAT+ Heparin (n=797)</th>
<th>Heparin (n=773)</th>
<th>Risk Reduction</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death, new MI, and refractory ischemia at 7 days</td>
<td>12.9%</td>
<td>17.9%</td>
<td>32%</td>
<td>0.004</td>
</tr>
<tr>
<td>Death</td>
<td>1.9%</td>
<td>1.9%</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>MI</td>
<td>3.9%</td>
<td>7.0%</td>
<td>47%</td>
<td>0.006</td>
</tr>
<tr>
<td>Refractory Ischemia</td>
<td>9.3%</td>
<td>12.7%</td>
<td>30%</td>
<td>0.023</td>
</tr>
</tbody>
</table>

The benefit seen at 7 days was maintained over time. The risk reduction in the composite endpoint at 30 days and 6 months is shown in the Kaplan-Meier curve below.

![Composite Endpoint](image)

Figure 1. Time to first event of death, new MI, or refractory ischemia in PRISM-PLUS

An analysis of the results by sex suggests that women who are medically managed or who undergo subsequent PTCA/atherectomy may receive less benefit from AGGRASTAT (95% confidence limits for relative risk of 0.61-1.74) than do men (0.43-0.89) (p=0.11). This difference may be a true treatment difference, the effect of other differences in these subgroups, or a chance occurrence.

Approximately 90% of patients in the PRISM-PLUS study underwent coronary angiography and 30% underwent angioplasty/atherectomy during the first 30 days of the study. The majority of these patients continued on study drug throughout these procedures. AGGRASTAT was continued for 12-24 hours (average 15 hours) after angioplasty/atherectomy. The effects of AGGRASTAT at Day 30 did not appear to differ among sub-populations that did or did not receive PTCA or CABG, both prior to and after the procedure.

**PRISM (Platelet Receptor Inhibition for Ischemic Syndrome Management)**

In the PRISM study, a randomized, parallel, double-blind study, 3232 patients with NSTE-ACS intended to be managed without coronary intervention were randomized to AGGRASTAT (initial dose of 0.6 mcg/kg/min for 30 minutes followed by 0.15 mcg/kg/min for 47.5 hours) or heparin (5000-unit intravenous bolus followed by an infusion of 1000 U/h for 48 hours). The mean age of the population was 62 years; 32% of the population was female and 25% had non-ST elevation MI on presentation. Thirty percent had no ECG evidence of cardiac ischemia. Exclusion criteria were similar to PRISM-PLUS. The primary endpoint was the composite
endpoint of refractory ischemia, MI or death at the end of the 48-hour drug infusion. The results are shown in Table 6.

<table>
<thead>
<tr>
<th>Composite Endpoint (death, MI, or refractory ischemia)</th>
<th>AGGRASTAT (n=1616)</th>
<th>Heparin (n=1616)</th>
<th>Risk Reduction</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Days (end of drug infusion)</td>
<td>3.8%</td>
<td>5.6%</td>
<td>33%</td>
<td>0.015</td>
</tr>
<tr>
<td>7 Days</td>
<td>10.3%</td>
<td>11.3%</td>
<td>10%</td>
<td>0.33</td>
</tr>
</tbody>
</table>

In the PRISM study, no adverse effect of AGGRASTAT on mortality at either 7 or 30 days was detected. This result is different from that in the PRISM-PLUS study, where the arm that included AGGRASTAT without heparin (n=345) was dropped at an interim analysis by the Data Safety Monitoring Committee for increased mortality at 7 days.

16 HOW SUPPLIED/STORAGE AND HANDLING

AGGRASTAT Injection Premixed 5 mg tirofiban per 100 mL (50 mcg per mL) and 12.5 mg tirofiban per 250 mL (50 mcg per mL) are clear, non-preserved, sterile solutions premixed in a vehicle made iso-osmotic with sodium chloride, and are supplied as follows:

- **NDC** 25208-002-01, 100 mL single-dose INTRAVIA containers (PL 2408 Plastic).
- **NDC** 25208-002-02, 250 mL single-dose INTRAVIA containers (PL 2408 Plastic).

FOR INTRAVENOUS USE ONLY

Store AGGRASTAT at 25°C (77°F) with excursions permitted between 15-30°C (59-86°F) (see USP Controlled Room Temperature). Do not freeze. Protect from light during storage.

17 PATIENT COUNSELING INFORMATION

Advise patients to watch closely for any signs of bleeding or bruising and to report these to their health care provider when they occur.

Advise patients to discuss with their health care provider their use of any other medications, including over-the-counter or herbal products prior to AGGRASTAT use.

Patent: www.medicure.com/aggrastat/patents

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MEDICURE INTERNATIONAL, INC.

by:

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