Risk Profile and the Efficacy and Safety of Rivaroxaban in Fragile PAD Patients after Revascularization: Insights from VOYAGER PAD

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VOYAGER PAD Primary Results

6,564 patients with symptomatic PAD undergoing limb revascularization
(all on aspirin; clopidogrel at treating physicians’ discretion)

**Primary Endpoint**

- **ITT - HR 0.85**
  - (0.76 – 0.96)
  - P=0.0085
  - **ARR 2.6%, NNT 39**

**Placebo**

- **TIMI Major Bleeding**
  - On Treatment - HR 1.43
  - (0.97 – 2.10)
  - P=0.0695
  - **ARI 0.8%, NNH 125**

**Rivaroxaban**

*Composite of acute limb ischemia, major amputation of a vascular cause, myocardial infarction, ischemic stroke, cardiovascular death*
Ischemic Events Prevented vs Bleeding Associated with Rivaroxaban, Age ≥ 75 Yrs

Events Prevented versus Caused for 1000 Patients ≥ 75 years old Over 3 years

Primary Efficacy Outcomes (ITT)  TIMI major bleeds (On Treatment)

Events Prevented (Green) vs. Caused (Red)

-38  8
Background & Aims

• In VOYAGER PAD, rivaroxaban 2.5 mg twice daily versus placebo on a background of low dose aspirin (clopidogrel at treating physician discretion) in symptomatic PAD after lower extremity revascularization
  • Reduced irreversible harm events of the limb, heart and brain
  • Increased bleeding but not ICH or fatal bleeding
  • Overall had a 6:1 benefit risk ratio

• Clinicians and patients may often wish to personalize the approach to antithrombotic therapy to reduce the risk of bleeding in vulnerable patients – key populations that have been described:
  • Elderly
  • Fragile (age >75 yr, weight ≤50 kg and/or baseline eGFR <50 mL/min)

• **Aim:** To describe the efficacy and safety of rivaroxaban in Fragile patients with symptomatic PAD after lower extremity revascularization
Fragile Patients in VOYAGER PAD

- **Fragile:**
  - Age > 75 years
  - Weight ≤ 50 kg
  - eGFR < 50 mL/min/1.73m²

- **Distribution:**
  - 84% > 75 yr
  - 17% <=75 yr
  - 26% Fragile
  - 71% Non-Fragile
  - 3% Missing

- **Colors:**
  - >75 yr: Orange
  - <=75 yr: Blue
  - Fragile: Green
  - Non-Fragile: Blue
  - Missing: Gray
Procedural Characteristics by Fragile Status

Fragile patients **less frequently treated** surgically, and when treated endovascularly, **less likely to receive clopidogrel**

*includes unknown*
Primary Endpoint by Fragile Status

- **Rivaroxaban**
- **Placebo**

- **Fragile**
  - N=1674
  - Composite of acute limb ischemia, major amputation of a vascular etiology, MI, ischemic stroke, or CV death
  - n=177

- **Non-Fragile**
  - N=4670
  - n=384

- **Incidence (%)**
  - Fragile: 9.78%
  - Non-Fragile: 7.33%

*Composite of acute limb ischemia, major amputation of a vascular etiology, MI, ischemic stroke, or CV death*
Primary Endpoint* by Fragile Status

- **Fragile**
  - Rivaroxaban: n=163, HR 0.93 (0.75 – 1.15)
  - Placebo: n=177, HR 0.83 (0.72 – 0.97)

- **Non-Fragile**
  - Rivaroxaban: n=331, HR 0.93 (0.75 – 1.15)
  - Placebo: n=384, HR 0.83 (0.72 – 0.97)

*Composite of acute limb ischemia, major amputation of a vascular etiology, MI, ischemic stroke, or CV death
TIMI Major Bleeding by Fragile Status On Treatment (n=6288)

<table>
<thead>
<tr>
<th></th>
<th>Rivaroxaban</th>
<th>Placebo</th>
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</thead>
<tbody>
<tr>
<td>Fragile</td>
<td>1.59</td>
<td>0.95</td>
</tr>
<tr>
<td>Non-Fragile</td>
<td>0.77</td>
<td>0.56</td>
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</tbody>
</table>

*Composite of acute limb ischemia, major amputation of a vascular etiology, MI, ischemic stroke, or CV death

**P-interaction 0.65**

HR 1.66 (0.87 – 3.19)  
HR 1.37 (0.83 – 2.24)
Primary Endpoint* by Fragile Status On Treatment (n=6288)

- **Fragile**
  - N=1648
  - Rivaroxaban: HR 0.76 (0.59 – 0.99)
  - Placebo: HR 0.75 (0.63 – 0.89)

- **Non-Fragile**
  - N=4640
  - Rivaroxaban: HR 0.75 (0.63 – 0.89)
  - Placebo: HR 0.75 (0.63 – 0.89)

**P-interaction 0.93**

*Composite of acute limb ischemia, major amputation of a vascular etiology, MI, ischemic stroke, or CV death*
Risk / Benefit in Fragile Patients: On Treatment

Fragile Patients
N=1648

*Composite of acute limb ischemia, major amputation of a vascular etiology, MI, ischemic stroke, or CV death

Primary Efficacy Endpoint*

- Rivaroxaban: HR 0.76 (0.59 – 0.99)
- Placebo: HR 1.66 (0.87 – 3.19)

TIMI major bleeding

- Rivaroxaban: 37
- Placebo: 27

n/100 patient-yrs

10 9 8 7 6 5 4 3 2 1 0

Voyager PAD
Summary & Conclusions

• Overall, VOYAGER PAD demonstrated that rivaroxaban 2.5 mg twice daily added to low dose aspirin (+/- clopidogrel) in fragile patients:
  • Reduces irreversible harm events of the limb, heart and brain
  • Increases bleeding but not ICH or fatal bleeding
  • Overall, 6:1 benefit risk ratio

• Although Age and Fragility are associated with an increase in ischemic and bleeding risk and have been proposed as factors for patient selection, the efficacy and safety of rivaroxaban is consistent regardless of these factors, with positive net benefit when receiving rivaroxaban (also underscoring importance of tolerability/adherence)

• In patients with symptomatic PAD after LER, rivaroxaban should be considered regardless of age or fragility and future studies should consider novel approaches to bleeding risk stratification in this population