

Highly Selective Bailout GPI May Benefit in Younger STEMI-PCI Patients

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The [study](#) covered in this summary was published on [ResearchSquare.com](#) as a preprint and has not yet been peer-reviewed.

Key Takeaways

- Use of glycoprotein IIb/IIIa inhibitors (GPI) was associated with increased risk of major in-hospital bleeding when the potent antiplatelet agents were given as a bailout strategy after mechanical thrombus aspiration, which was performed in association with [percutaneous coronary intervention](#) (PCI) for acute ST-segment elevation [myocardial infarction](#) (STEMI).
- The bailout GPI strategy was not associated overall with reduced mortality or risk of ischemic events.
- There was a GPI-associated reduction in risk for ischemic events but no increase in bleeding among patients younger than 65, pointing to a potential net benefit in that age group.

Why This Matters

- The GPI agents are sometimes given selectively to patients with STEMI and high thrombus burden or to lessen risk for severe thrombotic events, especially in patients requiring thrombus aspiration.
- The current study, the most extensive of its kind on associations between GPI use and inpatient outcomes of STEMI with thrombus aspiration, does not show a benefit to the strategy across the entire cohort but suggests a potential advantage in patients younger than 65.

Study Design

- The analysis was based on data from the CCC-ACS project, a nationwide Chinese registry initiated by the American Heart Association and the Chinese Society of Cardiology in 2014. The study included 5896 patients with acute STEMI treated with PCI and mechanical thrombus aspiration.
- It excluded patients receiving [tirofiban](#), [eptifibatide](#), [abciximab](#), or other GPI after an in-hospital ischemic event.
- Two propensity-matched groups, derived from two thirds of the total cohort, included 2219 patients who had received GPI and an equal number who had not received GPI.
- In-hospital major bleeding, the primary endpoint, was defined by Bleeding Academic Research Consortium (BARC), Thrombolysis in Myocardial Infarction (TIMI), and PLATO criteria.
- Ischemic events included reinfarction, [ischemic stroke](#), non-bleeding-related fatal events, and in-stent thrombosis.

Key Results

- Patients who received GPI, compared to those who did not, showed a more than two thirds increased odds ratio (OR) for in-hospital major bleeding (OR, 1.69; 95% CI, 1.08 – 2.65).
- They also showed nonsignificant ORs for ischemic events (OR, 0.61; 95% CI, 0.36 – 1.06) and in-patient mortality (OR, 0.93; 95% CI, 0.55 – 1.58).
- The GPI-associated risk of in-hospital major bleeding with GPI was consistently elevated across BARC, TIMI, and PLATO criteria and was more pronounced in patients age 65 or older, males, and patients who also received a low-molecular-weight [heparin](#).

- The risk of ischemic events was significantly reduced in patients younger than 65 compared to older patients (OR, 0.26; 95% CI, 0.08 – 0.77).
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Limitations

- A high thrombus burden is a STEMI-guideline requirement for aspiration thrombectomy, but the study does not provide quantitative assessment of patient thrombus load.
 - Bleeding and ischemic-event risks vary by ethnicity and race, so the results may not apply to non-Chinese populations.
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Study Disclosures

- The authors have disclosed no relevant financial relationships.
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This is a summary of a preprint [research study](#), "Association Between Platelet Glycoprotein IIb/IIIa Inhibition and In-Hospital Outcomes in ST-Elevation Myocardial Infarction Patients Treated with Coronary Thrombus Aspiration: Findings from the CCC-ACS Project," written by Wennan Liu and colleagues from Tianjin Medical University General Hospital and Capital Medical University Affiliated Anzhen Hospital, China, published on [ResearchSquare.com](#), and provided to you by Medscape. The study has not yet been peer-reviewed. The full text of the study can be found on [ResearchSquare.com](#).

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