



**ICT 2023**

28th International  
Congress on Thrombosis

# Is there a place for P2Y12 pre-treatment in STEMI?

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## Declaration of Conflict Of Interest

- I have the following potential conflict(s) of interest to report**
  - ASTRAZENECA advisory board**

## Guidelines on Management of Acute Myocardial Infarction in Patients Presenting with ST-Segment Elevation

### ESC Clinical Practice Guidelines

26 Aug 2017

Guidelines and related materials are for use by individuals for personal or educational purposes. No commercial use is allowed. Re-use perm be correctly obtained [from the publisher](#).

“There is limited evidence with respect to when the P2Y<sub>12</sub> inhibitor should be initiated in STEMI patients.”

### Periprocedural and post-procedural antithrombotic therapy<sup>a</sup> in patients undergoing primary percutaneous coronary intervention

Recommendations	Class <sup>b</sup>	Level <sup>c</sup>
<b>Antiplatelet therapy</b>		
A potent P2Y <sub>12</sub> inhibitor (prasugrel or ticagrelor), or clopidogrel if these are not available or are contraindicated, is recommended before (or at latest at the time of) PCI and maintained over 12 months, unless there are contraindications such as excessive risk of bleeding. <sup>186,187</sup>	<b>I</b>	<b>A</b>

# STEMI upstream P2Y12 inhibitor is common practice



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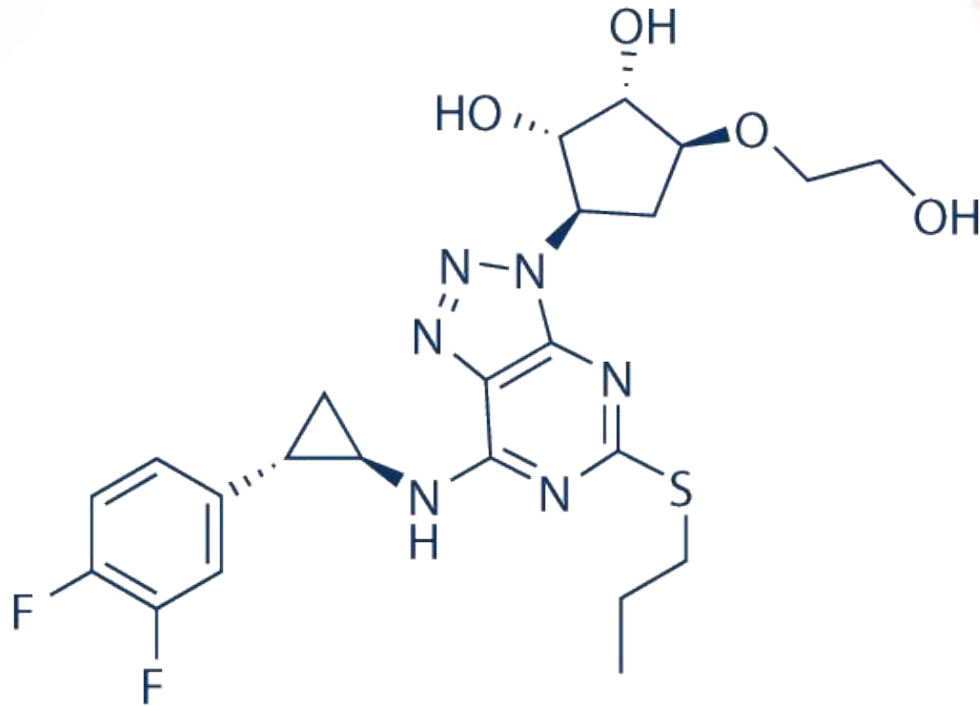
“in cases in which the STEMI diagnosis is not clear, delaying P2Y12 inhibitor loading until the anatomy is known should be considered.”

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## ATLANTIC trial

- ticagrelor either during transfer to a primary PCI centre or immediately before angiography



N Engl J Med 2014; 371:1016-1027

## ATLANTIC trial

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N Engl J Med 2014; 371:1016-1027

## ATLANTIC trial

- **relevant points:**
  - **possible therapeutic effect but with low amplitude**
  - **disparity of results between stent thrombosis and reinfarction**
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## Prasugrel

- **ACCOAST in NSTEMI setting – increased bleeding risk**

N Engl J Med 2013; 369:999-1010

# Clopidogrel

- **PCI-Clarity**
- **CIPAMI**
- **Load&Go**

JAMA. 2005;294(10):1224-1232. doi:10.1001/jama.294.10.1224

Clinical Research in Cardiology volume 101, pages 305–312 (2012)

Int J Cardiol 2013 Oct 12;168(5):4814-6.

## SCAAR registry

- Pretreatment was not associated with improved clinical outcomes
  - **clopidogrel (58%)**
  - **ticagrelor (35%)**
  - **prasugrel (5,3%)**

Heart J 2019 Apr 14;40(15):1202-1210.



## Limitations of upstream potent P2Y12 inhibitor

- **bleeding risk exposure**
  - **non-obstructive cases** (6.7% - Anatol J Cardiol. 2020 Mar; 23(3): 176–182.)
  - **surgical cases**
    - **aortic dissection** (1.3% - Acta Cardiol Sin. 2016 May; 32(3): 265–272.)
    - **mechanical complication** (1.1% - PLoS One. 2019; 14(2): e0209502.)
    - **complex multivessel disease** (5.5% - J Thorac Cardiovasc Surg. 2023;165(2):672. Epub 2021 Mar 31. )

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## Limitations of upstream potent P2Y12 inhibitor

- **limits the use of alternative bailout therapies**
  - **GIIA/IIIA inhibitors**
- **upstream trivialization increases risk or error**
  - **eg. pts under OAC / NOAC**



## Is there still a place for upstream P2Y12 inhibitor?

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- based on pharmacokinetic data
- earliest administration may be preferable to achieve early efficacy, particularly for long delays
- **future change of practice with bentracimab?** (NEJM Evid 2022;1(3), DOI: 10.1056/EVIDoa2100047, VOL. 1 NO. )

**Pre-treatment strategy should be tailored to region / institution:**

- **transportation time**
- **preference for pre-treatment with clopidogrel, allowing for later switch if necessary**
- **local surgical team availability & acceptance of urgent cases**
- **access to bentracimab**



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