INPLASY PROTOCOL

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None declared.

Crushed/Chewed Administration of Potent P2Y12 Inhibitors in ST-Segment Elevation Myocardial Infarction Undergoing Primary PCI: Systematic Review and Meta-analysis

Guo, C[1]; Zhao, JR[2]; Chen, MJ[3]; Wei, J[4]; Zhang, Y[5]; Wu, RY[6]; Li, QQ[7]; Wei, J[8].

Review question / Objective: **The aim of this work was to investigate whether crushed or chewed administration of loading dose potent P2Y12 inhibitors is associated with more favorable platelet inhibition and clinical effects compared with the standard way of swallowing integral tablets in patients with STEMI undergoing pPCI.**
Condition being studied: **Formal screening of search results against eligibility criteria, data extraction, risk of bias assessment and data analysis.**
Information sources: **Pubmed, Embase, Web of science and Cochrane library medical literature databases, as well as the proceedings of American Heart Association, American College of Cardiology, and European Society of Cardiology.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 07 May 2021 and was last updated on 07 May 2021 (registration number INPLASY202150028).

INTRODUCTION

Review question / Objective: **The aim of this work was to investigate whether crushed or chewed administration of loading dose potent P2Y12 inhibitors is associated with more favorable platelet inhibition and clinical effects compared with the standard way of swallowing integral tablets in patients with STEMI undergoing pPCI.**

Condition being studied: **Formal screening of search results against eligibility criteria,**

data extraction, risk of bias assessment and data analysis.

METHODS

Participant or population: ST-segment elevation myocardial infarction.

Intervention: Crushed or chewed potent P2Y12 inhibitors.

Comparator: Swallowing integral potent P2Y12 inhibitors.

Study designs to be included: (1) crushed or chewed administration of loading dose ticagrelor (180 mg) or prasugrel (60 mg) in patients with STEMI undergoing pPCI; (2) comparator group of swallowing integral tablets; (3) reporting of platelet inhibition indicators or clinical outcomes in both groups; and (4) randomized clinical trials (RCTs).

Eligibility criteria: (1) crushed or chewed administration of loading dose ticagrelor (180 mg) or prasugrel (60 mg) in patients with STEMI undergoing pPCI; (2) comparator group of swallowing integral tablets; (3) reporting of platelet inhibition indicators or clinical outcomes in both groups; and (4) randomized clinical trials (RCTs).

Information sources: Pubmed, Embase, Web of science and Cochrane library medical literature databases, as well as the proceedings of American Heart Association, American College of Cardiology, and European Society of Cardiology.

Main outcome(s): The primary efficacy endpoints were P2Y12 reaction units (PRU) or HPR at 1 hour assessed by VerifyNow of individual publication.

Additional outcome(s): Secondary efficacy endpoints were cardiovascular death, myocardial infarction, and stroke. The safety endpoints were major bleeding and any bleeding that defined as Thrombolysis In Myocardial Infarction (TIMI).

Quality assessment / Risk of bias analysis: The general quality of each selected RCT was assessed using the validated criteria proposed by Cochrane Collaboration's tool.

Strategy of data synthesis: PRU was reported with mean difference (MD) and 95% confidence intervals (95% CI) by means of Inverse Variance method, other results were reported with odds ratio (OR) of DerSimonian and Laird with 95% CI by means of Mantel–Haenszel method. Statistical heterogeneity was assessed by the Cochrane's Q test and the Higgins I2 test.

Subgroup analysis: Prasugrel and ticagrelor, etc.

Sensitivity analysis: Sensitivity analysis was also performed to detect whether any single study was primary responsible for the final results at a time.

Country(ies) involved: China.

Keywords: Crushed; Chewed; P2Y12 inhibitor; ST-segment elevation myocardial infarction.

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