

The role of intracoronary thrombolysis in thrombus-laden coronary artery: a case report

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Introduction: Large intracoronary thrombus in patients presenting with ST elevation myocardial infarction (STEMI) can cause distal embolization, the no-reflow phenomenon, and stent thrombosis. Approximately 10% of patients undergoing primary percutaneous coronary intervention (PCI) have distal embolization of thrombus, causing coronary microvascular obstruction and reduced myocardial tissue perfusion. This can lead to ongoing ischemia, a larger infarct size, and a significant increase in 30-day mortality, regardless of successful PCI with normal epicardial vessel flow.

Case Presentation: A 51-year-old Asian male presented with STEMI. Coronary angiography revealed a large thrombus totally occluding the proximal portion of the right coronary artery (RCA). Catheter-directed intracoronary thrombolysis with streptokinase was performed after multiple attempts at manual aspiration thrombectomy (MAT) and balloon angioplasty had failed to achieve coronary blood flow recovery. After successful stenting, a diffuse residual thrombus remained in the RCA. Evaluation angiography of the RCA performed four days later showed complete thrombus dissolution with thrombolysis in myocardial infarction (TIMI) grade 3 flow.

Discussion: While there is no gold-standard therapy to deal with intracoronary thrombus, there are combinations of both pharmacological and mechanical therapies that can be utilized. MAT should not be used routinely in STEMI, but may be helpful in selected cases. Catheter-directed intracoronary thrombolysis can be a safe and effective alternative reperfusion strategy when MAT alone fails to achieve sufficient coronary blood flow in the thrombotic infarct-related artery (IRA).

Conclusion: The management of intracoronary thrombus during PCI remains a therapeutic challenge, and an aggressive, case-by-case, tailored approach can lead to improved outcomes.

Key words: intracoronary streptokinase, manual aspiration thrombectomy (MAT), intracoronary thrombus, primary percutaneous coronary intervention (PCI), ST-elevation myocardial infarction (STEMI).

Role intrakoronární trombolýzy v případě trombotizované koronární tepny: kazuistika

Úvod: Velké intrakoronární tromby u pacientů s infarktem myokardu s elevací úseku ST (STEMI) mohou způsobit distální embolizaci, fenomén „no-reflow“ a trombózu stentu. Přibližně u 10 % pacientů podstupujících primární perkutánní koronární intervenci (PCI) dochází k distální embolizaci trombu, což způsobuje mikrovaskulární obstrukci koronárních tepen a snížení perfuze myokardiální tkáně. To může mít za

DECLARATIONS:

Declaration of originality:

The manuscript is original and has not been published or submitted elsewhere.

Ethical principles compliance:

The authors attest that their study was approved by the local Ethical Committee and is in compliance with human studies and animal welfare regulations of the authors' institutions as well as with the World Medical Association Declaration of Helsinki on Ethical Principles for Medical Research Involving Human Subjects adopted by the 18th WMA General Assembly in Helsinki, Finland, in June 1964, with subsequent amendments, as well as with the ICMJE Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals, updated in December 2018, including patient consent where appropriate.

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