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Fibrinolysis in ST-segment elevation acute myocardial infarction

English summary

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This is the English summary of the guidance entitled Fibrinolyse dans le cadre d'un infarctus aigu du myocarde avec élévation du segment ST- Rapport en appui à l'ordonnance et à l'outil complémentaire à l'intention des établissements et des cliniciens - published in May 2017.

The complete version of this guidance (in French) is available on the website of INESSS in the *Publications* section.

Équipe de projet

Auteure
Karine Lejeune, B. Pharm., M. Sc.

Autres contributions
Lucy Boothroyd, Ph. D.
Laurie Lambert, Ph. D.
Frédéric St-Pierre, Ph. D.
Jean-Simon Denault, stagiaire en pharmacie
Jean-François Deschênes, stagiaire en pharmacie
Catherine Papillon-Hogue, stagiaire en pharmacie

Coordination scientifique
Mélanie Tardif, Ph. D.

Direction scientifique
Sylvie Bouchard, B. Pharm., D.P.H., M. Sc., M.B.A.
Michèle de Guise, M. D., FRCPC, M. M.

Recherche d'information scientifique
Julien Chevrier

Soutien documentaire
Flavie Jouandon

SUMMARY

Introduction

ST-segment elevation acute myocardial infarction (STEMI) is a serious condition caused by the occlusion of a coronary artery by a blood clot that requires urgent treatment, either by primary percutaneous coronary intervention (PPCI) or fibrinolysis (also known as thrombolysis).
The Cardiovascular Evaluation Unit (UÉCV) of the Institut d'excellence en santé et en services sociaux (INESSS) carried out a field evaluation in Quebec which showed that the number of deaths and readmissions due to heart failure and a new infarction at one year was comparable in patients treated with fibrinolysis or PPCI.

According to the standards regarding reperfusion treatments for STEMI published by the UÉCV, when a patient arrives at a hospital that does not offer PCI, it is advisable to favour the administration of a fibrinolytic agent, in accordance with a written protocol, if he or she does not present contraindications to fibrinolysis and the anticipated time from first medical contact to PPCI is greater than 120 minutes.

INESSS's objectives are to guide and facilitate the prescribing of fibrinolysis, to reduce apprehension regarding its use, to assist clinicians in managing any potential associated bleeding, and to promote its proper use so that it remains a reperfusion treatment option in accordance with the proposed indications. INESSS's Direction du médicament has therefore developed the following documents, in collaboration with the UÉVC:

- A standardized individual prescription that includes the indications for and the contraindications to fibrinolysis, as well as the recommended dosages for tenecteplase or alteplase, anticoagulants and antiplatelet agents;
- A complementary tool for health-care facilities and clinicians that includes the treatment options that complement fibrinolysis, the preparation and administration of the fibrinolytic agent, post-fibrinolysis neurological monitoring, and the best practices regarding preventive measures and the management of post-fibrinolysis bleeding.

Methodology

The creation of these documents was based on the best available scientific data evaluated by the authors of clinical practice guidelines (CPGs). These data were enriched with legislative and organizational elements specific to the Quebec context and with experiential knowledge provided by various Quebec experts and clinicians who collaborated in the project.
A systematic search was conducted in the MEDLINE and Embase databases to identify CPGs and consensus conferences. The literature search was limited to documents published in French or English between 2011 and 2016. In addition, a grey literature search was conducted by a librarian who consulted, among others, the websites of the following agencies, organizations, associations and institutions: the Guidelines

International Network (G-I-N), the National Guideline Clearinghouse (NGC), the National Institute for Health and Care Excellence (NICE), the Haute Autorité de Santé (HAS) and the Scottish Intercollegiate Guidelines Network (SIGN). Official product monographs approved by Health Canada were also consulted.

Results

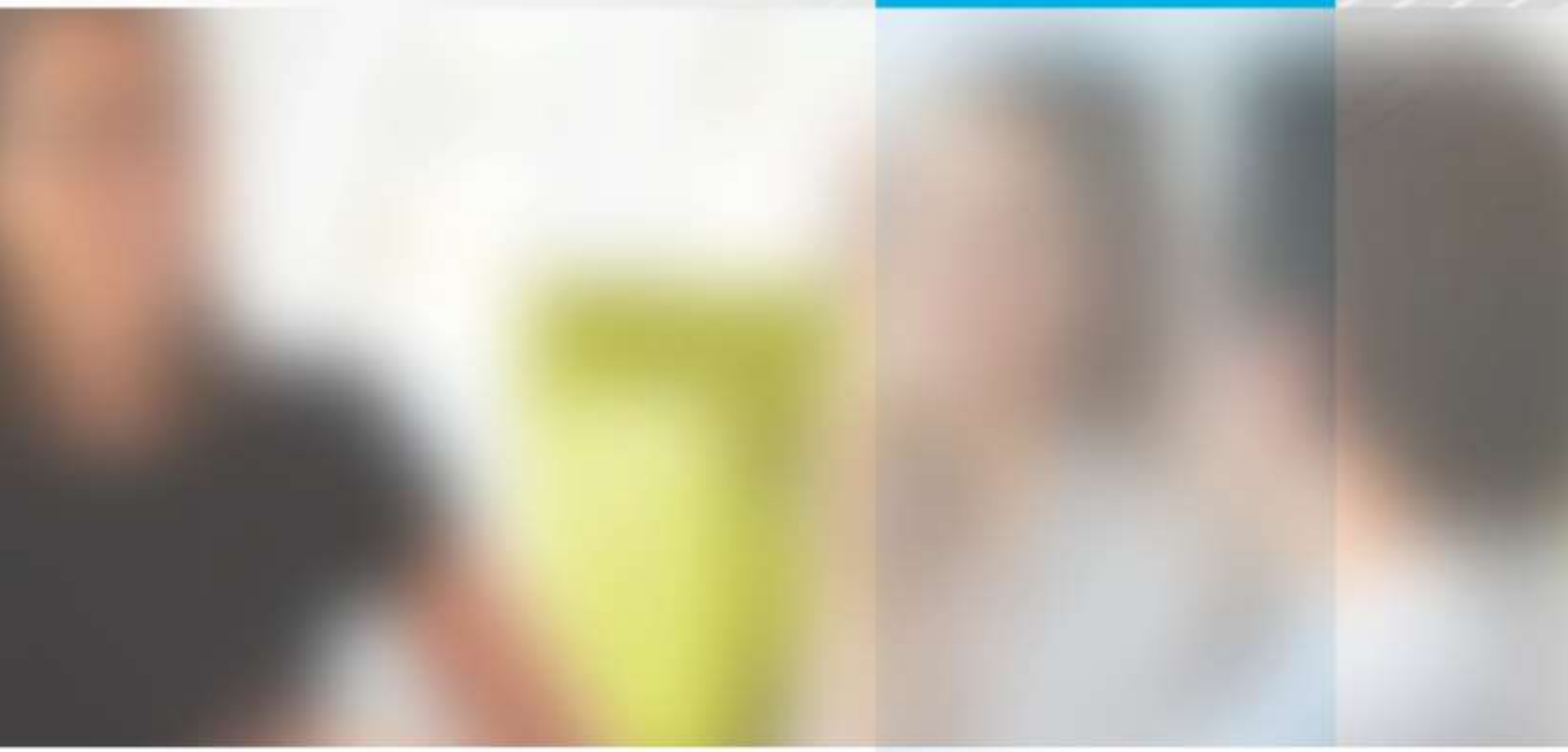
Given that most patients are transferred to a facility that offers PCI after fibrinolysis, INESSS did not evaluate the aspects concerning monitoring before, during and after fibrinolysis or the other pharmacological and support treatments to be considered in cases of STEMI. These aspects are to be documented by health-care facilities for the purpose of developing comprehensive clinical documents contextualized to their setting.

The main findings, which include fibrinolysis indications and contraindications, the fibrinolytic agents, anticoagulants and antiplatelet agents, and the therapies to be reevaluated in the context of STEMI, arise from the analysis of the literature and the contextual and experiential data. More specifically, the absolute and relative contraindications to fibrinolysis compiled from the clinical practice guidelines, product monographs and the various Quebec protocols consulted differed on several points. The need to identify the most relevant contraindications supported by a sufficient level of evidence is emphasized in order to facilitate clinician prescribing of fibrinolysis.

Even if most of the information regarding the management of bleeding due to fibrinolysis is not supported by sufficient scientific evidence and is based primarily on expert opinion, the members of the advisory committee believe that these proposals will help less experienced clinicians develop a treatment plan in cases where fibrinolysis is used.

Conclusion

The use of the tenecteplase prescription, the complementary tool for health-care facilities and clinicians, and, when tenecteplase is out of stock, the alteplase prescription will, together with the clinical recommendations, make it possible to standardize, support and, ideally, promote the optimal use of fibrinolysis when indicated. However, the challenge of providing the best possible quality of care to STEMI patients and of ensuring access to reperfusion treatment in a timely manner to the entire Quebec population necessarily requires optimizing health professional training and, in so doing, patient management according to clinical and geographical context.



Siège social

2535, boulevard Laurier, 5e étage
Québec (Québec) G1V 4M3
418 643-1339

Bureau de Montréal

2021, avenue Union, bureau 10.083
Montréal (Québec) H3A 2S9
514 873-2563

inesss.qc.ca

Institut national d'excellence en santé et en services sociaux
Québec