

Thrombolytic Therapy (Tenecteplase/ TNK-tPA/ Metalyse) in Accident & Emergency Department for patients with Acute Myocardial Infarction

Introduction

Myocardial infarction (MI) is the injury and necrosis of cardiac muscle cells due to ischemia. Most acute myocardial infarctions (AMI) occur as a result of clot formation at the site of an atherosclerotic plaque inside a coronary artery.

Thrombolytic therapy is the use of an intravenous medication, which promotes rapid lysis of the occluding thrombus (or embolus). It directly treats the initiating cause of myocardial infarction.

The benefits thrombolytic therapy on survival and clinical outcome of thrombolytic therapy have been well established in numerous research studies worldwide. Despite potential complications, the benefits generally outweigh the risks. It is considered as one of the standard treatment options when given without contraindications.

One of the thrombolytic agents used in Hong Kong is Tenecteplase.

The Procedure (Tenecteplase administration)

Tenecteplase is given intravenously. The patient will be closely monitored during and after the injection. The patient will be admitted to an appropriate hospital unit after a short period of monitoring in the A&E Department.

Potential Risks and Complications

Thrombolytic therapy may lead to potential complications. However, serious complications are relatively rare. In general, the benefits of thrombolytic therapy outweigh its risks.

Potential complications of Tenecteplase include:

1. Bleeding complications (around 5%)

- Most significant complications of thrombolytic therapy
- Usually minor
- May cause catastrophic bleeding (including intracranial hemorrhage)
 - Overall incidence of intracranial hemorrhage (around 0.9%). Risk varies with presence of risk factors
 - Resultant mortality rate of intracranial hemorrhage is around 50-60%
 - Risk factors include:
 - Old age (> 65)

- Small size (body weight < 70 kg)
 - Hypertension on presentation
 - History of stroke
2. Allergic reactions
 - Usually minor
 - Rarely may cause anaphylaxis (severe allergic reaction)
 3. Hypotension during infusion
 - Usually transient, minor and reversible
 4. Transient arrhythmia related to reperfusion
 - Usually not serious
 - Note: Patients with AMI are prone to have arrhythmia, which may be life-threatening and this is not related to whether thrombolytic therapy is used or not

Post-treatment Management

Post treatment management will be provided by the receiving hospital unit.

Complications listed above, especially bleeding complications (including intracranial hemorrhage), may still occur in the post-treatment period.

Remarks

This is a general information only and the list of complications is not exhaustive. Other unforeseen complications may occur. Actual risk of complications may differ in various patient groups. For further information, please discuss with your doctor.