**I’m Having A Brain Attack! : A case report on an ischemic stroke post thrombolysis for myocardial infarction**

**Authors: Joanne Sue James; Devarani A/P M Valusamy**

 **Hospital Sultan Idris Shah, Serdang; Ministry of Health**

**Keywords: myocardial infarction; stroke**

**Introduction:** When initiating thrombolytic reperfusion therapies for patients that present with myocardial infarction, we often anticipate the complication of intracranial haemorrhage which manifests as stroke-like symptoms post thrombolysis. How often do we encounter ischaemic strokes post thrombolysis?

**Description:** We present a case of a 49 year old gentleman, presenting with central chest pain. The electrocardiograph (ECG) demonstrates extensive anterolateral myocardial infarction (MI). A bedside Echocardiogram (ECHO) confirms the diagnosis, demonstrating hypokinetic anteroseptal and lateral walls. He was treated with IV Tenecteplase, resulting in succesful thrombolysis. 4 hours later, he developed slurred speech. CT Brain done immediately shows no acute pathology. The following day in ward, he complained of evolving expressive aphasia and facial assymetry.

A repeated CT Brain demonstrated an acute left fronto-parietal-temporal infarct.

A formal ECHO was then performed, explaining the manifestation of the cerebrovascular event:

There are regional wall motion abnormalities as specified but also, a thrombus seen at LV(Left ventricle) apical wall 1.2cm, and second 0.95cm thrombus oscillating at LV lateral wall.

**Discussion:** LV thrombus is a common sequelae of MI, especially with anterior MI, with an incidence of 13.4%, namely due to the large LAD (left anterior descending artery)- supplied area that ends up hypokinetic after an infarct. When blood stasis ensues, in concordance with endothelial injury and the hypercoagulable state of MI, Virchow’s triad is perpetuated, forming the LV thrombus. This phenomenon may occur within 24 hours post-MI, despite reperfusion, especially if the patient has delayed presentation to ED. In a study done, 1% of patients with anterior MI that underwent fibrinolysis still developed ischaemic stroke due to the LV thrombus. The study also states that when an acute myocardial infarction was just treated with thrombolysis, there was no difference in the LV thrombus formation rate, but the addition of low molecular weight heparin (LMWH) significantly reduces the formation of the LV thrombus and hence a cardioembolic event.

**Conclusion:** Thromboembolic events are a common complication of anterior MI and serial bedside ECHO is imperative to identify the culprit, the LV thrombus even post thrombolysis. Also, in treating anterior MI, early initiation of LMWH is crucial.