

# **When Stroke Meets Heart Attack: A Case Report on Concurrent Acute Events**

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## **Introduction**

Acute ischemic stroke (AIS) and acute ST elevation myocardial infarction (STEMI) are both life-threatening conditions with narrow therapeutic windows. We report a case of AMI with concurrent AIS, which poses an unusual therapeutic challenge.

## **Case**

A 58-year-old gentleman presented with left-sided body weakness for one hour associated with presyncopal attack and profuse sweating. He denied any chest pain or shortness of breath.

Initial vital signs in the emergency department (ED) were stable. Neurological examination revealed diminished power (3/5) over the right side of the upper and lower limb with no changes in speech and mentation. The remaining examination was unremarkable. Immediate CT brain revealed recent left parietal lacunar infarct with Alberta Stroke Programme Early CT Score (ASPECT) Score of 9 and no intracranial bleed. His electrocardiogram (ECG) showed ST elevation over the inferior lead with concomitant posterior and right-sided involvement. Bedside transthoracic echocardiography showed regional hypokinesia over the inferoposterior region and no intracardiac thrombus was noted.

Patient was subsequently thrombolysed with IV alteplase. During thrombolysis, patient developed transient complete heart block which responded with IV atropine. Double antiplatelet and anticoagulant was initiated 24 hours after thrombolysis. Patient was discharged well with intact neurological status with Modified Rankin Score (MRS) of 5 and complete resolution of ECG and anginal symptoms.

## **Discussion**

A simultaneous occurrence of AMI and AIS termed cardio-cerebral infarction (CCI) is a rare phenomenon with an incidence of 0.009%. Management of CCI is very challenging because prioritizing one at the expense of the other will result in a raised morbidity status. Arranging primary percutaneous coronary intervention (PCI) for STEMI in this case would delay the management of the AIS and vice versa.

According to the 2018 AHA guidelines on CCI, it is recommended that patients experiencing both acute ischemic stroke and acute MI could benefit from initial treatment with intravenous alteplase at the appropriate dose for cerebral ischemia, followed by consideration of percutaneous coronary angioplasty and stenting if necessary.

Time is both brain and myocardium; treatment should be promptly given to all CCI patients. However, decisions should be made carefully after weighing all the pros and cons of the intended treatment.

## Conclusion

In patients with CCI, treatment with intravenous alteplase at the dose appropriate for cerebral ischemia, followed by PCI afterward, is the preferred treatment.

## References

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