Fluctuating Neurology in Acute Stroke due to Multiple Emboli – The Importance of Repeating The CT Angiogram In An Evolving Clinical Picture

Lindsay Jones, Jenny Evans, Nicola Chivers, Martin James, Jane Sword

Royal Devon and Exeter NHS Foundation Trust, Exeter, UK

Background

We report a 79 year old man with paroxysmal atrial fibrillation (PAF) treated with aspirin.

On arrival he was reviewed immediately by the acute stroke team. He presented with right hemiplegia, dysphasia, and right neglect; NIHSS 16/42.

Non-contrast CT excluded haemorrhage and he was thrombolysed. The diagnosis was of left middle cerebral artery (MCA) infarct, with rapid improvement of his hemiplegia.

A CT angiogram (CTA) showed left M3 occlusion not amenable to thrombectomy.

During thrombolysis he suddenly became drowsy: repeat CT excluded haemorrhage.

He roused to a GCS of 13/15, but with new left hemiplegia, fixed gaze to the right, and mild dysphasia, repeat NIHSS was 24/42.

Repeat CTA showed resolution of the left M3 occlusion, but new proximal right MCA occlusion.

He was transferred to the regional thrombectomy centre.

Thrombectomy was not performed as he had improved significantly on arrival (NIHSS = 7/42).

On discharge, he had mild dysphasia, mild left hemiparesis, left hemianopia and left neglect. Apart from PAF, no alternative cause was identified. He was discharged home on Day 6 with Early Supported Discharge and anticoagulated with Apixaban.

Investigations

Figure 2: Demonstrating the right M1 occlusion
The left sided M2 occlusion has recanalised

Investigations:

Blood Tests – FBC, Inflammatory markers, U+E, Plasma Viscosity, Glucose, Cholesterol within normal range

ECG – Atrial Fibrillation

CXR – Normal Appearances

Echocardiogram – Normal left and right ventricular function, no valvular disease, no thrombus or shunt

Figure 1: CTA demonstrating the Initial Left M2 Occlusion

Conclusion

We describe a complex case with fluctuating signs secondary to multiple emboli from untreated PAF.

Repeat CTA demonstrated resolution of the initial left MCA occlusion (likely due to thrombolysis) but showed a new right MCA thrombus.

This demonstrates the importance of repeating the CTA if a repeat CT head shows no acute findings, as this could reveal early recurrence requiring thrombectomy