Air Embolism to the Brain as a Rare Cause of Acute Ischaemic Stroke. A Case Report and Review of Literature

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Purpose:

Air embolism to cerebral arteries is a rare cause of ischaemic stroke with unique imaging findings. We describe a case of air embolism to right MCA due to complication of a medical procedure.

Report:

A 64-year-old man was admitted with fever and shortness of breath of two days duration and transient left-sided weakness.

Past medical history includes hypertension, type 2 diabetes, CKD and AF with percutaneous left atrial ablation within the past month.

On examination, he looked unwell with fever, tachycardia but no focal neurological features. Treatment for UTI was started.

Within 24 hours the patient deteriorated with nystagmus, loss of consciousness and bilateral weakness.

A non-contrast CT of the head was performed which showed multiple foci of air within the right MCA territory.

CT angiography demonstrated absence of blood flow within the branches of right MCA.

The patient developed a malignant MCA syndrome and ultimately died.

Post-mortem confirmed clinical suspicion of left atrio-oesophageal fistula, a rare complication of radiofrequency ablation for control of atrial fibrillation.

Literature:

The incidence of atrio-oesophageal fistula is around 0.03% for patients undergoing percutaneous RF ablation.

Common presenting features are sepsis, neurological deficits and recent history of ablation.

It has 100% mortality if untreated, and 56% survival rate if treated surgically.

Chest CT is the imaging modality of choice if a fistula is suspected. Currently there is no standard for routine post-op imaging.

Summary:

This case signifies the importance of considering an iatrogenic cause for patients presenting with air embolism to cerebral arteries.

References:


