Teaching NeuroImages:

Hypodense artery sign in acute cerebral infarction by contrast-enhanced CT

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Figure CT of hypodense artery sign

(A) Postcontrast brain CT shows right middle cerebral artery territory infarction and a hypodense lesion in right internal carotid artery (ICA) (arrowhead). MCA = middle cerebral artery; BA = basilar artery. (B) A hypodense lesion (arrowhead) in right distal internal carotid artery has a Hounsfield unit of -83 , indicating a fat macroembolus instead of an air density.

An obese 52-year-old woman underwent mitral valve replacement. On the first day after the operation, she had left-sided weakness. Brain CT showed right side middle cerebral artery infarction, and a hypodense filling defect was noted in the right distal internal carotid artery (figure, A). Region of interest measurement of CT density of the hypodense lesion was -83 Hounsfield units (figure, B), indicating a macroscopic fat embolus. The patient died 2 days later. Cerebral fat macroembolism is a rare cause in thromboembolic stroke. Perioperative cerebral fat embolism of cardiac surgery can be caused by aortic cannulation during cardiopulmonary bypass, aortic clamping, median sternotomy, and dislodgement of pericardial or epicardial fat.^{1,2}

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