Supplementary Table 1. Neuroimaging findings in hypoxic-ischemic encephalopathy

References	Total no. of patients	Imaging technique	Neuroimaging findings	Predictive value for poor outcome
Hypoxic-ischemic encephalopathy				
CT	69 patients			
1 prospective study [1]	53 patients out of 103	CT at a median 1 days after CPR and hypothermia	Global cerebral edema	False-positive rate 0% for death
1 case series [2]	16 patients	CT within 1 h after CPR	Putaminal, cortical and corticomedullary contrast	Higher putaminal, cortical and corticomedullary contrast was associated with CPC 4-5
MRI	269 patients			
1 prospective study [3]	27 patients	MRI in the first 15 days after CPR	Diffuse signal abnormalities in the cortex and subcortical areas or effacement of the sulci	All 8 patients with these MRI findings died; 1 of 2 patients who survived had subcortical signs of ischemia
1 retrospective study [4]	80 patients	MRI in first 7 days after CPR and hypothermia	Lower whole brain and regional median ADC	Patients with mRS >3 had significant lower median whole brain and regional ADC
1 prospective study [5]	22 patients	MRI at a median 4.1 (good outcome) and 9.8 days (poor outcome) after CPR	DWI and FLAIR multilobar, or diffuse lesion pattern with cortical involvement	False-positive rate 0% for CPC 4-5
1 prospective study [6]	40 patients out of 83	MRI in the first 7 days after CPR with hypothermia	ADC $<650x10^{6}mm^{2}/sec$	False-positive rate 0% for death
1 prospective study [7]	22 patients out of 111	MRI at 48 hours after CPR with hypothermia	DWI with global ischemia or focal ischemia with total lesion volume >20mL	False positive rate 0% for CPC 3-5
1 prospective study [8]	39 patients	MRI in the first 5 days after CPR with hypothermia	Cortical and/or deep grey nuclei lesions	False positive rate 23% for GOS 1-3
1 retrospective study [9]	39 patients	MRI 1 to 150 days after CPR	T2 and DWI changes in the cerebral cortex and the deep grey matter	False positive rate 0% for Death, profound cognitive impairment including persistent vegetative state, minimally area states or severe physical impairment
PET	17 patients			
1 case series [10]	17 patients	Patients with vegetative states (time after CPR not provided)	Hypometabolism frontal, parietal including the precuneus, in the posterior cingulate gyrus, and in the occipital areas. Hypermetabolism in the insulas, cerebellum, and brainstem	No clear evidence

CT = computed tomography; MRI = magnetic resonance imaging; PET = positron emission tomography; CPR = cardiopulmonary resuscitation; ADC = apparent diffusion coefficient; DWI = diffusion-weighted imaging; FLAIR = fluid attenuated inversion recovery; mRS =

modified ranking scale; CPC = cerebral performance category; GOS = Glascow outcome scale

References

1. Fugate JE, Wijdicks EF, Mandrekar J, et al. Predictors of neurologic outcome in hypothermia after cardiac arrest. Ann Neurol 2010;68(6):907-914.
2. Yanagawa Y, Un-no Y, Sakamoto T, et al. Cerebral density on CT immediately after a successful resuscitation of cardiopulmonary arrest correlates with outcome. Resuscitation 2005;64(1):97-101.
3. Wijdicks EF, Campeau NG, Miller GM. MR imaging in comatose survivors of cardiac resuscitation. AJNR Am J Neuroradiol 2001;22(8):1561-1565.
4. Wu O, Sorensen AG, Benner T, et al. Comatose patients with cardiac arrest: predicting clinical outcome with diffusion-weighted MR imaging. Radiology 2009;252(1):173-181.
5. Topcuoglu MA, Oguz KK, Buyukserbetci G, et al. Prognostic value of magnetic resonance imaging in post-resuscitation encephalopathy. Intern Med 2009;48(18):1635-1645.
6. Wijman CA, Mlynash M, Caulfield AF, et al. Prognostic value of brain diffusion-weighted imaging after cardiac arrest. Ann Neurol 2009;65(4):394-402.
7. Choi SP, Park KN, Park HK, et al. Diffusion-weighted magnetic resonance imaging for predicting the clinical outcome of comatose survivors after cardiac arrest: a cohort study. Crit Care 2010;14(1):R17.
8. Cronberg T, Rundgren M, Westhall E, et al. Neuron-specific enolase correlates with other prognostic markers after cardiac arrest. Neurology 2011;77(7):623-630.
9. Howard RS, Holmes PA, Siddiqui A, et al. Hypoxic-ischaemic brain injury: imaging and neurophysiology abnormalities related to outcome. QJM 2012;105(6):551-561.
10. Kim YW, Kim HS, An YS. Brain metabolism in patients with vegetative state after post-resuscitated hypoxic-ischemic brain injury: statistical parametric mapping analysis of F-18 fluorodeoxyglucose positron emission tomography. Chin Med J (Engl) 2013;126(5):888-894.