Delayed Postanoxic Encephalopathy with Serial MRI and PET Studies

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The authors present serial MRI and PET studies in the case of a 69-year-old man with delayed postanoxic encephalopathy. Ongoing regional cytotoxic edema was observed in MRI diffusion-weighted images over a 1-year follow-up. The delayed effects of an initial hypoxic injury might be more prolonged than has been previously reported [1, 2].

Fig. 1. Serial MRI studies with FLAIR, diffusion-weighted imaging ($b = 1,000 \text{ s/mm}^2$) and ADC (apparent diffusion coefficients) mapping from left to right at the delayed onset of postanoxic encephalopathy (a), 6 months (b) and 13 months (c). Some lesions in both frontal white matter and the anterior corpus callosum showed persistent decreased diffusivity on diffusion-weighted imaging and ADC maps ($0.35 \times 10^{-3} \text{ mm}^2/\text{s}$ and $0.48 \times 10^{-3} \text{ mm}^2/\text{s}$; mean values of regions of interest indicated by arrowheads in b and c).

Fig. 2. Hypometabolic regions in serial PET studies at delayed onset of postanoxic encephalopathy (a), 6 months (b) and 13 months (c). Hypometabolism in both parietotemporal cortices was improved (arrowheads); however, hypometabolism in both

frontal cortices was aggravated (arrows). The hypometabolic regions (yellow; color version on-line) are displayed on surface-rendered images at the threshold of $p < 0.001$, uncorrected ($t = 3.61$, $k = 100$).

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References

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