

Malignant middle cerebral artery territory infarction diagnosis



Early parenchymal **hypodensity** involving > 50% of the **MCA** distribution on CT scan, ¹⁾ midline shift > 8–10 mm, early sulci effacement, and **hyperdense artery sign** ²⁾ in MCA.

Fifty-three patients were studied prospectively with CT 46 to 292 minutes (median, 120; mean, 134 +/- 59) after symptom onset and scored clinically at admission and 4 weeks later. All patients were treated with recombinant tissue plasminogen activator (30 to 100 mg).

Early CT showed parenchymal hypodensity in 43 patients (81%), local brain swelling in 20 patients (38%), and hyperdensity of the middle cerebral artery trunk in 25 patients (47%). Hypodensity covering more than 50% of the middle cerebral artery territory had an 85%, local brain swelling a 70%, and the hyperdense middle cerebral artery sign a 32% positive predictive value for fatal clinical outcome. Specificity of these findings for fatal outcome was 94%, 83%, and 51%, respectively, and sensitivity was 61%, 78% and 44%, respectively.

Early CT in acute middle cerebral artery trunk occlusion is highly predictive for fatal clinical outcome if there is extended hypodensity or local brain swelling despite aggressive therapeutic attempts such as thrombolysis or decompressive surgery ³⁾.

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von Kummer R, Meyding-Lamadé U, Forsting M, et al. Sensitivity and Prognostic Value of Early CT in Occlusion of the Middle Cerebral Artery Trunk. *AJNR*. 1994; 15:9–15

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Wijdicks EFM, Diringer MN. Middle Cerebral Artery Territory Infarction and Early Brain Swelling: Progression and Effect of Age on Outcome. *Mayo Clin Proc*. 1998; 73:829–836

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von Kummer R, Meyding-Lamadé U, Forsting M, Rosin L, Rieke K, Hacke W, Sartor K. Sensitivity and prognostic value of early CT in occlusion of the middle cerebral artery trunk. *AJNR Am J Neuroradiol*. 1994 Jan;15(1):9–15; discussion 16–8. PubMed PMID: 8141071.

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