

Cerebral infarction

see [Acute ischemic stroke](#).

see [Watershed cerebral infarction](#).

Large hemispheric infarctions (LHIs) lead to significant disability and mortality. Harvey Cushing in the early 1900s described primary and [secondary brain injury](#) as occurring during immediate (direct injury of vessels), intermediate (during which there is often a lucid period of consciousness), and late (when [cerebral edema](#) develops) phases after [traumatic brain injury](#)¹⁾. A similar progression of disease can be seen in LHI, defined as an [ischemic stroke](#) affecting all or most of the [middle cerebral artery](#) (MCA) territory, with or without involvement of the [anterior cerebral artery](#) or [posterior cerebral artery](#) territory²⁾

Etiology

Between 10 and 30% of patients who suffer from an [aneurysmal subarachnoid hemorrhage](#) (aSAH) will develop cerebral infarctions (CIs) that are unrelated to aneurysm exclusion procedures. Infarctions that occur during the so-called period of [cerebral vasospasm](#) (between 3 and 14 days after bleeding) represent one of the main causes of disability and permanent sequelae in aSAH³⁾.

Malignant middle cerebral artery territory infarction

[Malignant middle cerebral artery territory infarction](#)

¹⁾

Cushing H. I. Subtemporal decompressive operations for the intracranial complications associated with bursting fractures of the skull. Ann Surg. 1908; 47:641-644. doi: 10.1097/00000658-190805000-00001

²⁾

Torbey MT, Bösel J, Rhoney DH, Rincon F, Staykov D, Amar AP, Varelas PN, Jüttler E, Olson D, Huttner HB, et al.. Evidence-based guidelines for the management of large hemispheric infarction: a statement for Healthcare professionals from the Neurocritical Care Society and the German Society for Neuro-intensive Care and Emergency Medicine. Neurocrit Care. 2015; 22:146-164. doi: 10.1007/s12028-014-0085-6

³⁾

Rowland MJ, Hadjipavlou G, Kelly M, Westbrook J, Pattinson KT. Delayed cerebral ischaemia after subarachnoid haemorrhage: looking beyond vasospasm. Br J Anaesth. 2012 Sep;109(3):315-29. doi: 10.1093/bja/aes264. PMID: 22879655.

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