

Basal ganglia infarction

All symptomatic with [CADASIL](#) and 18% of asymptomatic patients had prominent subcortical [white matter](#) and [basal ganglia](#) hyperintensities on [T2WI MRI](#).

MRI: lacunar infarcts in [basal ganglia](#) is a contraindication for [Parkinson's disease surgery](#).

Modern brain imaging techniques usually allow very good differential diagnosis of [intracranial lesions](#), but in some cases the differential diagnosis is difficult.

A study involved 316 patients with BGI (237 in the training cohort and 79 in the independent validation cohort). Region of interest segmentation and feature extraction was done by ITK-SNAP software. Yao et al. used the existing medical history to binarize the time since stroke onset (TSS) into two categories: positive (< 4.5 h) and negative (\geq 4.5 h). The key radiomic signature features were retrieved by the least absolute shrinkage and selection operator multiple logistic regression models. The receiver operating characteristic curve and AUC analysis were used to evaluate the performance of the radiomic signature in both the training and validation cohorts.

295 features were extracted from a manually outlined infarction region. Five features were selected to construct the radiomic signature for TSS classification purposes. The performance of the radiomic signature to distinguish between positive and negative in the training cohort was good, with an AUC of 0.982, a sensitivity of 0.929, and a specificity of 0.959. In the validation cohort, the radiomic signature showed an AUC of 0.974, a sensitivity of 0.951, and a specificity of 0.961.

A unique radiomic signature was constructed for use as a diagnostic tool for discriminating the TSS in BGI and may guide decisions to use thrombolysis in patients with unknown times of BGI onset ¹⁾.

Yaldizli et al. report the case of a 52-year-old male with acute [brachiofacial hemiparesis](#) and a hyperintense lesion with mass effect and ring-enhancement in basal ganglia suspiciously to a tumor. The neurosurgeons recommend stereotactical [brain biopsy](#) for diagnosis, but the patient recovered in the following time gradually and in repeated computer tomographic images contrast enhancement disappeared and a hypodense zone in the basal ganglia remains. This case demonstrates that brain infarctions can mimic [glioblastoma](#) in taking cystic appearance and contrast enhancement. A stereotactic biopsy would have been a precipitated invasive procedure in this case ²⁾.

¹⁾

Yao X, Mao L, Lv S, Ren Z, Li W, Ren K. CT radiomics features as a diagnostic tool for classifying basal ganglia infarction onset time. J Neurol Sci. 2020 Feb 10;412:116730. doi: 10.1016/j.jns.2020.116730. [Epub ahead of print] PubMed PMID: 32092485.

²⁾

Yaldizli O, Kastrup O, Wanke I, Maschke M. Basal ganglia infarction mimicking glioblastoma. Eur J Med Res. 2005 Sep 12;10(9):400-1. PubMed PMID: 16183553.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

https://neurosurgerywiki.com/wiki/doku.php?id=basal_ganglia_infarction

Last update: **2024/06/07 02:49**

