

Supplemental tables

Table S1. Twenty-seven stroke cases of eye-opening apraxia included in lesion-network-mapping analysis

Source	N	Imagin g	Locatio n	Lesion location	Depiction in Figure 1
Algoed et al. 1992 ¹	1	CT	m	Rolandic artery territory (r)	11
Averbuch-Heller et al. 2002 ²	2	CT	m; m	Frontoparietal lobe (r); MCA territory (r)	6, 23
Averbuch-Heller et al. 1996 ³	1	CT	m	Frontoparietal lobe (r)	7
Ferro et al. 2021 ⁴	1	MRI	s	Paramedian thalamic (bilateral)	15
Hirose et al. 2010 ⁵	2	CT	s; s	Thalamus (r); globus pallidus/thalamus (l)	19, 16
Hsieh et al. 2014 ⁶	1	MRI	m	Parietotemporal lobe (r)	21
Johnston et al. 1989 ⁷	2	CT	m; m	MCA territory (r) x2	1, 2
Kaiboriboon et al. 2002 ⁸	1	MRI	m	MCA territory (l)	20
Kim et al. 2015 ⁹	1	MRI	b	Midbrain tectum (bilateral)	25
Lanczik et al. 2005 ¹⁰	1	MRI	m	MCA territory (r)	3
Lee et al. 2011 ¹¹	1	MRI	s	ICA borderzone territory, frontal (r)	12
Lin et al. 2013 ¹²	1	CT	s	Putamen (r)	9
Mihaescu et al. 2000 ¹³	1	MRI	b	Midbrain tegmentum (bilateral)	26
Myint et al. 2008 ¹⁴	1	MRI	s	Paramedian thalamic (bilateral)	14
* Nersesjan et al. 2020 ¹⁵	6	MRI/C T	m x5; s x1	ICA territory (r) x3, MCA territory (r) x3	4, 5, 8, 13, 18, 24
Raibagkar et al. 2017 ¹⁶	1	MRI	b	Midbrain tegmentum (bilateral)	27
Sakajiri et al. 1995 ¹⁷	1	MRI	m	MCA territory (r)	10
Verghese et al. 1999 ¹⁸	1	CT	s	Putamen (l)	17
Waragai et al. 1996 ¹⁹	1	MRI	m	MCA territory (r)	22
B – brainstem, ICA – internal carotid artery, l – left, MCA – middle cerebral artery; m – mixed cortical/subcortical; r – right, s- subcortical, * six cases prospectively identified at the authors' institution					

Table S2. Forty-five stroke cases of hemiballismus included in lesion-network-mapping analysis

Source	N	Imaging	Location	Lesion	Depiction in Figure 2
Ahn and Kwon 2017 ^{20*}	1	MRI	s	Striatocapsular area (l)	22
Aiba et al. 2021 ²¹	1	MRI	s	Striatum (l)	38
Bacchini et al. 2018 ²²	1	MRI	s	Thalamus (l)	23
Bembenek et al. 2015 ²³	1	MRI	s	Globus pallidus (r)	34
Bertamino et al. 2021 ²⁴	1	MRI	s	Medial thalamus (l)	25
Carbayo et al. 2020 ²⁵	4	MRI	m; c; c; c	Parietal and posterior frontal cortices, sparing the basal ganglia (r); insular, frontal, and postcentral gyrus (l); parietal and insular cortex, with complete sparing of the basal ganglia (r); temporal, and parietal cortex (l)	8, 12, 9, 19
Chen and Xu 2020 ²⁶	1	MRI	s	Globus pallidus (r)	33
Cotroneo et al. 2020 ²⁷	3	MRI	m; m; c	Frontoparietal cortical and subcortical region (r); frontoparietal and insular cortex (r); frontal-parietal-insular cortex (l)	5, 18, 6
Damani et al. 2015 ²⁸	1	MRI	s	Lentiform nucleus (l)	35
Disserol et al. 2020 ²⁹	1	MRI	m	Insular cortex and capsula extrema (r)	36
Ganapa et al. 2019 ³⁰	1	MRI	s	Thalamus and subthalamic nucleus (r)	27
Grassl et al. 2022 ³¹	1	MRI	s	Subthalamic nucleus extending to the anterior thalamus (l)	45
Hernandez Fustes et al 2020 ³²	1	CT	m	Temporo-parietal lobe (r)	17
Hodde et al. 2017 ³³	1	CT	s	Thalamus (l)	42
Huang and Gho 2021 ³⁴	1	MRI	s	Centrum semiovale (r)	4
Kannepalli et al. 2016 ^{35**}	1	MRI	m	ICA territory with sparing of the thalamus and part of the lentiform nucleus (r)	16
Kato et al. 2021 ³⁶	1	MRI	c	Postcentral gryus and posterior part of insula (r)	3

Kurihara et al. 2021 ^{37***}	1	MRI	s	thalamic hemorrhage expanded to the subthalamic nucleus (r)	43
Li et al. ^{38**}	1	MRI	s	Dorsal thalamus and cerebral peduncle (l)	44
Maruyama et al. 2021 ³⁹	1	MRI	c	Insular cortex and parietal cortex (l)	20
Miller et al. 2018 ⁴⁰	1	MRI	s	Thalamus and adjacent to the atria of lateral ventricle (l)	21
Miura et al. 2017 ⁴¹	1	CT	s	Thalamus (l)	24
Motolese et al. 2020 ⁴²	1	MRI	m	Temporo-parietal lobes and insular cortex (l)	14
Muguruma et al. 2019 ⁴³	1	MRI	m	Parasagittal frontal cortex and posterior horn of lateral ventricle (r)	7
Muhammad et al. 2019 ⁴⁴	1	CT	s	Parietal white matter (l)	10
Noda et al. 2015 ⁴⁵	1	MRI	s	Subthalamic nucleus (l)	40
Nohria et al. 2021 ⁴⁶	1	MRI	s	Cerebral peduncle (r)	41
Onder 2017 ⁴⁷	1	MRI	s	Posterior putaminal region (r)	13
Onder 2019 ⁴⁸	1	MRI	s	Centrum semiovale (r)	1
Qiu et al. 2018 ⁴⁹	1	MRI	s	Putamen (r)	15
Shahali et al. 2022 ⁵⁰	1	MRI	s	Thalamus (l)	28
Shiraiwa et al. 2020 ⁵¹	3	MRI	s; s; s	Globus pallidus (r); globus pallidus (r); globus pallidus and putamen (r)	39, 26, 37
Shresta et al. ⁵²	1	MRI	c	Posterior parietal cortex (l)	2
Sikri et al. 2016 ⁵³	1	MRI	s	Thalamus (r)	29
Strauss et al. 2019 ⁵⁴	1	MRI	c	Parieto-occipital cortex (l)	11
Tatum et al. 2021 ⁵⁵	1	MRI	c	Temporal and insular cortex (l)	30
Tolla et al. 2020 ⁵⁶	1	MRI	s	Internal capsule, basal ganglia (l)	31
Ueta et al. 2021 ⁵⁷	1	MRI	s	Putamen (r)	32

ICA – internal carotid artery, l – left, MCA – middle cerebral artery; m – mixed cortical/subcortical; r – right, s- subcortical, * nocturnal hemiballismus, ** hemiballismus ipsilateral to the lesion, *** crossed hemiballismus (left upper, right lower limbs)

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