

Supplementary Table 1. Systematic review focused on Kernohan-Woltman phenomenon in MEDLINE database : patients' complete data

No.	Study	Age/sex	Medical history : etiology	Neurological examination			Urgent imaging	Post-operative examination		Diagnostic imaging : timing weeks	Evoked potentials	Neurological sequelae	Follow-up (months)
				GCS	CN III deficit	Focal symptoms/IH		Surgery	Post-op imaging				
1	Cohen and Wilson ⁶⁰ (1990)	M/19	Car crash HT	4	Left mydriasis		CT left EDH	Craniotomy		MRI 1		Mild left hemiparesis, dysarthria	0.2
2	Jones et al. ³⁰ (1991)	M/25		14 V4	Right oculomotor	Right hemiparesis and Δ	CT right ASH	Craniotomy	MRI			Mild left hemiparesis	0.3
3	Iwama et al. ²⁷ (1992)	M/39	Aneurysm	3	Bilateral mydriasis		CT left ASH+aneurysm	Craniotomy clipping		MRI 13.5		Left hemiparesis	0.2
4	Itoyama et al. ²⁶ (1995)	M/69	HT		Chronic left hemiparesis	MRI deformation right cp	CT left CSH	Burr hole		MRI 1.3		Favorable	0.3
5	Wolf et al. ⁵⁹ (1995)	M/39	Assault HT	Drowsy	Yes (oculomotor)	Left hemiparesis	CT left ASH	Craniotomy (wrong side : on the right)	CT			Favorable	
6	Clement and Shere ⁶¹ (1996)	M/36	Assault HT				CT left EDH			MRI 13.5		Left hemiparesis, dysphasia, naming, memory	3
7	Namura et al. ⁴¹ (1997)	F/16	Car crash HT	5 M3	Right mydriasis		CT right ASH	Craniectomy		MRI 4.5	Right hemiparesis, Δ Rright quadransopia	Right hemianopsia	12
8	Zafonte and Lee ⁶² (1997)	M/42	Assault HT	4	Right, oculomotor	Right hemiparesis	CT right ASH	Craniotomy		MRI 2		Right hemiparesis 4+/5	1.5
9	Zafonte and Lee ⁶⁰ (1997)	M/16	Car crash HT	3			CT left ASH	Craniotomy		MRI 2		Right hemiparesis 4+/5	1.5
10	Mastronardi et al. ⁴⁰ (1999)	F/73	Stair fall HT	4 M2	Left mydriasis		CT right ASH	Craniotomy		MRI 2		Right severe hemiparesis	2
11	Hamada et al. ²⁹ (2000)	M/52	Fall HT	4 M2			CT left ASH	Craniotomy		MRI 5	Left hemiparesis	Left hemiparesis	0.2
12	Kole and Hysell ³³ (2000)	M/29	Boxing HT	3	Right mydriasis		CT right ASH	Craniotomy		MRI		Right hemiparesis	
13	Schedler and Geary ⁴⁹ (2002)	M/38	Assault HT	Coma	Right mydriasis	Right hemiparesis	CT right ASH	Craniotomy				Mild right hemiparesis	0.2

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No.	Study	Age/sex	Medical history: etiology	Neurological examination			Urgent imaging	Surgery	Post-op imaging	Post-operative examination		Evoked potentials	Neurological sequelae	Follow-up (months)
				GCS	CN III deficit	Focal symptoms/HT				CN III deficit	Focal symptoms			
14	Binder et al. ² (2004)	M/21	Car crash HT	6M4			CT left temporal depressed fracture Cerebral contusion	EVD		Left hemiparesis	MRI 2	Motor	Left hemiparesis, tracheotomy	
15	Evans et al. ¹⁵ (2004)	M/27	Stair fall HT	3	Bilateral mydriasis		CT left ASH	Craniectomy			MRI 40		Left parkinsonism	12
16	Fujimoto et al. ¹⁷ (2004)	F/23	AVM	4, M2	Left mydriasis		CT left ASH and parietal ICH DSA left AVM	2 craniotomies AVM excision	Left oculomotor	Left hemiparesis			Favorable	1
17	Giménez-Pando et al. ²⁰ (2004)	M/34	Fall HT	4, M2	Left mydriasis		CT left EDH	Craniotomy	Left	Left hemiparesis	MRI 2		Left hemiparesis	1
18	Openshaw ⁴³ (2005)	F/32	Lk spinal tap	Drowsy	Left mydriasis	Headaches 4 days	CT left ASH	Craniotomy	MRI	Left hemiplegia			Left hemiparesis	32
19	Moon et al. ⁴⁰ (2007)	F/56	HT	11	Right mydriasis	Right hemiparesis, headaches 5 days	CT right CSH	Trephination	Normal	Normal	MRI 1		Favorable	0.2
20	Moon et al. ⁴⁰ (2007)	M/70	Aneurysm clip	9		Left hemiparesis, aphasia	MRI left CSH	Trephination					Hemiparesis 3/5	
21	Oster et al. ⁴⁴ (2007)	M/55	Arachnoid cyst	15		2 years left facial palsy and falls	MRI right sylvian arachnoid cyst	Craniotomy Marsupialized			MRI 31		Favorable	12
22	Yoo et al. ⁶¹ (2008)	M/78					CT right ASH	EVD			MRI 6, diffusion tensor	Motor	Severe right hemiparesis	12
23	Carrasco et al. ⁵¹ (2009)	F/81	AF anticoag HT	7	Right mydriasis	Right hemiplegia	CT right ASH	Craniotomy		Right hemiplegia	MRI 4		Severe right hemiparesis	3
24	Esa and Bell ⁶⁴ (2010)		HT				CT left fronto-temporal contusions			Left upper limb paresis	MRI		Left hemiparesis	
25	Uesugi et al. ⁵⁶ (2010)	M/19	Boxing HT	7, M4	Left mydriasis	Left hemiplegia	CT left ASH	Craniotomy	Normal		MRI 1		Left hemiparesis	0.8
26	Codd et al. ⁹ (2013)	F/81	CAI fall HT	13 M6V4E3	Right (oculomotor)	Right hemiparesis	CT right ASH	Craniectomy	MRI	Right hemiparesis	MRI		Favorable	3
27	Jang and Pyun ²⁸ (2013)	M/67	Assault HT	3			CT right ASH	Craniectomy		Right hemiparesis normal 2/5, Δ	MRI 0.7, MRI 4, diffusion tensor		Right hemiparesis and Δ	15

Supplementary Table 1. Continued

No.	Study	Age/sex	Medical history: etiology	Neurological examination			Urgent imaging	Surgery	Post-op imaging	Post-operative examination		Diagnosing: timing weeks	Evoked potentials	Neurological sequelae	Follow-up (months)
				GCS	CN III deficit	Focal symptoms				CN III deficit	Focal symptoms				
28	Jang and Pyun ²⁸⁾ (2013)	F/25	Assault HT	10			CT left ASH and frontal ICH	Craniectomy		Left hemiparesis 2/5	MRI 1.3, diffusion tensor	Left hemiparesis 4/5		15	
29	Mejia Kattah et al. ²⁷⁾ (2014)	M/40	HT	4, M2	Right mydriasis		CT right EDH	Craniotomy			MRI 0.7	Right hemiparesis		1	
30	Panikathet al. ⁴⁰⁾ (2013)	F/69	Alzheimer	Coma			CT right CSH	Burr hole		Right hemiplegia	MRI deformation Right cp	Right hemiplegia			
31	Carrasco-Moro et al. ⁶⁾ (2014)	M/18	Motorcycle HT	8			CT bilateral EDH and contusions	Bifrontal craniectomy		Right hemiparesis 3/5	MRI 2.2 right sinking Skin flap syndrome	Favorable after cranioplasty			
32	Simonin et al. ⁵⁰⁾ (2014)	M/69		3	Left mydriasis		CT left ASH	Craniotomy		Left (mydriasis, oculomotor)	MRI 2	Slight left hemiparesis		6	
33	Çabalar et al. ³⁾ (2015)	M/43	CAI HT	13	Right mydriasis		CT right CSH	Burr hole	MRI			Slight right hemiparesis		3	
34	Velasquez et al. ⁵⁵⁾ (2015)	F/55	Glioma				1 year falls, cogn impairment, fronto-temporal left high grade glioma	Craniotomy Biopsy							
35	Dibble et al. ¹³⁾ (2015)	F/31	AVM	Coma	Left mydriasis		CT left ASH and ICH from AVM	Craniectomy	MRI			Slight left hemiparesis 4+/5		24	
36	Yogarajah et al. ⁶⁰⁾ (2015)	M/19	Thalassemia	Coma			CT right EDH	Craniotomy		Mild right hemiparesis	MRI Splenium infarction	Mild right hemiparesis			
37	Chang ⁷⁾ (2016)	M/30	Car crash HT				Left hemiparesis				MRI left temporal and splenium DAI				
38	Zhang et al. ⁶³⁾ (2017)	F/56	MM, anticoag	6, M4	Left mydriasis		CT left ASH and temporal ICH	Craniotomy		Left hemiparesis	MRI 1	Slight left upper limb paresis		6	
39	Jang et al. ²⁹⁾ (2017)	M/51	Aneurysm				CT Fisher 4 SAH right MCA aneurysm with ICH	Craniectomy Colling		Locked-in syndrome	MRI 13, diffusion tensor			3	
40	Ozturk et al. ⁴⁵⁾ (2017)	M/9	Car crash HT	8, M4	Left mydriasis		CT left EDH	Craniotomy		Left hemiplegia	MRI 1	Favorable		36	

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No.	Study	Age/sex	Medical history: etiology	Neurological examination			Urgent imaging	Surgery	Post-op imaging	Post-operative examination		Fol- low-up (months)
				GCS	CN III deficit	Focal symptoms				Diagnosing: timing weeks	Evoked potentials	
41	Mohseni et al. ³⁶ (2017)	M/24	Multiloculated Hydrocephalus	13	Right mydriasis	Right hemiparesis	MRI multiloculated Right lateral ventricle	EVD then VPS	Normal	Right hemiparesis	MRI 1 left SCA stroke	1.5 Favorable
42	Gobert et al. ²¹ (2018)						CT left parietal ICH	Craniotomy			MRI 3.5	Somatosensory
43	Gobert et al. ²¹ (2018)	HT			Delayed left mydriasis		CT right ASH	Late craniotomy			MRI 2	Somatosensory Favorable
44	Carlstrom et al. ⁴ (2020)	M HT					CT right ASH	Craniotomy	Right ptosis, left (mydriasis, oculomotor)	Right hemiplegia	MRI 0.1	
45	Gimarc and Massagil ⁵⁹ (2020)	M/9	Fall HT	Drowsy	Right hemiparesis		CT right CSH	Craniotomy		Right hemiplegia	MRI 1.3	
46	Gimarc and Massagil ⁵⁹ (2020)	M/19	Fall HT	Coma	Right mydriasis		CT right ASH	Craniotomy		Right hemiplegia		
47	Ten Harmsen et al. ⁵² (2020)	F/62	Breast cancer, CA, HT	Conscious	Right mydriasis	Right hemiparesis 4/5 and Δ	CT right ASH	Burr hole 1 week	Normal	Right hemiparesis	MRI	
48	Leever ⁴ (2020)	M/19	AF, diabetes, stroke	Secondary coma		Slurred speech, left hemiplegia	CT right malignant MCA stroke	Craniotomy			MRI right PCA and left SCA stroke	Death
49	Leever ⁴ (2020)	F/55	Diabetes	Coma			CT left ASH	Craniotomy			MRI left PCA and right SCA stroke	Death
50	Ueda et al. ⁵³ (2021)	F/24	AVM	3	Right mydriasis	Seizure	CT right ASH and frontal ICH DSA AVM	Craniotomy AVM embolization AVM excision		Mild right hemiparesis	MRI 1	2 years delayed parkinsonism
51	Lim et al. ³⁵ (2021)	F/47	Assault HT	3			CT left ASH	Craniotomy		Left hemiplegia	MRI 3 years, diffusion tensor	Motor and somatosensory hemiparesis 2/5 and Δ

GCS : Glasgow coma scale, CN III : third cranial nerve, oculomotor nerve, ICH : intracranial hemorrhage, HT : head trauma, EDH : epidural hematoma, MRI : magnetic resonance imaging, Δ : pyramidal syndrome, CT : computed tomography, ASH : acute subdural hematoma, CSH : chronic subdural hematoma, F : female, EVD : external ventricular drain, AVM : arteriovenous malformation, ICH : intracerebral hemorrhage, DSA : digital subtraction angiography, Lk : leukemia, AF : atrial fibrillation, anticoag : anticoagulant therapy, CAI : chronic alcohol intake, cp : cerebral peduncle, DAI : diffuse axonal injury, MM : multiple myeloma, SAH : subarachnoid hemorrhage, MCA : middle cerebral artery, VPS : ventriculoperitoneal shunt, PCA : posterior cerebral artery, SCA : superior cerebellar artery