

Table S1 Detailed description of the references containing patient data

Authors	Refs	Age/ Gender	Relevant medical history	Surgical procedure	Dural opening/Tear	Onset of symptoms after surgery	Imaging reported	Hemorrhage location	Associated complications	Additional treatments	Outcome
Chaddock <i>et al.</i> (1981)	(1)	59/M	Hypertension	Cervical laminectomy C3–C6, sitting position	+	Day 2	CT	Left cerebellar hemisphere	Hydrocephalus	Ventriculostomy, craniectomy and excision neural arches C1–C2	Lower limbs spasticity
Mikawa <i>et al.</i> (1994)	(2)	75/M	Atlantoaxial subluxation and Gallie-type posterior fusion	C1 hemilaminectomy and removal of fragment	+	16 hours,	CT and MRI	Right cerebellar hemisphere and subarachnoid spaces	Hydrocephalus	Ventriculostomy, craniectomy, repair of CSF leak	Death of distress respiratory syndrome after pneumonia
Andrews and Koci (1995)	(3)	36/M	Three spinal surgeries	Harrington rod placement	+	36 hours	CT and MRI	Both cerebellar hemispheres	Hydrocephalus, tonsillar herniation	Ventriculostomy, removal of surgical drain	Quadriplegia
Burkhard <i>et al.</i> (2000)	(4)	71/M	Na	Right L5–S1 discectomy	None	3 weeks	CT and MRI	Bilateral subacute subdural hematomas	Na	Conservative	Na
Satake <i>et al.</i> (2000)	(5)	62/M	Na	Tumor resection, prone position	+	18 hours	Na	Cerebellum and subarachnoid spaces	Cervical subcutaneous CSF cyst	Suboccipital craniotomy	No neurologic deficit
Morandi <i>et al.</i> (2001)	(6)	34/M	None	Surgical removal of a cervical schwannoma	+	Na	Na	Infra- and supratentorial intracerebral hemorrhage	None	Conservative	Na
Friedman <i>et al.</i> (2002)	(7)	43/M	None	Discectomy, prone position	+	12 hours	CT	Cerebellar vermis and right hemisphere	None	Conservative	Slight dysarthria and gait ataxia
Friedman <i>et al.</i> (2002)	(7)	56/F	None	Decompressive laminectomy	Na	Day 2	CT and MRI	Cerebellar vermis and both hemispheres	Pseudomeningocele at L3 and L5	Surgical repair of dural tear	Mild dysarthria and ataxia
Lu <i>et al.</i> (2002)	(8)	59/F	Hypertension and diabetes mellitus	L5–S1 posterior laminectomy	+	4 days	CT	A large subdural hematoma over the right convexity	None	Emergent right-parietal burr-hole with drainage	No
Thomas <i>et al.</i> (2002)	(9)	38/F	Na	T11–L1 laminectomy, tumor excision	+	Day 1	CT and MRI	Right cerebellar hemisphere and temporal lobes	None	Conservative	No
Sciubba <i>et al.</i> (2005)	(10)	55/F	None	Anterior L3 corpectomy	+	7 Days	CT	Left frontal, parietal, and temporal lobes	None	Evacuation of the large left convexity subdural hematoma	No
Kuhn <i>et al.</i> (2005)	(11)	46/M	Lumbar discectomy at L5/S1 3 years ago	Sequestra at L5/S1 were excised	Na	2 weeks	MRI	Subdural hematoma	Pseudomeningocele	Conservative	Complete absorption
Farag <i>et al.</i> (2005)	(12)	43/F	L5–S1 fusion	L4–S1 and lateral fusion with iliac crest autograft	+	36 hours	MRI	Cerebellar hemispheres	Cerebral edema, lumbar pseudomeningocele	Ventricular catheter placement, closure of dural tear	Low back pain, right lower extremity pain and diplopia
Nakazawa <i>et al.</i> (2005)	(13)	74/F	Atrial fibrillation	Laminectomy, durotomy and tumor resection	+	Abnormal response to verbal commands and right-sided hemiplegia	CT	Cerebellar vermis and right hemisphere	None	Convexity subdural hematoma	Mild gait ataxia
Karaeminogullari <i>et al.</i> (2005)	(14)	73/F	Hypertension	Spinal decompression at the L3–L4 and L4–L5 levels	+	Day 2	CT	Left cerebellar hemisphere	Hydrocephalus	Evacuation of hemorrhage and arteriovenous malformation	Mild ataxia
Brockmann <i>et al.</i> (2005)	(15)	52/F	None	Spinal fusion of L5–S1	+	After extubation, lower back pain and comatose state	CT	Cerebellar hemispheres, lateral ventricles, precallous cistern	Air in the basal cisterns and hydrocephalus	Ventricular drain causing erosion of the right pericallosal artery	Death of central respiratory paralysis
Konya <i>et al.</i> (2005)	(16)	48/F	Na	L3–L5 laminectomy, L4–L5 discectomy. Prone position	+	12 hours	CT	Both cerebellar hemispheres	None	Conservative	No
Chalela <i>et al.</i> (2006)	(17)	62/F	Hyperlipidemia	L3–L5 laminectomy, L4–L5 discectomy. Prone position	+	4 hours	CT and MRI	Cerebellar hemispheres	Hydrocephalus	Ventriculostomy	No

Table S1 (*continued*)

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Ozturk <i>et al.</i> (2006)	(18)	23/F	Na	Rod placement for thoracolumbar scoliosis	+	6 hours	CT and MRI	Infra- and supratentorial hemorrhages	Pneumocephalus	Operation	Na
Calisaneller <i>et al.</i> (2007)	(19)	67/F	L4–L5 discectomy	L5 laminectomy, L4–S1 pedicles fixations	+	Day 8	MRI	Cerebellar hemispheres	None	Conservative	No
Cevik <i>et al.</i> (2009)	(20)	79/F	Na	L4 laminectomy, L5 bilateral foraminectomy	Na	Day 3	CT	Cerebellar hemispheres	Pneumocephalus	Conservative	No
Cevik <i>et al.</i> (2009)	(20)	68/F	None	L5 laminectomy, L5–S1 foraminectomy, L4–S1 pedicles fixation.	Na	Day 7	CT and MRI	Cerebellar vermis and hemispheres	None	Conservative	No
Nam <i>et al.</i> (2009)	(21)	61/M	None	Partial hemilaminectomy and discectomy	+	Day 1	CT	Cerebellar vermis and hemispheres, 3rd and 4 th ventricle	Hydrocephalus, pneumocephalus	Craniectomy	Mild cerebellar signs
Morofuji <i>et al.</i> (2009)	(22)	51/M	Na	T9–T10 laminectomy and ligamentum flavum resection	+	Day 2	CT	Cerebellar hemispheres	Hydrocephalus	Repair of dura, craniectomy, laminectomy and ventriculostomy	No
Beier <i>et al.</i> (2009)	(23)	39/F	None	L5–S1 microdiscectomy	+	4 weeks	MRI	Right chronic frontoparietal SDH	Lumbar pseudomeningocele	Repair of dural	No
Pallud <i>et al.</i> (2009)	(24)	73/F	None	L5-S1 laminectomy and fusion	None	Day 3	CT	Cerebellar hemorrhage	Hydrocephalus and pneumocephalus	Emergent external ventriculostomy and drain was removed	No
Surash <i>et al.</i> (2009)	(25)	19/F	Cerebellar medulloblastoma	T4-T5 laminotomy	+	Immediately after the operation, bilateral fixed and dilated pupils	CT	Bilateral extradural hematoma	None	Left pterional craniotomy	No
Gul <i>et al.</i> (2010)	(26)	64/F	Two spinal surgery at L3–L4	L3–L4 laminectomy, L3–L5 discectomy and fixation	+	36 hours	CT	Right cerebellar hemisphere	Hydrocephalus	Craniectomy, external ventricular drain, ventriculoperitoneal shunt.	Gait ataxia, left foot drop and diplopia
Jung, <i>et al.</i> (2010)	(27)	58/M	None	Lumbar interbody fusion	None	3 Days	CT	Acute subdural hematomas at the frontoparietal area, bilaterally	None	Conservative	Recovery
Sasani <i>et al.</i> (2010)	(28)	47/F	T12–L2 laminoplasty	Surgical repair of dura and lumbo-peritoneal shunt	+	Day 12	MRI	Cerebellar hemispheres	None	Conservative	No
Migliis <i>et al.</i> (2010)	(29)	46/F	Migraine headaches	Anterior cervical discectomy and fusion of C4–C7	+	15 hours	CT and MRI	Intracerebral hemorrhage in the left inferior temporal lobe	None	Conservative	No
Yang <i>et al.</i> (2011)	(30)	56/F	Hysterectomy	L3-L4 Spine fusion	Na	21 hours	CT	Both cerebellar hemorrhage	None	Emergent decompressive craniotomy	Ataxia and aphasia
Fernandez- Jara <i>et al.</i> (2011)	(31)	58/F	None	L5–S1 laminectomy and pedicles fixation	+	36 hours	CT and MRI	Cerebellar hemispheres	None	Conservative	No
Khalat bari <i>et al.</i> (2012)	(32)	53/M	None	Discectomy at L4–L5 level in prone position	+	8 hours	CT and MRI	Bilateral hemorrhagic of the cerebellar	None	Conservative	No
Khalat bari <i>et al.</i> (2012)	(32)	75/M	Hypertensive	L1–L5 laminectomy	+	3 hours	CT	Vermis and bilateral cerebellar hemorrhagic	Hydrocephalous	Ventriculostomy	Death
Khalat bari <i>et al.</i> (2012)	(32)	34/F	None	L4–L5 discectomy	None	5 days	MRI	Right frontoparietal subdural hematoma (SDH)	None	Conservative	No

Table S1 (continued)

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Khalat bari <i>et al.</i> (2012)	(32)	29/M	None	L4–L5 discectomy	+	1 day	MRI	Left parietal EDH	None	Conservative	No
You <i>et al.</i> (2012)	(33)	63/M	Hypertension, L5–S1 discectomy, L3–L5 laminectomy and fusion	Surgical repair of dural laceration, prone position	+	Upon awakening from anesthesia, headache	CT and MRI	Cerebellar hemispheres and right temporal lobe	CSF leakage	Conservative	No
Hempelmann and Mater (2012)	(34)	61/F	Breast cancer	T1–T4 hemilaminectomy	+	Day 1	MRI	Right cerebellar hemisphere	Thoracic epidural hematoma	Evacuation of thoracic hematoma	Na
Hempelmann and Mater (2012)	(34)	69/F	Intervertebral fusion at L4–L5	L3 laminectomy, L3–L4 intervertebral fusion	+	Day 1	MRI	Left cerebellar hemisphere and left temporo-occipital cortex	Unrecognized second CSF leak	Surgical repair of CSF leak	No
Hempelmann and Mater (2012)	(34)	62/F	Morbid obesity, L4–L5 decompressive surgery	L2–L4 laminectomy (abandoned)	+	Day1	CT	Cerebellar hemispheres, parieto-occipital lobes	Pneumocephalus, dural fistula	Surgical repair of a large dural fistula	Complete recovery
Lee <i>et al.</i> (2012)	(35)	63/F	Hypertension, L4–L5 fusion and Discectomy	L3–L4 intervertebral fusion	+	55 minutes	CT	Cerebellar hemispheres	None	Conservative	No
Kaloostian <i>et al.</i> (2013)	(36)	45/M	Hypertension, C6 corpectomy, posterior stabilization	Surgical revision	+	Impaired breathing and confusion	Na	Cerebellum	None	Conservative	No
Kaloostian <i>et al.</i> (2013)	(36)	63/M	Diabetes mellitus	Laminectomy and intervertebral fusion	+	Day 2	Na	Cerebellar hemispheres	Brainstem compression	Conservative	No
Kaloostian <i>et al.</i> (2013)	(36)	64/F	Na	Decompression and fusion L1–S1	+	Day 2	Na	Cerebellum	Brainstem compression, hydrocephalus	None	Death
Kaloostian <i>et al.</i> (2013)	(36)	77/M	Ankylosing spondylitis	T11–S1 fusion, L2 pedicle subtraction osteotomy	+	2 hours	Na	Cerebellum and intraventricular	Slight enlargement, fourth, lateral ventricles	Ventriculostomy	Cognitive deficit and impaired functional mobility
Kaloostian <i>et al.</i> (2013)	(36)	81/F	Na	L4–L5 decompression and fusion	+	Day 1	Na	Left cerebellar hemisphere	Hydrocephalus	Hemorrhage evacuation, ventriculostomy	Death
Cavanilles-Walker <i>et al.</i> (2013)	(37)	65/F	None	L2–L5 postero-lateral fusion and decompression, L3–L5 interbody fusion	+	48 hours	CT and MRI	Hemorrhagic transformation of ischemic infarct in both cerebellar hemispheres	Hydrocephalus	Decompressive suboccipital craniectomy, external ventricular derivation	Slight dysmetria and transitory subjective vertigo
Huang <i>et al.</i> (2013)	(38)	33/M	C3–C5 discectomy and fusion	C3–C6 laminectomy, prone position	+	Postsurgical delayed awakening and generalized seizure	CT	Cerebellar hemispheres	Mild pneumocephalus	Conservative	Complete recovery
Huang <i>et al.</i> (2013)	(38)	68/M	Na	C2–C7 laminectomy, prone position	+	Day 2	CT	Cerebellar hemispheres	Hydrocephalus	Conservative	Complete recovery
Huang <i>et al.</i> (2013)	(38)	49/M	Na	C3–C7 laminectomy and tumor excision	+	Day 5	CT	Cerebellar hemispheres	Hydrocephalus	Conservative	Complete recovery
Huang <i>et al.</i> (2013)	(38)	59/F	Na	C2–C5 laminectomy, prone position	+	6 hours	CT	Left cerebellar hemisphere	None	Suboccipital decompressive craniectomy	Complete recovery
Huang <i>et al.</i> (2013)	(38)	55/M	Cervical discectomy and fusion at C3–C5	C2–C5 laminectomy, prone position	+	Day 2	CT	Both cerebellar hemispheres	Hydrocephalus	Suboccipital decompressive craniectomy	Weakness of the extremities
Yoo <i>et al.</i> (2013)	(39)	66/M	None	L1–L2 laminotomy and discectomy	+	2 days	CT	Cerebellar hemispheres	None	Suboccipital craniotomy and right hematoma evacuation	No

Table S1 (continued)

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Utku <i>et al.</i> (2013)	(40)	57/M	None	T12-L5 laminectomy	+	In the early postoperative period, intense headache, nausea, vomiting, and stiff neck	CT and MRI	Left cerebellar hemisphere and right frontotemporal region	None	Conservative	Complete recovery
Mallio <i>et al.</i> (2014)	(41)	75/M	Hypertension under treatment	Decompressive laminectomy	Na	11 hours	CT and MRI	Cerebellar hemispheres, right ventricle and subarachnoid spaces	Hydrocephalus	External ventricular drain and conservative treatment	Spastic hypertonia lower limbs, mental confusion, disorientation
Yilmaz <i>et al.</i> (2015)	(42)	57/F	L2-S1 lumbar laminectomy and fusion	T11-L1 laminectomies and T10-S1 posterior spinal fusion	+	48 hours	CT	Right parietal lobe hemorrhage, subarachnoid hemorrhage, and bilateral cerebellar hemorrhages	Pneumocephalus	Removal of the hemovac drain and closing of the drain exit site, conservative treatment	Died of aspiration pneumonia and sepsis
Tan <i>et al.</i> (2018)	(43)	76/F	None	L3-S1 laminectomies and fusion	+	Day 2	CT	Intraventricular hemorrhage	Hydrocephalus	External ventricular drain	Recovery
Floman <i>et al.</i> (2015)	(44)	75/F	Type 2 diabetes	L2-L5 decompressive laminectomy and fusion	+	9 days	CT	Left cerebellar hemisphere	Na	Conservative	Recovery
Floman <i>et al.</i> (2015)	(44)	67/F	Type 2 diabetes	L4-5 decompression and fusion	+	5days	CT and MRI	Bilateral cerebellar hematoma	Na	Conservative	Recovery
Floman <i>et al.</i> (2015)	(44)	56/M	Type 2 diabetes mellitus and hypertension	T10-S1 decompression and fusion	+	36 hours	CT	Cerebellum	Na	Na	Recovery
Haller <i>et al.</i> (2015)	(45)	58/F	None	L3-L4 decompressive laminectomy and posterior instrumented spinal fusion	None	Day 3	MRI	Bilateral cerebellar hemorrhage	None	Repair the dural defect	Recovery
Kim <i>et al.</i> (2015)	(46)	60/F	None	laminectomy with L4-L5, L5-S1	+	Day 8	MRI	Right cerebellar and vermis hemorrhage	None	Conservative	Recovery
Watanabe <i>et al.</i> (2015)	(47)	79/M	None	Tumor removal and posterolateral fusion	+	5 days	CT	Cerebellum and the temporal lobe	None	Emergent evacuation of the hematoma	None
Suzuki <i>et al.</i> (2015)	(48)	57/F	None	Tumor remove through a laminectomy of T2-T4 and a facetectomy of T2-T3 and T3-T4	+	12 hours	CT and MRI	The superior folia of the cerebellar hemispheres	None	Conservative	Right leg hypoesthesia
Pham <i>et al.</i> (2016)	(49)	50/F	None	T10-L2 posterior spinal fusion	+	Day 5	CT and MRI	Cerebellar hemorrhage	None	Conservative	Recovery
Guryil dirim <i>et al.</i> (2016)	(50)	76/F	Hypertension, Transient Ischemic Attacks (TIA)	Lumbar spinal decompression surgery	+	5 hours	CT and MRI	Intraventricular hemorrhage	None	External ventricular drain	Recovery
Numaguchi <i>et al.</i> (2019)	(51)	71/M	None	Tumorectomy	+		CT	Cerebellum	None	Conservative	Na
Numaguchi <i>et al.</i> (2019)	(51)	75/F	None	L4-5 posterior interbody fusion	+		CT	Cerebellum	None	Conservative	Na
Numaguchi <i>et al.</i> (2019)	(51)	19/F	None	T4-L3 posterior lateral fusion	+		CT	Interhemispheric fissure	None	Conservative	Na
Numaguchi <i>et al.</i> (2019)	(51)	84/M	None	T11,12 and L3,4 laminectomy	+		CT	Cerebellum	None	Conservative	Na

Table S1 (continued)

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Martínez-Lage (2015)	(52)	6/M	Cauda equina syndrome	Bilateral posterior sacral laminectomy	+	3 days	CT, MRI	A left convex subdural hematoma		Conservative treatment, bed rest, intravenous fluid, plus dexamethasone treatment	Recovery
Tan <i>et al.</i> (2018)	(43)	76/F	Diffuse lumbar disease and stenosis	L3-S1 laminectomy and posterolateral fusion	+	Day 2	CT	Lateral ventricle and third ventricle catheters and fourth ventricle Intraventricular hematoma (IVH)	Obstructive hydrocephalus	The external ventricular drainage tube (EVD) was placed at high open pressure for 8 days	Recovery
Işik, <i>et al.</i> (2016)	(53)	81/M	Lumbar L4S1 segment stenosis	L4 and L5 laminectomy	+	About 50 days	MRI	Bilateral subdural hematoma		Borehole drainage Dural repair	Recovery
Berry <i>et al.</i> (2018)	(54)	56/F	Severe narrowing of the right foramen of C5-C6	Anterior cervical discectomy, removal of C5 and C6 osteophytes, prosthetic disc replacement, bilateral foramen resection of C5 and C6, and anterior spinal fusion of C5 and C6	-	24 hours	MRI	Bilateral acute basal ganglia hemorrhage with ventricular enlargement and a small amount of subarachnoid hemorrhage in the cerebral hemisphere. The second hematoma dilates in the parenchyma of the right basal ganglia	Ventricle inflammation	Emergency intubation and emergency placement of outdoor drainage (EVD). Ventriculoperitoneal shunt was performed posterior	Left hemiplegia
Chauvet <i>et al.</i> (2014)	(55)	51/F	T2 and L3 round schwannomas L4 dumbbell schwannoma	Combined extracapsular extraction of L3 intradural masses L4 partial facial resection	-	Day 1	CT	Bleeding in both hemispheres of the cerebellum	Acute hydrocephalus	Emergency external ventricular drainage and posterior fossa craniectomy	Recovery
Grahovac <i>et al.</i> (2011)	(56)	58/F	Lumbar l3-L4 segment disc herniation, lumbar canal stenosis	Bilateral L3-L4 interlaminectomy and L3-L4 discectomy, prone position	+	4 hours	CT	There is an epidural hematoma in the right parietal occipital region		Surgery, craniotomy and hematoma removal	Good condition, without headache, cerebrospinal fluid leakage, or nerve injury.
GUPTA <i>et al.</i> (1985)	(57)	62/M	L3-l4 lumbar spinal stenosis	L3-L4-L5, laminectomy, facial resection and pore resection	-	After 2 weeks	CT	Chronic subdural effusion		Oral prednisone 60mg treatment	None
Hashidate, <i>et al.</i> (2008)	(58)	85/F	T6 level malignant peripheral schwannoma compresses the spinal cord from the left	Laminectomy T5-7, excision of epidural tumor, supine position	-	40 hours	CT	Hemorrhage into the vermis and bilateral hemispheres		Conservative treatment with anti-edematous drugs was performed, but surgical treatment was not effective	recovery
Hofler <i>et al.</i> (2018)	(59)	58/F	Lumbar spinal stenosis	Lumbar to sacral laminectomy and fusion	-	Day 4	CT	Bilateral convoluted cerebellar hemorrhage	Compression of the fourth ventricle and hydrocephalus	Suboccipital decompression	Gait disturbance
Morimoto <i>et al.</i> (2014)	(60)	47/M	Odontoid process with atlantoaxial dislocation	Occipito-cervical fusion and C1 posterior arch resection	+	Six hours	CT	SDH and cerebral hemorrhage (CH)		Surgical operation	Recovery
Nemir <i>et al.</i> (2018)	(61)	16/F	(L2-S2) tumors	Posterior approach prone position, Laminectomy and tumor resection from L2 to S2	Have cut	24 hours	CT	The frontal and parietal epidural hematoma (EDH) (6 cm x 3 cm)		Direct frontotemporal parietal craniotomy and EDH retraction	Recovery
Spanier <i>et al.</i> (2000)	(62)	80/F	L2-3&L5-S1 Degenerative disc disease	Posterior L3-S1 laminectomy and bilateral L3-S1 bilateral fusion	-	About 36 hours	None	Acute epidural hemorrhage		Incision and drainage of hematoma	Ankle-foot orthoses
Suess <i>et al.</i> (2000)	(63)	57/M	L5 lumbar stenosis	Lumbar spinal angiography	None	7 days	CT	Subacute subdural hematoma		Osteotomy Subacute subdural hematoma	Recovery

Table S1 (continued)

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Tanaka <i>et al.</i> (2019)	(64)	69/M	Traumatic cervical spinal cord injury due to cervical instability	Posterior cervical decompression and fusion (C2-7)	-	Postoperative epileptic seizures and persistent disturbance of consciousness	MRI, CT	Left subcortical hemorrhage		Normal heparin was treated with anticoagulant therapy and drainage	Recovery
Watanabe <i>et al.</i> (2002)	(65)	25/M	T10-t11 Intradural - extramedullary spinal cord tumor	Total tumor resection and laminectomy	+	10 days	CT	Right intracranial SDH	Low density area outside the right frontotemporal parietal brain, lateral ventricle compression, midline shift from right to left	Conservative treatment includes bed rest and cranial pressure lowering medication	No
Zimmerman <i>et al.</i> (2007)	(66)	77/M	Thoracic kyphosis 110°	Posterior joint fusion and internal fixation from T1L to S1, as well as L2 pedicle subtractive osteotomy	+	3 hours	CT	The fourth ventricle in the lateral ventricle and cerebellar lobe between the congestion		Ventricle splint	Recovery
Zimmerman <i>et al.</i> (2007)	(66)	55/F	Lumbar kyphosis and spinal stenosis	L2 to L4 spinal fusion, Anterior resection of The L3 vertebral body, anterior and posterior reconstruction	+	Third day	CT	A subdural hematoma of the left temporal, parietal		The second operation	None
Zimmerman <i>et al.</i> (2007)	(66)	63/M	L2 to L5 kyphosis and lumbar spinal stenosis	Decompression of the lamina, posterior osteotomy of the spine, and lumbosacral fusion	+	Second day	CT	Bilateral subarachnoid hematoma of cerebellum	Brain stem compression and mass effects		Recovery
Zimmerman <i>et al.</i> (2007)	(66)	64/F	Lumbar scoliosis and spinal stenosis	Lumbar laminectomy and posterior lumbar fusion from L1 to sacrum	+	Second day	CT	Bilateral cerebellar hemorrhage	Obstructive hydrocephalus	A ventricular catheter was placed	Death
Li <i>et al.</i> (2012)	(67)	14/F	Epidural space occupying lesion & Degenerative cysts at C4 level	The posterior midline approach was used to remove the C3-C4 tumor	+	2 hours	CT	Bilateral apical epidural hematoma	Bilateral cerebellar infarction	Bilateral craniotomy for hematoma removal	Recovery
Schroeder <i>et al.</i> (2015)	(68)	51/M	Ossification of the T9-T10 segment of the yellow ligament	T9-T10 laminectomy and prone ossification of the ligamentum flavum (OLF) resection via posterior approach	+	3 days	CT	Distal cerebellar hemorrhage	Hydrocephalus	Suboccipital decompression C1 laminectomy	Cerebellar ataxia completely subsided after 2 months
Bozkurt <i>et al.</i> (2016)	(69)	70/F	Degenerative lumbar spondylolisthesis L3-4 spinal stenosis	Lamina decompression	+	12 hours	CT	Right cerebral hemisphere subarachnoid hemorrhage	Gas brain		Recovery
Naveed, <i>et al.</i> (2018)	(70)	51/M	L2-l3 and L3-L4 segments with disc herniation and high spinal stenosis	Revision of spinal decompression surgery	+	Second day	CT	Acute hemorrhage in both cerebellar hemispheres	The fourth ventricle and brainstem with mild obstructive hydrocephalus	Lumbar drainage tube was placed and 8cc fibrin glue was injected into the leaking area	No
Imajo <i>et al.</i> (2016)	(71)	35/M	Intradural schwannoma of L3-4 vertebral body level	Laminectomy and tumor resection	+	15 min	CT	Left dural hemorrhage		A partial craniotomy is performed on the left side to remove the hematoma	None
Feng <i>et al.</i> (2021)	(72)	55/M	C5-6 and C6-7 disc herniation and secondary spinal canal stenosis	Cervical discectomy and fusion	-	20 hours	CT, MRI	Ventral medullary subarachnoid hemorrhage	None	Conservative treatment	Recovery

Table S1 (continued)

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Cheryl Hui Shan Lim <i>et al.</i> (2020)	(73)	74/M	Hypertension, hyperlipidemia, prior bilateral total knee replacement and pneumatic, L4-5 disc herniation and spinal canal stenosis and mild compression of the cauda equina	Elective posterior decompression laminectomy and interbody cage fusion	+	Second day	MRI, CT	Bilateral cerebellar hemorrhage and subarachnoid hemorrhage (SAH)	Brain edema	Conservative treatment	Recovery
P. Sánchez Zamora <i>et al.</i> (2021)	(74)	62/M	L3---L5 lumbar spine stenosis	Arthrodesis	-	Na	CT	Right intraventricular hemorrhage	Cerebellar edema and cerebral oedema	Conservative treatment	Recovery
Hassan Allouch <i>et al.</i> (2021)	(75)	84/F	Na	Na	+	Na	CT, MRI	Intracerebral hemorrhage, SAH	NA	Conservative treatment	No deficit
Hassan Allouch <i>et al.</i> (2021)	(75)	84/F	Na	Na	-	Na	CT, MRI	Cerebellar hemorrhage	NA	External ventricular drainage	No new deficit
Hassan Allouch <i>et al.</i> (2021)	(75)	53/F	Na	Na	-	Na	CT, MRI	Cerebellar hemorrhage	NA	Conservative treatment	No deficit
Hassan Allouch <i>et al.</i> (2021)	(75)	73/F	Na	Na	-	Na	CT, MRI	Cerebellar hemorrhage, SAH	NA	External ventricular drainage	Cognitive disorder
Hassan Allouch <i>et al.</i> (2021)	(75)	65/F	Na	Na	+	Na	CT, MRI	Intracerebral hemorrhage, SAH	NA	Conservative treatment	Bladder incontinence
Hassan Allouch <i>et al.</i> (2021)	(75)	65/M	Na	Na	+	Na	CT, MRI	Intraventricular hemorrhage	NA	Conservative treatment	Epilepsy aphasia
Hassan Allouch <i>et al.</i> (2021)	(75)	55/F	Na	Na	-	Na	CT, MRI	Cerebellar hemorrhage	NA	External ventricular drainage	Died
Hassan Allouch <i>et al.</i> (2021)	(75)	76/M	Na	Na	+	Na	CT, MRI	Subdural hemorrhage	NA	Revision; duraplasty	No deficit
Hassan Allouch <i>et al.</i> (2021)	(75)	61/M	Na	Na	+	Na	CT, MRI	Intraventricular hemorrhage	NA	Revision; duraplasty	No deficit
Hassan Allouch <i>et al.</i> (2021)	(75)	78/M	Na	Na	+	Na	CT, MRI	Subdural hemorrhage	NA	Conservative treatment	No new deficit

CT, computerized tomography; MRI, magnetic resonance imaging; CSF, cerebrospinal fluid; NA, not applicable.

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