

**On-line Table: Angiographic parameters identified for every patient with a brain vascular malformation**

Field	Data Type/Range
Study ID	String
Review date	Date
Imaging source information	
Collector	(String)
Date entered	(Date)
Other collector	(String)
Angiogram available	Y/n/unknown
Angiography date	(Date)
MRI date	(Date)
CT date	(Date)
Supersselective angio	(String)
Image source comment	(String)
AVM type and No.	
Spinal fistula	Numeric (0–5) or unknown
Cerebral fistula	Numeric (0–5) or unknown
Cerebral AVM	Numeric (0–5) or unknown
Micro-AVM/cap malformation	Numeric (0–5) or unknown
Other	(string)
Other imaging findings	
Perifocal gliosis	Y/n/unknown/unavailable
Cortical dysplasia	Y/n/unknown/unavailable
Ischemic stroke?	Y/n/unknown/unavailable
WM hyperintensities inappropriate for age	Y/n/unknown/unavailable
Other lesions	String
Angioarchitectonics and presumed pathomechanisms	
Cerebral fistula	
Pial single hole with venous pouch?	Y/n
Fistula side	R/L/midline
Fistula lobe	Frontal/parietal/temporal/occ/limbic/brain stem/cerebellum
Fistula location	Superficial/subcortical/deep
Describe anatomic location	
Feeders (characteristics)	
Pial-to-pial collateralization	Y/n/unknown/unavailable
Moyamoya-type changes	Y/n/unknown/unavailable
Stenoses on arteries	Y/n/unknown/unavailable
Type	Pial/choroidal
Feeding arteries (No.)	
ICA penetrators	Numeric (0–5) or unknown
AchoA	Numeric (0–5) or unknown
ACA	Numeric (0–5) or unknown
MCA cortical	Numeric (0–5) or unknown
ACA/MCA penetrators	Numeric (0–5) or unknown
VA branches or penetrators	Numeric (0–5) or unknown
PCA cortical	Numeric (0–5) or unknown
PCA penetrators	Numeric (0–5) or unknown
PchoA	Numeric (0–5) or unknown
BA penetrators	Numeric (0–5) or unknown
SCA	Numeric (0–5) or unknown
AICA	Numeric (0–5) or unknown
PICA	Numeric (0–5) or unknown
ECA branches (dural)	Numeric (0–5) or unknown
Aneurysms	
No.	Numeric (0–5) or unknown
High-flow	Y/n/unknown/unavailable
Proximal	Y/n/unknown/unavailable
Distal	Y/n/unknown/unavailable
Intranidal	Y/n/unknown/unavailable

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Field	Data Type/Range
Venous drainage	
No.	Numeric (0–5) or unknown
Type	Superficial/deep/both
Venous stenosis	0–24, 25–49, 75–99, 100 = occlusion
Venous ectasia	No, yes, unknown, unavailable
Venous reflux	No, yes, unknown, unavailable
Distal thrombosis/stenosis	0–24, 25–49, 75–99, 100 = occlusion
Pseudophlebitic pattern	Y/n/unknown/unavailable
Other signs of venous congestion	Y/n/unknown/unavailable
Pathomechanism	
Asymptomatic	Y/n/unknown/unavailable
Thrombosis of pouch	Proven/likely/unlikely/excluded
Mass effect	Proven/likely/unlikely/excluded
Congestion	Proven/likely/unlikely/excluded
Steal	Proven/likely/unlikely/excluded
Intraparenchymal hemorrhage	Proven/likely/unlikely/excluded
Subarachnoid hemorrhage	Proven/likely/unlikely/excluded
Cranial AVM	
AVM eloquence	
Eloquence	Noneloquent, eloquent, unknown
Sensorimotor cortex	No, yes, unknown, unavailable
Visual cortex	No, yes, unknown, unavailable
Language cortex	No, yes, unknown, unavailable
Thalamus/hypothalamus	No, yes, unknown, unavailable
Internal capsule	No, yes, unknown, unavailable
Cerebellar peduncle	No, yes, unknown, unavailable
Brain stem	No, yes, unknown, unavailable
Other eloquence comment	String
AVM location	
AVM side	R/l/midline
AVM location	Superficial/subcortical/deep/post fossa
AVM border with adjacent brain	Sharp, diffuse
Cortical cerebral hemisphere	No, yes, unknown, unavailable
Subcortical	No, yes, unknown, unavailable
Callosal	No, yes, unknown, unavailable
Ventricular	No, yes, unknown, unavailable
Posterior fossa	No, yes, unknown, unavailable
Dural	No, yes, unknown, unavailable
Corpus callosum	No, yes, unknown, unavailable
Frontal	No, yes, unknown, unavailable
Temporal	No, yes, unknown, unavailable
Parietal	No, yes, unknown, unavailable
Occipital	No, yes, unknown, unavailable
Basal ganglia	No, yes, unknown, unavailable
Choroidal	No, yes, unknown, unavailable
Internal capsule	No, yes, unknown, unavailable
Cerebellar hemisphere	No, yes, unknown, unavailable
Vermian (paramedian)	No, yes, unknown, unavailable
Deep cerebellar nuclei	No, yes, unknown, unavailable
Intraventricular	No, yes, unknown, unavailable
Brain stem	No, yes, unknown, unavailable
Thalamic	No, yes, unknown, unavailable
Glomerular? nidus-type AVM?	No, yes, unknown, unavailable
Location comment	String
Feeders	
Pial-to-pial collateralization	No, yes, unknown, unavailable
Moyamoya-type changes	No, yes, unknown, unavailable
Stenoses on arteries	No, yes, unknown, unavailable
Type	Pial/choroidal
Feeding artery information available	Y/n

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## Continued

Field	Data Type/Range
Feeding arteries (No.)	
ICA penetrators	Numeric (0–5) or unknown
AchoA	Numeric (0–5) or unknown
ACA	Numeric (0–5) or unknown
MCA cortical	Numeric (0–5) or unknown
ACA/MCA penetrators	Numeric (0–5) or unknown
VA branches or penetrators	Numeric (0–5) or unknown
PCA cortical	Numeric (0–5) or unknown
PCA penetrators	Numeric (0–5) or unknown
PchoA	Numeric (0–5) or unknown
BA penetrators	Numeric (0–5) or unknown
SCA	Numeric (0–5) or unknown
AICA	Numeric (0–5) or unknown
PICA	Numeric (0–5) or unknown
ECA branches (dural)	Numeric (0–5) or unknown
Nidus	
No. of compartments	Numeric (0–5) or unknown
En passage versus terminal type	No, yes, unknown, unavailable
Type	Sulcal/gyral/callosal/deep
Intermingled brain	No, yes, unknown, unavailable
Diffuse vs sharp	Diffuse, sharp, unknown, unavailable
Size (largest diameter)	Numeric
Aneurysms	
No.	Numeric (0–5) or unknown
High-flow	Y/n/unknown/unavailable
Proximal	Y/n/unknown/unavailable
Distal	Y/n/unknown/unavailable
Intranidal	Y/n/unknown/unavailable
Venous drainage	
No.	Numeric (0–5) or unknown
Type	Superficial/deep/both
Venous stenosis	0–24, 25–49, 75–99, 100 = occlusion
Venous ectasia	No, yes, unknown, unavailable
Severity of venous ectasia	Mild/moderate/severe
Venous reflux	No, yes, unknown, unavailable
Distal thrombosis/stenosis	0–24, 25–49, 75–99, 100 = occlusion
Pseudophlebitic pattern	Y/n/unknown/unavailable
Other signs of venous congestion	Y/n/unknown/unavailable
Pathomechanism	
Imaging shows complications	Y/n/unknown/unavailable
Thrombosis of vein	Proven/likely/unlikely/excluded
Mass effect	Proven/likely/unlikely/excluded
Congestion	Proven/likely/unlikely/excluded
Steal	Proven/likely/unlikely/excluded
Intraparenchymal hemorrhage	Proven/likely/unlikely/excluded
Subarachnoid hemorrhage	Proven/likely/unlikely/excluded
Capillary vascular malformations	
Size (largest diameter)	Numeric
AVM side	R/l/midline
AVM lobe	Frontal/parietal/temporal/occ/limbic/brain stem/cerebellum
AVM location	Superficial/subcortical/deep
MRI visible	Y/n/unknown/unavailable
Feeders	
Type	Pial/choroidal

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## Continued

Field	Data Type/Range
Feeding arteries information available	
Feeding arteries (No.)	
ICA penetrators	Numeric (0/1) or unknown
AchoA	Numeric (0/1) or unknown
ACA	Numeric (0/1) or unknown
MCA cortical	Numeric (0/1) or unknown
ACA/MCA penetrators	Numeric (0/1) or unknown
VA branches or penetrators	Numeric (0/1) or unknown
PCA cortical	Numeric (0/1) or unknown
PCA penetrators	Numeric (0/1) or unknown
PchoA	Numeric (0/1) or unknown
BA penetrators	Numeric (0/1) or unknown
SCA	Numeric (0/1) or unknown
AICA	Numeric (0/1) or unknown
PICA	Numeric (0/1) or unknown
ECA branches (dural)	Numeric (0/1) or unknown
Pathomechanism	
Imaging shows complications	Y/n/unknown/unavailable
Thrombosis of vein	Proven/likely/unlikely/excluded
Mass effect	Proven/likely/unlikely/excluded
Congestion	Proven/likely/unlikely/excluded
Steal	Proven/likely/unlikely/excluded
Intraparenchymal hemorrhage	Proven/likely/unlikely/excluded
Subarachnoid hemorrhage	Proven/likely/unlikely/excluded

**Note:**—ID indicates identification; AchoA, anterior choroidal artery; ACA, anterior cerebral artery; PCA, posterior cerebral artery; PchoA, posterior choroidal artery; BA, basilar artery; SCA, superior cerebellar artery; ECA, external carotid artery; VA, vertebral artery; Y/n, yes/no; R/L, right/left; angio, angiography; occ, occipital; post, posterior.