

Online Table: MR imaging of pathologic patterns and refractoriness in 48 patients with IPICE

Pathologic Features	No. of Patients (%)	No. of Patients with Refractoriness	Imaging Characteristics
Neoplastic lesions	13 (27.1)	5	Infiltrative masses involving the insula with some extension to the frontotemporal lobes
Low-grade glioma	8 (16.7)	4	
High-grade glioma	5 (10.4)	1	
Malformations of cortical development	10 (20.8)	10	Cortical dysplasia: abnormal gyri of the insula; polymicrogyria: excessive number of small gyri in the insula with some extension to the frontotemporal lobes (perisylvian and bilateral in 1 patient); tuberous sclerosis: cortical tubers in the insula
Cortical dysplasia	5 (10.4)	5	
Polymicrogyria	4 (8.3)	4	
Tuberous sclerosis	1 (2.1)	1	
Vascular lesion	9 (18.8)	2	Arteriovenous malformation: dilated artery and vein with a nidus in the insula or inducing FLAIR signal abnormality in the insula; aneurysm: Sylvian bifurcation aneurysm with mass effect on the insula; cavernoma: hemorrhage in various stages in the insula
Arteriovenous malformation	4 (8.3)	1	
Aneurysm	3 (6.3)	1	
Cavernoma	2 (4.2)	0	
Atrophy/gliosis from acquired insults	8 (16.7)	4	Infarction: focal atrophy and gliosis involving the insula; encephalomalacia: signal abnormality and volume loss in the cortex and white matter of the insula with some extension to the frontotemporal opercula; can have a cystic component; pial enhancement: involving the pia mater near the insula, frontal and temporal opercula
Infarction	1 (2.1)	0	
Cystic encephalomalacia after herpes encephalitis	1 (2.1)	0	
Encephalomalacia and atrophy after trauma	2 (4.2)	2	
Congenital insult	1 (2.1)	0	
Encephalomalacia and atrophy of indeterminate cause	2 (4.2)	1	
Pial enhancement of indeterminate cause	1 (2.1)	1	
Rasmussen encephalitis	1 (2.1)	1	Insular FLAIR signal abnormality and atrophy and gliosis on MRI
Signal abnormality in the insula	1 (2.1)	1	Millimetric hyperintense T2 signal abnormality in the insula
Neuroepithelial cyst vs signal abnormality in the insula	1 (2.1)	0	Focal signal abnormality slightly hypointense on T1, hyperintense on T2 involving subcortical and cortical matter of the insula
Hippocampal sclerosis with no insular lesion ^a	1 (2.1)	1	Hippocampal cortical T2-FLAIR hyperintensity and atrophy
Normal	4 (8.3)	3	
Total	48 (100)	27	

^a Despite depth electrode-proven insular seizures.