On-line Table 1: The clinical details of patients with cryptogenic epilepsy

Case No.	Age (yr)	Sex	Age of Onset (yr)	Duration of Illness (yr)	Hypothesis	PET/CT/MRI	Expert Consensus Epilepsy Surgery Case Conference	Intracranial EEG	Surgery	Outcome after Surgery	Seizure-Free Duration	Histopathologic Findings	Neuropsychological Assessment	Noninvasive Video-EEG Monitoring
1	36	F	10	25	R-F	Hypometabolism R-F	Concordant hypothesis, intracranial EEG indicated	R-F	Yes	Seizure-free	12 mo (Engel I)	Unremarkable CNS tissue	L/R-F	Interictal: rare sharp waves L-F/T; ictal: R-F/C
2	50	M	8	42	R-T	Unremarkable	Concordant hypothesis, intracranial EEG indicated	R-T	Yes	Not seizure-free	1 mo (Engel II)	Hippocampal sclerosis	R-F/T	Interictal: R-F and L-T; ictal: R-F/T
3	31	F	10	21	R-F/T	Unremarkable	Concordant hypothesis, intracranial EEG indicated	–	–	–	–	–	R-F/T	Interictal: spikes and focal slowing R-F/T; ictal: R-F/T
4	38	F	0	38	R-F	Unremarkable	Concordant hypothesis, intracranial EEG indicated	Multifocal, core area R-F	–	–	–	–	R-F	Interictal: spikes R-F/C and R-F/T; ictal: R-F/C
5	55	M	38	17	L/R-T	–	Concordant hypothesis, intracranial EEG indicated	–	–	–	–	–	No localization possible	Interictal: spikes and focal slowing L/R-F/T; ictal: L/R-F/T
6	37	F	9	27	L-T/P/O	Unremarkable	Concordant hypothesis, intracranial EEG indicated	L-T/P/O	Yes	Not seizure-free	12 mo (Engel I)	Unremarkable CNS tissue	No localization possible	Interictal: spikes L-O and L-T/P/O; ictal: L-T/P/O
7	18	M	17	1	L-F	–	Concordant hypothesis due to eventual medical seizure freedom, no further diagnostics indicated	–	–	–	–	–	–	Interictal: spikes L-F/C; ictal: L-F/C
8	24	M	20	4	L-F/T	–	Concordant hypothesis due to eventual medical seizure freedom, no further diagnostics indicated	–	–	–	–	–	L-F/T	Interictal: unremarkable; ictal: L-F/T
9	33	M	15	18	L-T	–	Concordant hypothesis due to eventual medical seizure freedom, no further diagnostics indicated	–	–	–	–	–	No localization possible	Interictal: spikes and slowing L-F/T; ictal: L-F/T
10	42	F	8	34	R-F/T	–	Concordant hypothesis due to medical seizure reduction, no further diagnostics indicated	–	–	–	–		No localization possible	Interictal: unremarkable; ictal: R-F/T
11	27	F	10	17	L/R-T	Unremarkable	Concordant hypothesis, intracranial EEG indicated	L/R-T (bilateral)	–	–	–	–	L/R-F/T	Interictal: spikes and slowing L/R-F/T; ictal: L/R-F/T
12	33	M	18	15	L-T	–	Concordant hypothesis, intracranial EEG indicated, patient declined	Offered	–	–	–	–	L-F/T	Interictal: spikes L/R-F/T; ictal: L-F/T
13	43	M	14	29	L/R-T	–	Concordant hypothesis, intracranial EEG indicated, patient declined	Offered	–	–	–	–	L-F/T	Interictal: spikes R-T; ictal: spikes L/R-T

Note:—L/R indicates left/right; F/T/P/O/C, frontal/temporal/parietal/occipital/central; –, was not done/not available.

[a] Clinical details of the patients comprising patient No., age, sex, age of onset, duration of illness, PET/CT/MRI availability, expert consensus, availability of intracranial EEG data, surgery, outcome after surgery, seizure-free duration, histopathologic findings, neuropsychological assessment, and noninvasive video-EEG monitoring are shown.

On-line Table 2: AUC values for all VBM models at different smoothing levels[a]

VBM	4 mm	6 mm	8 mm	10 mm	12 mm	14 mm	16 mm
GMC							
T1	0.09	0.11	0.17	0.26	0.35	0.34	0.30
T1+T2	0.07	0.10	0.16	0.24	0.29	0.23	0.15
T1+FLAIR	0.05	0.10	0.21	0.33	0.42	0.41	0.35
T1+T2+FLAIR	0.09	0.11	0.22	0.30	0.36	0.35	0.29
GMV							
T1	0.08	0.08	0.08	0.12	0.12	0.08	0.04
T1+T2	0.10	0.11	0.11	0.06	0.05	0.02	0.0
T1+FLAIR	0.12	0.05	0.09	0.8	0.12	0.11	0.09
T1+T2+FLAIR	0.15	0.08	0.12	0.11	0.11	0.09	0.06

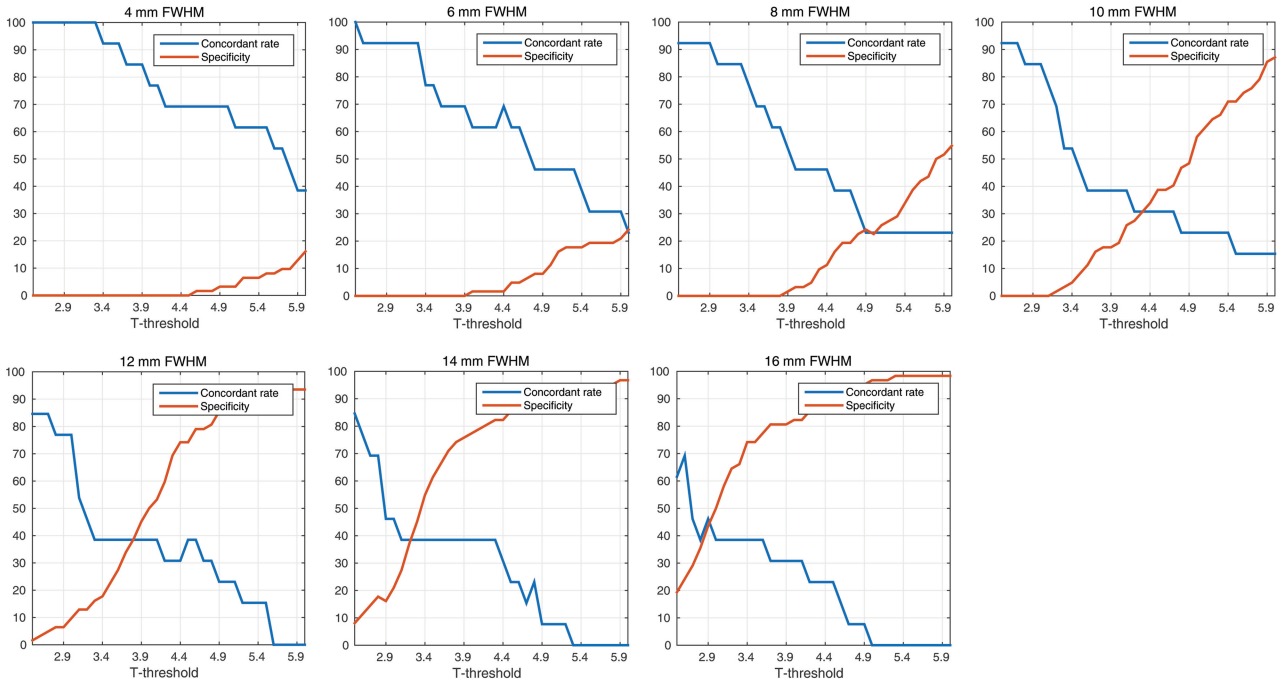
[a] All the AUC values across statistical cutoffs (2.5–6 in a step size of 0.1) are shown for each smoothing level from 4 to 16 mm for all VBM models.

On-line Table 3: VBM findings rated as potentially epileptogenic stratified in concordant and discordant lobes for all models[a]

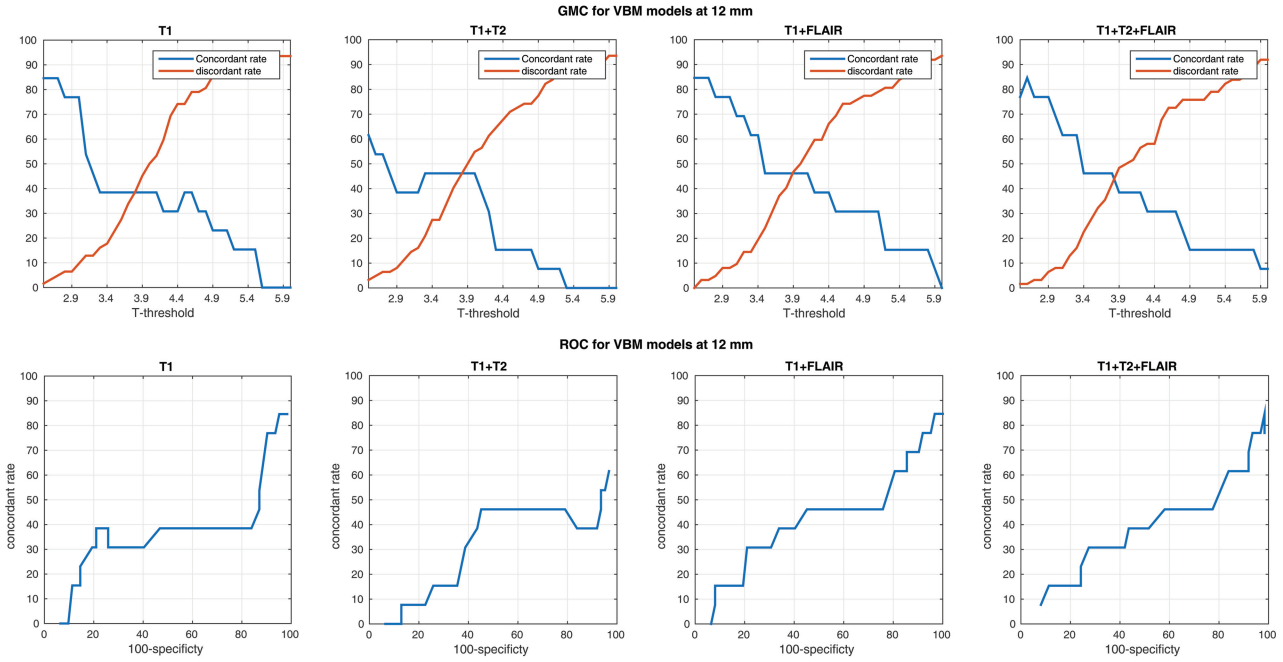
	Concordant Lobe				Discordant Lobe			
Case No.	T1	T1+T2	T1+FLAIR	T1+T2+FLAIR	T1	T1+T2	T1+FLAIR	T1+T2+FLAIR
3	–	–	Yes	Yes	Yes	Yes	Yes	Yes
4	Yes	Yes	Yes	Yes	Yes	–	Yes	–
5	Yes	Yes	Yes	Yes	Yes	–	–	–
6	Yes	–	Yes	Yes	–	–	–	–
7	Yes	–	Yes	–	–	–	–	–
9	–	–	–	–	–	Yes	Yes	Yes
10	–	–	–	–	Yes	–	–	–
12	–	–	–	–	Yes	Yes	Yes	Yes
13	–	–	Yes	–	Yes	Yes	Yes	Yes

Note:— – indicates that finding was not present.

[a] VBM findings in patients confirmed as potentially epileptogenic across all models for concordant and discordant lobes are presented.



ON-LINE FIG 1. Concordant rate and specificity for T1 VBM at variable statistical cutoffs and smoothing levels. Concordant rate and specificity for increasing smoothing levels from 4 to 16 mm are plotted for GMC analysis. As the smoothing level increases, the intersection point moves toward the left (lower T-threshold). FWHM indicates full width at half maximum.



ON-LINE FIG 2. Diagnostic performance for different VBM models. The plots show the concordant rate and specificity for different T-thresholds at 12-mm smoothing for all VBM models (*upper panel*). The *lower panel* shows receiver operating characteristic curves for all VBM models at 12-mm smoothing.