

Electronic Supplementary Information

Metal maps of sclerotic hippocampi of patients with mesial temporal lobe epilepsy

Opačić et al.

Table S1. Clinical characteristics of the analyzed patients.

Patient	1	2	3	4
Sex	F	F	M	M
Age (years)	33	41	27	40
Epilepsy onset (years)	26	7	2	9
Febrile Seizures	Yes	No	No	Yes
H of SE	No	No	No	No
sGTCS fr.	1/LT	2/LT	0/LT	0/LT
FCS fr.	W	W	W	W
Antiepileptic drugs trials	PHB, CBZ, LTG, TPM, LEV	OHB, CBZ, LTG, LEV	PHB, CBZ, VPA, LTG, TPM, LEV, PGB	PHB, CBZ, VPA, LTG, TPM, CLO, LEV
Seizure classification^a	Epigastric aura Dialeptic seizure	Epigastric aura Automotor seizure	Epigastric aura Automotor seizure	Epigastric aura Automotor seizure
AH (side)	R	R	L	L
Follow up (months)	32	34	32	33
Outcome^b	1	1	1	1
HS^c	Type 2	Type 2	Type 1	Type 1

Abbreviations: H of SE – History of Status Epilepticus, sGTCS fr. – secondary generalized tonic-clonic seizures frequency, FCS fr. – Focal complex seizures frequency, AH – amygdalohypocampectomy, LT – Life time, L – left, R – right, PHB – Phenobarbital, PHT – Phenytoin, CBZ – Carbamazepine, VPA – Valproic acid, LTG – Lamotrigine, TPM – Topiramate, LEV – Levetiracetam, CLO – Clobazam, PGB – Pregabalin

^a Lüders H, Acharya J, Baumgartner C, et al. Semiological seizure classification. *Epilepsia* 1998;39:1006–1013

^b Wieser HG, Blume WT, Fish D, et al. ILAE Commission Report. Proposal for a new classification of outcome with respect to epileptic seizures following epilepsy surgery. *Epilepsia* 2001;42:282–286.

^c Blümcke I, Thom M, Aronica E, et al. International consensus classification of hippocampal sclerosis in temporal lobe epilepsy: A Task Force report from the ILAE Commission on Diagnostic Methods. *Epilepsia* 2013;54:1315–1329

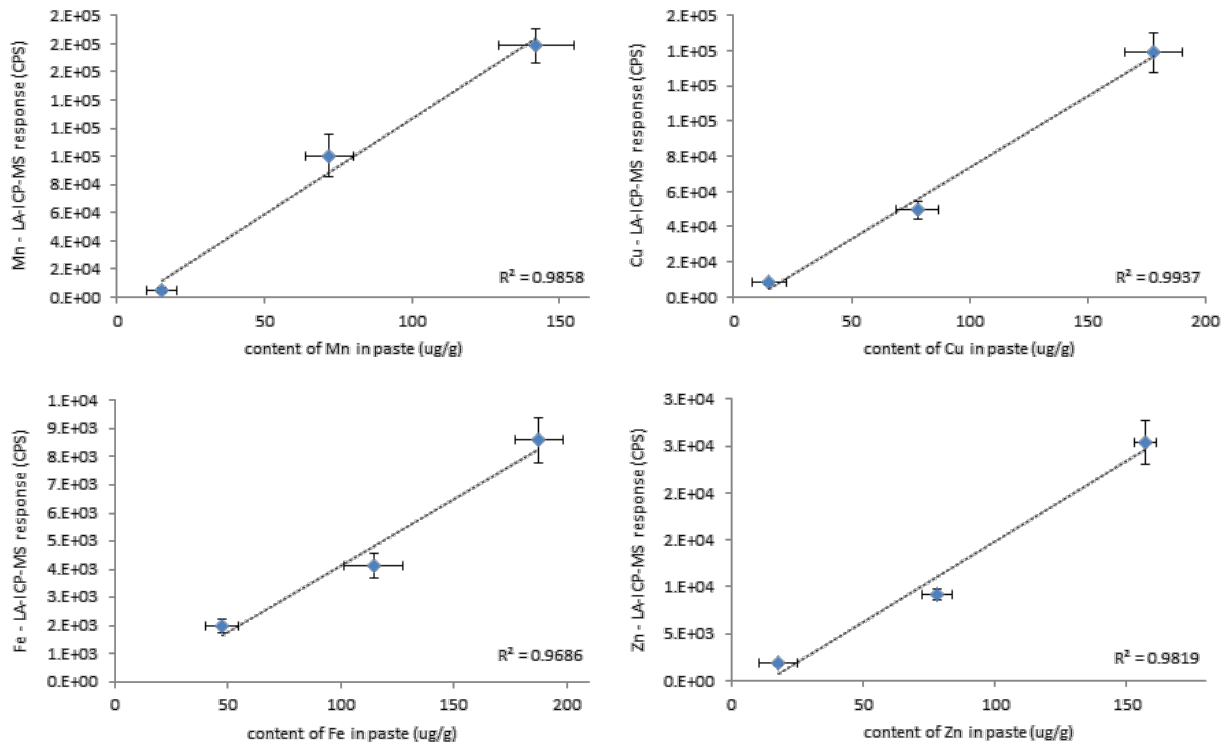
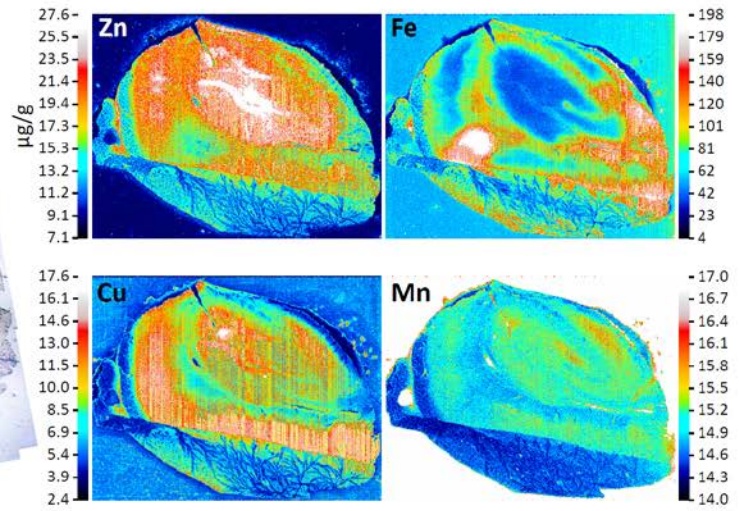
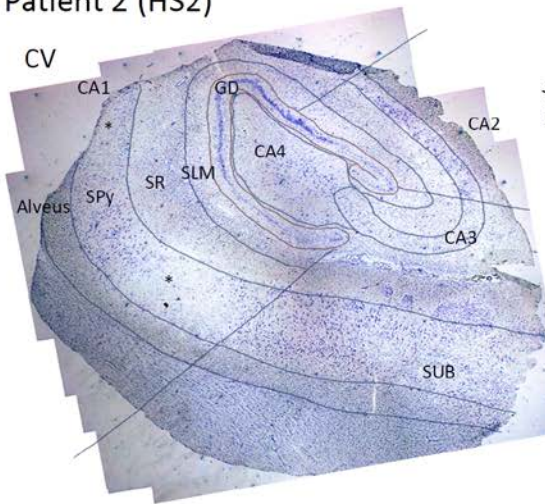
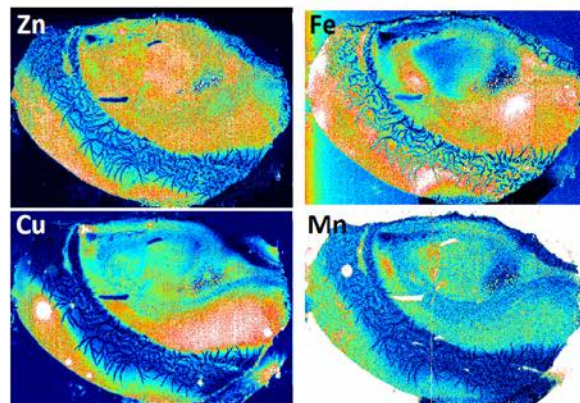
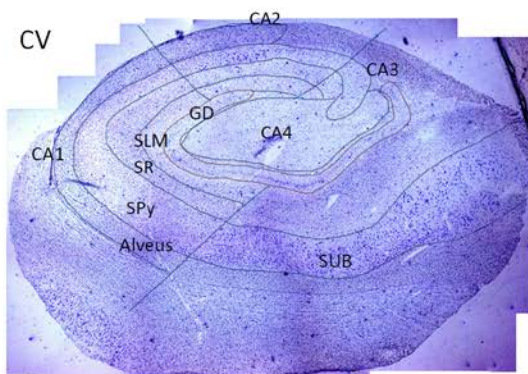


Figure S1. Standardization of LA-ICP-MS imaging procedure. Calibration graphs for Mn, Fe, Cu and Zn. X-axis data are elemental contents in spiked rat brain pastes, determined by microwave digestion and solution ICP-MS analysis; Y-axis data are average responses (in CPS) of 5 lines scanned by LA-ICP-MS analyses of cryo-cuts of spiked rat brain pastes. Error bars represent standard deviations.

Patient 2 (HS2)



Patient 3 (HS1)



Patient 4 (HS1)

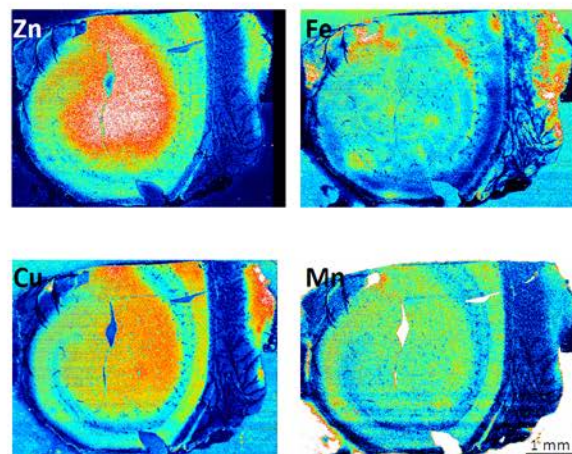
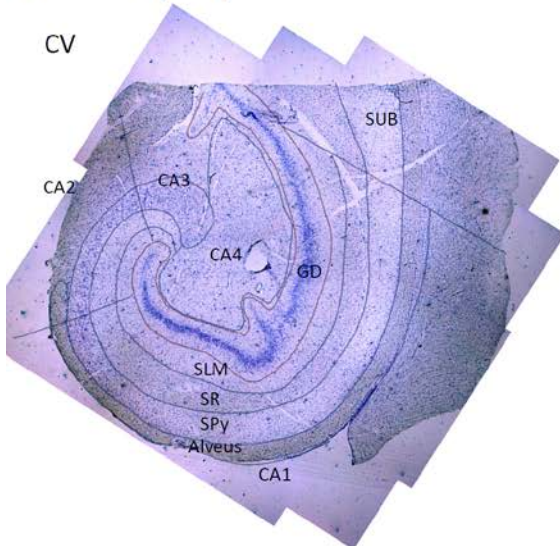


Figure S2. Micrographs (cresyl violet staining – CV) with delineated anatomical regions (left) and metal maps (Zn, Fe, Cu, and Mn; right) of coronal sections of sclerotic hippocampi. GD, gyrus dentatus (demarcated together with stratum moleculare, stratum granulosum and polymorphic layer); SUB, subiculum; SPY, stratum pyramidale; SR, stratum radiatum; SLM, strata lacunosum and moleculare; CA1–CA4, cornu Ammonis fields 1–4. Straight lines demarcate different fields of cornu Ammonis (CA1–CA3). Asterisk – CA1 SPy region with total neuronal loss in HS2. Total neuronal loss in Patient 3 and 4 was present in the entire SPy in CA1 and extended to other areas as well.