



1º SIMPÓSIO INTERNACIONAL DA
ALIANÇA CAVERNOMA
BRASIL
ALIANÇA
CAVERNOMA BRASIL

CAVERNOMAS CEREBRAIS e EPILEPSIA



CETEP
CENTRO DE EPILEPSIA



Programa de Epilepsias
da Universidade Federal
do Rio de Janeiro –
HUCFF\UFRJ

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Laboratório de
Neurociências
Translacional da
Universidade
Federal do Estado
do Rio de Janeiro -
UNIRO

CAVERNOMAS RELACIONADOS COM EPILEPSIA

EPIDEMIOLOGIA DENTRO DO CONTEXTO DAS EPILEPSIAS

- ★ 10–15 % DE TODAS AS MALFORMAÇÕES VASCULARES DO ENCÉFALO (Batra et al., 2009)
- **EPILEPSIA É A MANIFESTAÇÃO MAIS COMUM NOS CAVERNOMAS CEREBRAIS (40% A 70%)** (Awad & Jabbour, 2006)
- ★ JUNTO COM OUTRAS MALFORMAÇÕES VASCULARES **CCMs respondem por 5.6 % DE TODOS OS CASOS DE EPILEPSIAS ASSOCIADOS A PATOLOGIAS** segundo o European Epilepsy Brain Bank (Blumcke, 2015).
- 40% PODEM EVOLUIR COM EPILEPSIA FÁRMACO RESISTENTE **

** Ferrier CH, Aronica e, Leijten FS, Spliet wG, Boer K, van Rijen PC, van Huffelen AC (2007) electrocorticography discharge patterns in patients with a cavernous hemangioma and pharma- coresistent epilepsy. J Neurosurg 107:495–503. doi:10.3171/ JNS-07/09/0495

TERMINOLOGIA ILAE CAVERNOMAS RELACIONADO A EPILEPSIAS (CRE)

**Cavernoma-related epilepsy: Review and recommendations
for management — Report of the Surgical Task Force of
the ILAE Commission on Therapeutic Strategies**

***Felix Rosenow, †Mario A. Alonso-Vanegas, ‡Christoph Baumgartner, §Ingmar Blümcke, ¶Maria Carreño, #Elke R. Gizewski, **Hajo M. Hamer, *Susanne Knake, ††Philippe Kahane, ‡‡Hans O. Lüders, §§Gary W. Mathern, *Katja Menzler, ¶¶Jonathan Miller, ##Taisuke Otsuki, ***Cigdem Özkara, †††‡‡‡Asla Pitkänen, §§§Steven N. Roper, ¶¶¶Americo C. Sakamoto, ###Ulrich Sure, ***Matthew C. Walker and ††††Bernhard J. Steinhoff for the Surgical Task Force, Commission on Therapeutic Strategies of the ILAE**

TERMINOLOGIA

**CAVERNOMA RELACIONADA A EPILEPSIA
DEFINIDO**

**CAVERNOMA RELACIONADA A EPILEPSIA
PROVÁVEL**

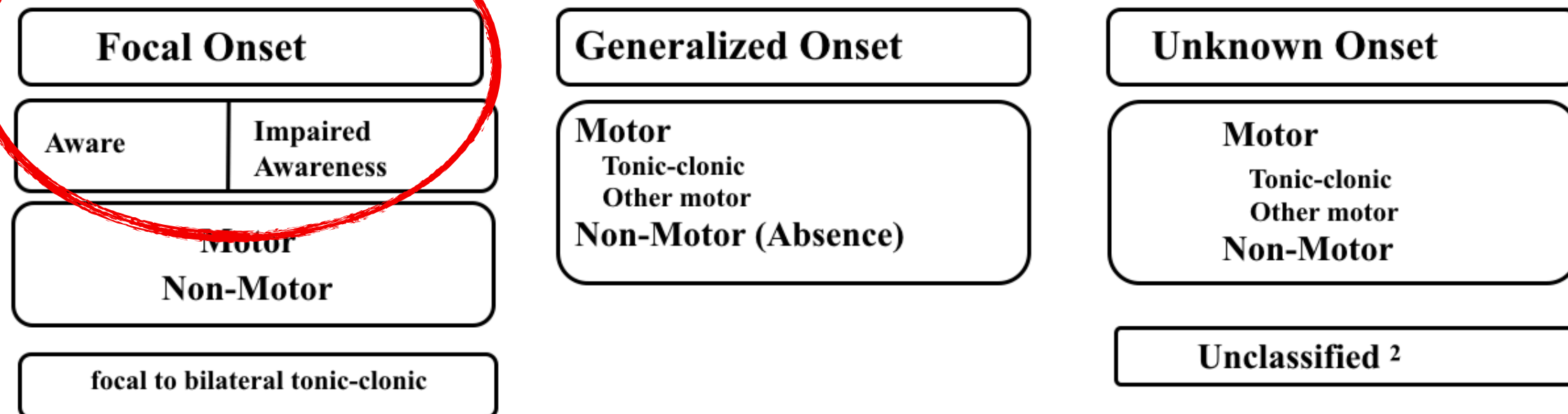
CAVERNOMA NÃO RELACIONADO COM EPILEPSIA

ILAE classification of the epilepsies: Position paper of the ILAE Commission for Classification and Terminology

^{1,2,3}Ingrid E. Scheffer, ¹Samuel Berkovic, ⁴Giuseppe Capovilla, ⁵Mary B. Connolly, ⁶Jacqueline French, ⁷Laura Guilhoto, ^{8,9}Edouard Hirsch, ¹⁰Satish Jain, ¹¹Gary W. Mathern, ¹²Solomon L. Moshé, ¹³Douglas R. Nordli, ¹⁴Emilio Perucca, ¹⁵Torbjörn Tomson, ¹⁶Samuel Wiebe, ¹⁷Yue-Hua Zhang, and ^{18,19}Sameer M. Zuberi

Epilepsia, **(*):1–10, 2017
doi: 10.1111/epi.13709

ILAE 2017 Classification of Seizure Types Basic Version ¹

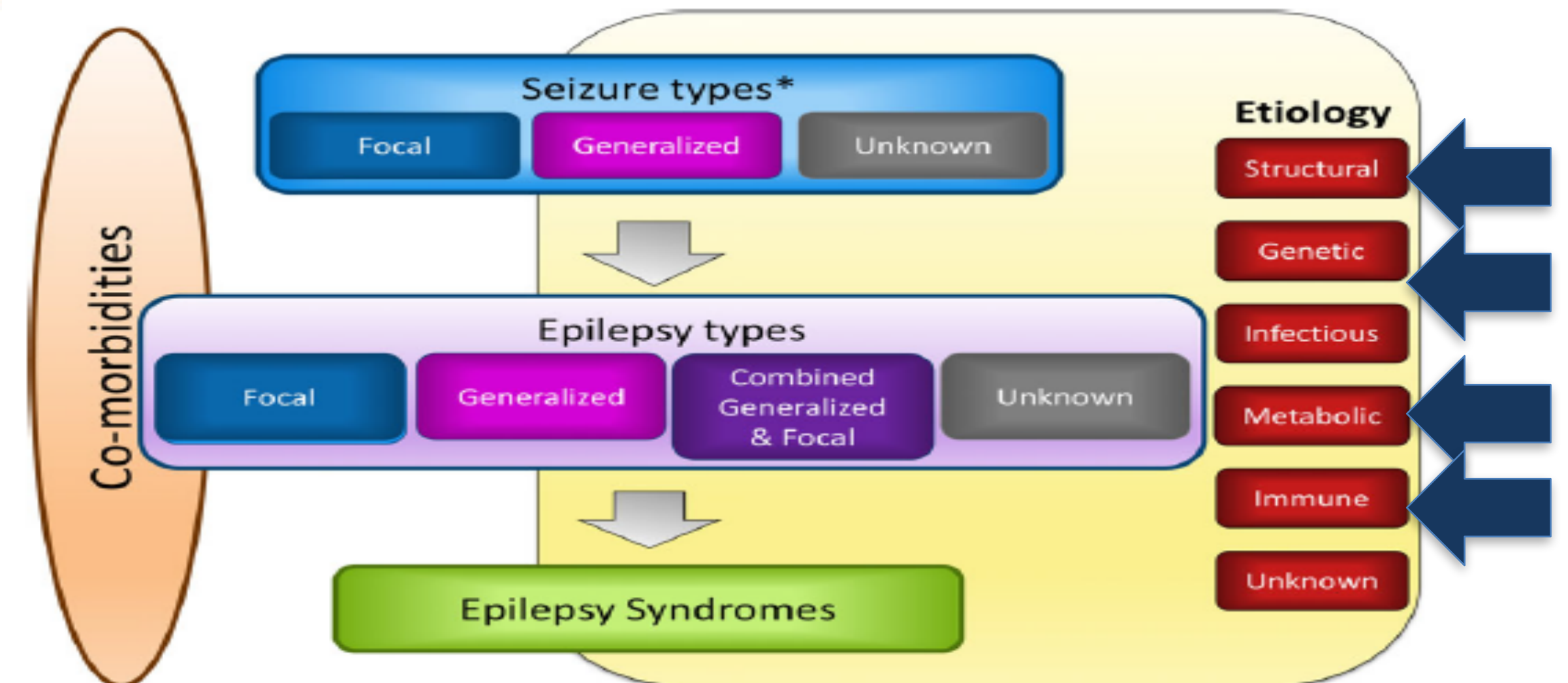


¹ Definitions, other seizure types and descriptors are listed in the accompanying paper & glossary of terms

² Due to inadequate information or inability to place in other categories

From Fisher et al. *Instruction manual for the ILAE 2017 operational classification of seizure types*. *Epilepsia* doi: 10.1111/epi.13671

I. E. Scheffer et al.

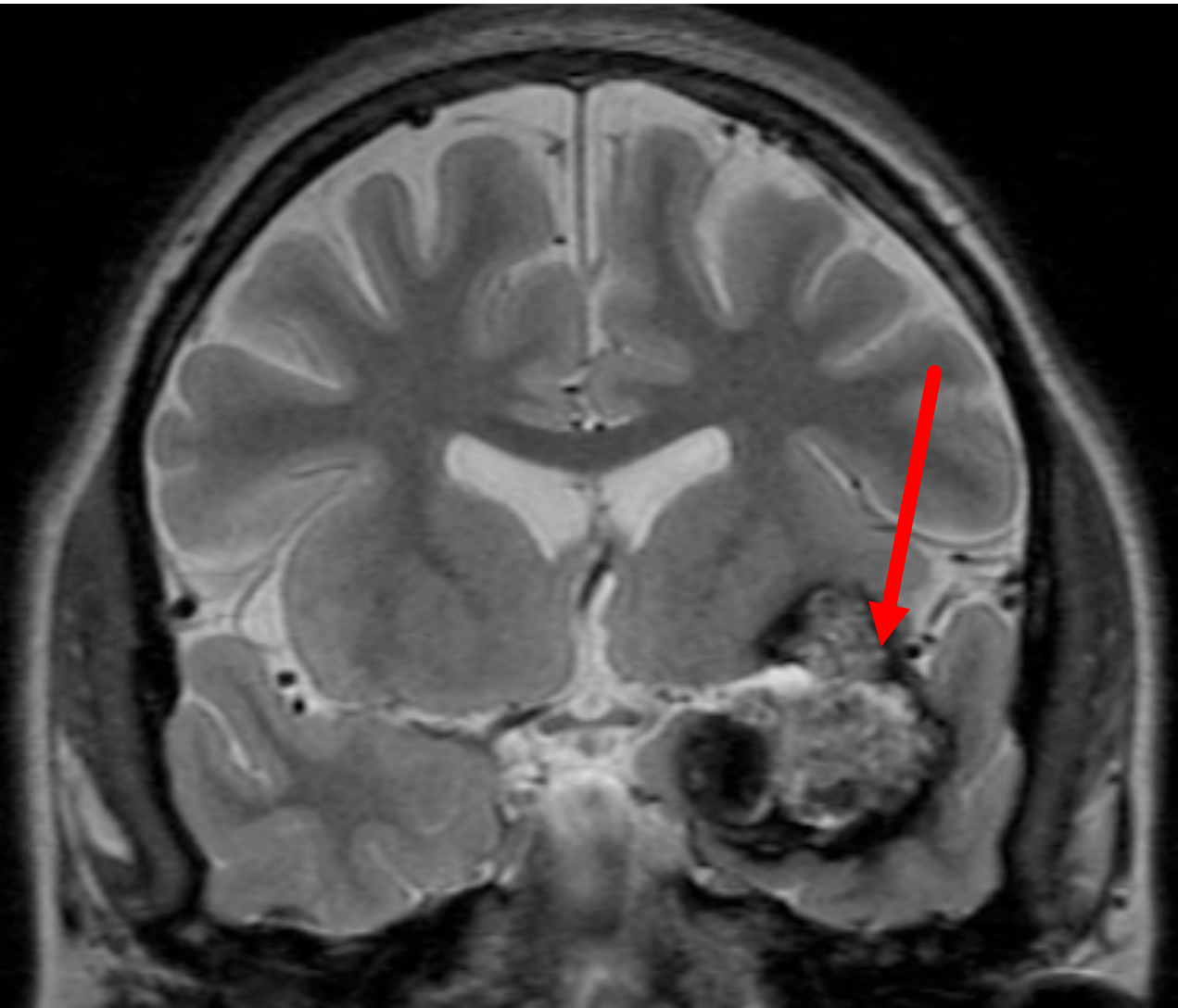


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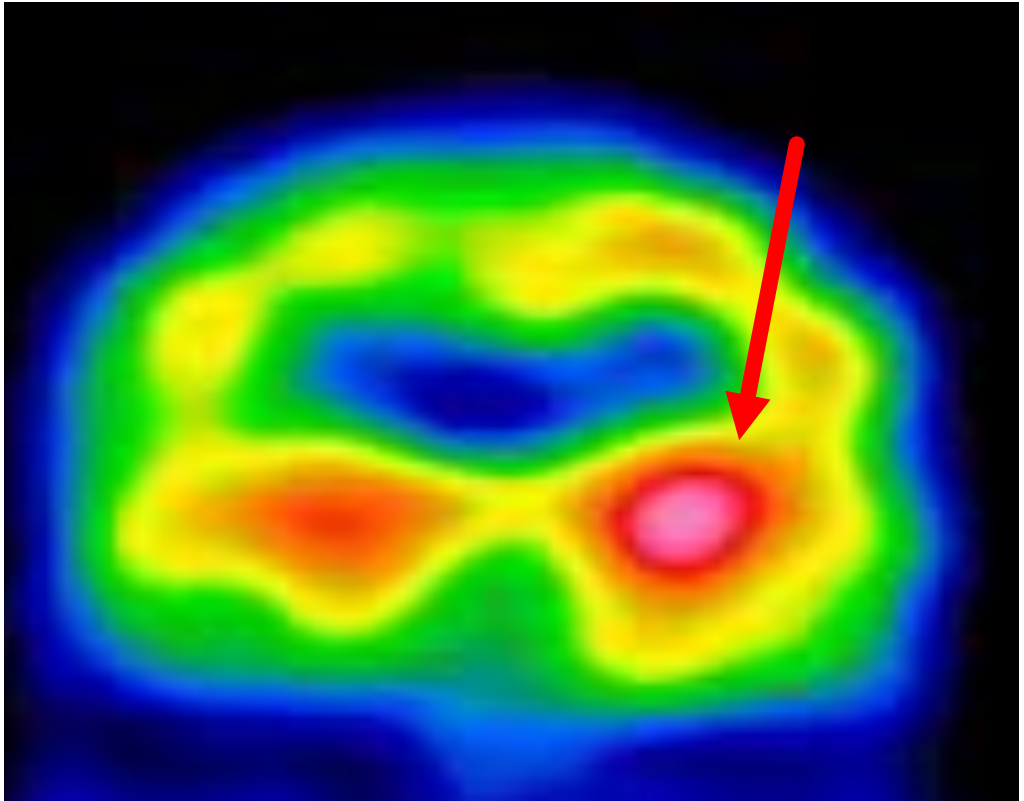
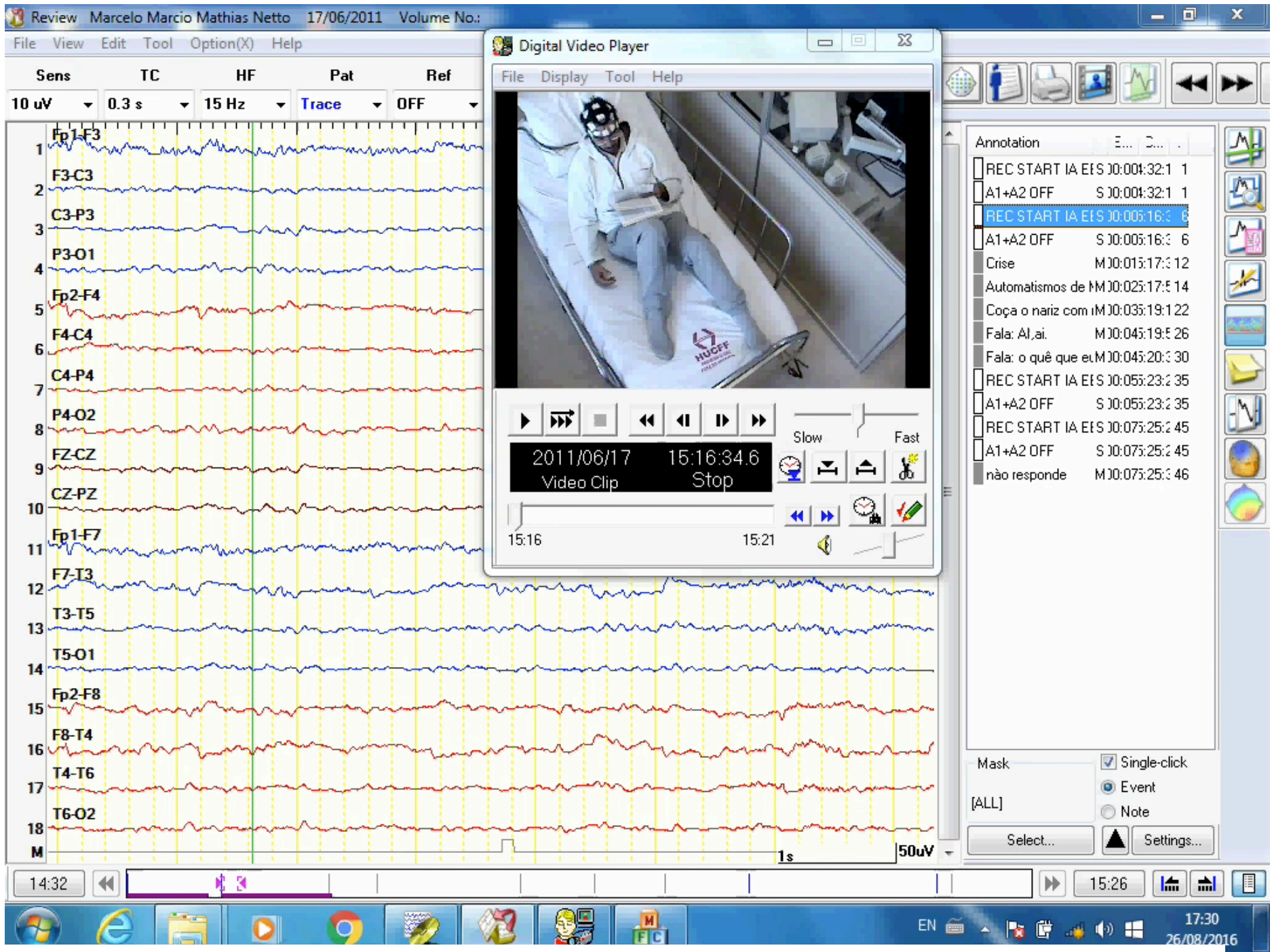
Epilepsia, 54(12):2025–2035, 2013
doi: 10.1111/epi.12402

FENOMENOLOGIA
ICTAL DA EPILEPSIA
DO LOBO TEMPORAL



CCM TEMPORAL A
ESQUERDA

CAVERNOMA RELACIONADA A EPILEPSIA
DEFINIDO



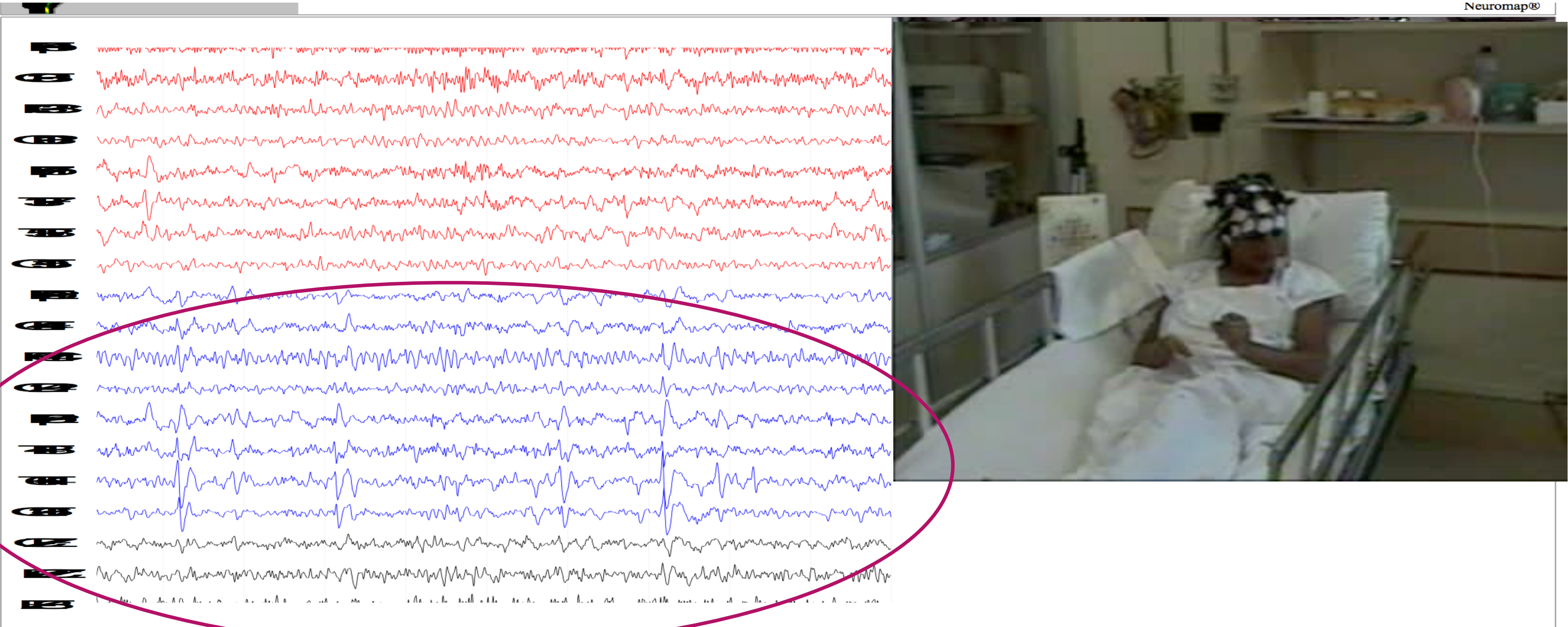


CAVERNOMA RELACIONADA A EPILEPSIA PROVÁVEL

Cavernoma-related epilepsy: Review and recommendations for management — Report of the Surgical Task Force of the ILAE Commission on Therapeutic Strategies

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Epilepsia, 54(12):2025–2035, 2013
doi: 10.1111/epi.12402



- EPILEPSIA FOCAL + CCM
- CRISE NO MESMO HEMISFÉRIO DO CCM MAS NÃO NA ZII EXATA
- NENHUMA OUTRA CAUSA PARA EPILEPSIA

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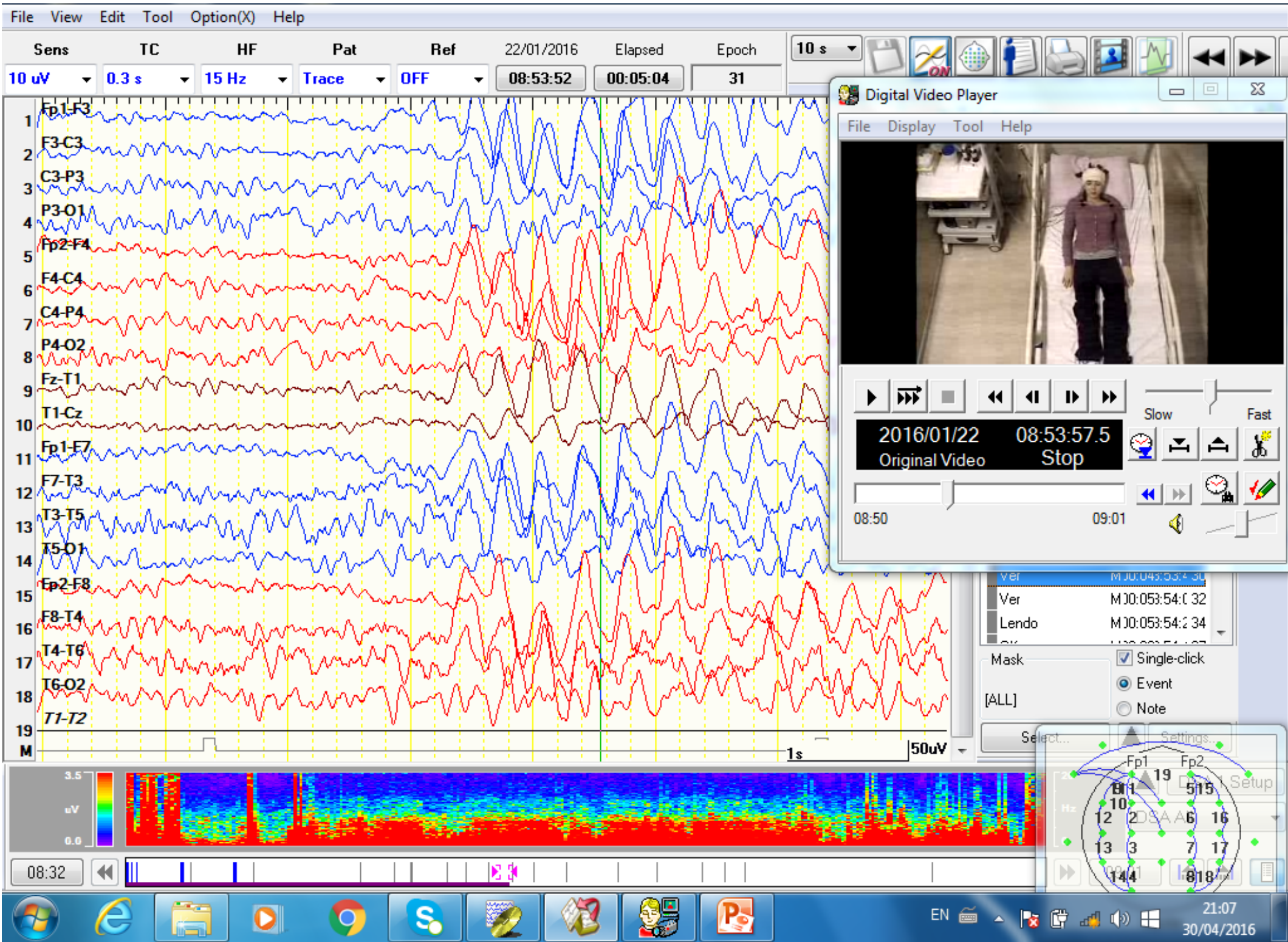
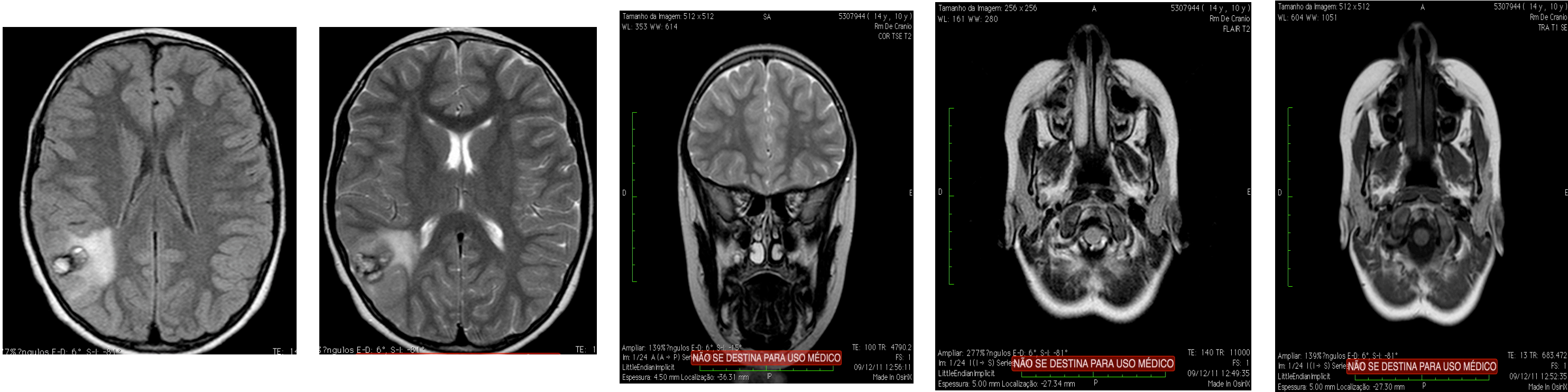
Epilepsia, 54(12):2025–2035, 2013
doi: 10.1111/epi.12402

19 anos
Em 2011, aos 14 anos, apresentou crise tônico-clônica-generalizada

RM - CCM único, operada
oxcarbazepina, 300 mg 2 x dia
Crise Ausência e POCS

Vídeo-EEG - paroxismos de OL e OA e de PO generalizada

CAVERNOMA NÃO RELACIONADA A EPILEPSIA



LOCALIZAÇÃO CAVERNOMAS CEREBRAIS E EPILEPSIAS

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Epilepsia, 54(12):2025–2035, 2013
doi: 10.1111/epi.12402

N=690

Table 1. The anatomic location of cavernomas	
Localization	n (%)
Frontal lobe	150 (22)
Parietal lobe	98 (14)
Temporal lobe	139 (20)
Occipital lobe	27 (4)
Multilobar	18 (3)
Total lobar	432 (63)
Basal ganglia/thalamus	27 (4)
Supratentorial not specified	93 (13)
Total supratentorial	552 (80)
Brainstem ^a	95 (14)
Cerebellum	25 (4)
Infratentorial not specified	5 (1)
Total infratentorial	125 (18)
Orbital	2 (0)
Spinal cord	5 (1)
Other ^b	6 (1)
Total	690 (100)
^a Includes medulla oblongata, pons, mesencephalon, diencephalon, pineal gland, third ventricle, and fourth ventricle.	
^b Corpus callosum, extradural, and lateral ventricle. Modified from Moran et al. (1999).	

FATORES DE RISCO PARA EPILEPSIA RELACIONADA COM CAVERNOMA

ESTABELECIDOS

**LOCALIZAÇÃO SUPRATENTORIAL versus
INFRATENTORIAL**

**CORTICAL versus SUBCORTICAL NOS CCMs
SUPRATENTORIAIS**

MESIOTEMPORAL versus NEOCORTICAL

SPECIAL REPORT

CONTROVERSUS

LOCALIZAÇÃO LOBAR

NÚMERO DE CAVERNOMAS

**TAMANHO DA LESÃO E DEPÓSITO
DE HEMOSIDERINA**

**Cavernoma-related epilepsy: Review and recommendations
for management — Report of the Surgical Task Force of
the ILAE Commission on Therapeutic Strategies**

*Felix Rosenow, †Mario A. Alonso-Vanegas, ‡Christoph Baumgartner, §Ingmar Blümcke, ¶Maria Carreño, #Elke R. Gizewski, **Hajo M. Hamer, *Susanne Knake, ††Philippe Kahane, ‡‡Hans O. Lüders, §§Gary W. Mathern, *Katja Menzler, ¶¶Jonathan Miller, ##Taisuke Otsuki, ***Cigdem Özkara, †††††Asla Pitkänen, §§§Steven N. Roper, ¶¶¶Americo C. Sakamoto, ###Ulrich Sure, ****Matthew C. Walker and ††††Bernhard J. Steinhoff for the Surgical Task Force, Commission on Therapeutic Strategies of the ILAE

FULL-LENGTH ORIGINAL RESEARCH

Surgical management and long-term seizure outcome after epilepsy surgery for different types of epilepsy associated with cerebral cavernous malformations

*Christian von der Brelie, †Michael P. Malter, ‡Pitt Niehusmann, †Christian E. Elger,
*Marec von Lehe, and *Johannes Schramm

*Departments of Neurosurgery, †Epileptology, and ‡Neuropathology, University of Bonn Medical Centre, Bonn, Germany

Table 2. Epilepsy/seizure semiology

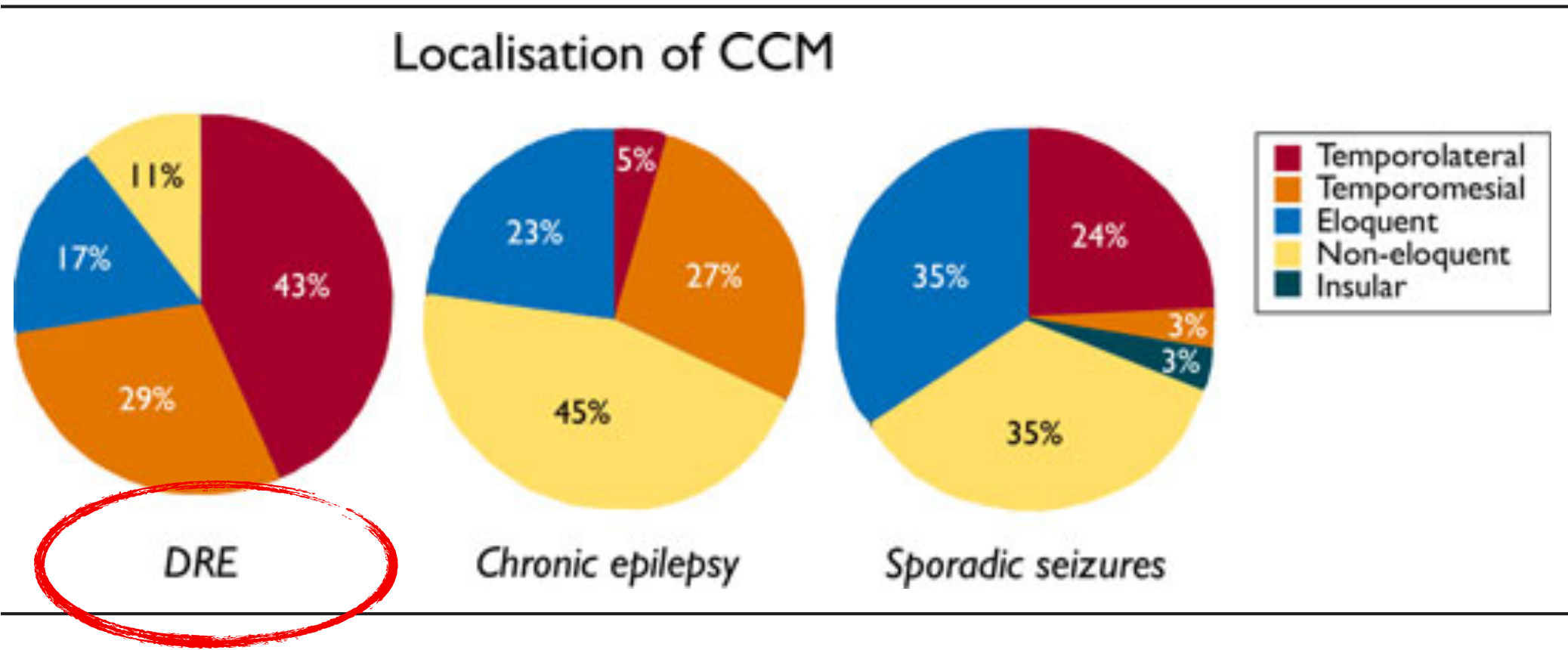
	DRE (%)	Chronic epilepsy (%)	Sporadic seizures (%)
Complex partial seizures ➡	66/76 (87)	7/20 (35)	9/22 (38)
Other focal seizures	10/76 (13)	10/20 (45)	12/22 (50)
Generalized convulsions ➡	59/76 (78)	10/20 (45)	17/22 (77)
Secondary generalizing convulsions ➡	52/59 (88)	5/10 (50)	4/17 (24)
Mesial temporal sclerosis	6/76 (8)	1/20 (5)	0
Other pathologies (tumor, vascular, TBI)	6/76(8)	4/20 (18)	0

TBI, traumatic brain injury.

DISTRIBUIÇÃO CCM em diferentes tipos de Epilepsias

Localização TEMPORAL > frequente EFR (p<0.05)

Localização áreas eloquentes > frequente nas Epilepsias Crônicas



MECANISMOS DE EPILEPTOGÊNESE CAVERNOMAS CEREBRAIS E EPILEPSIAS

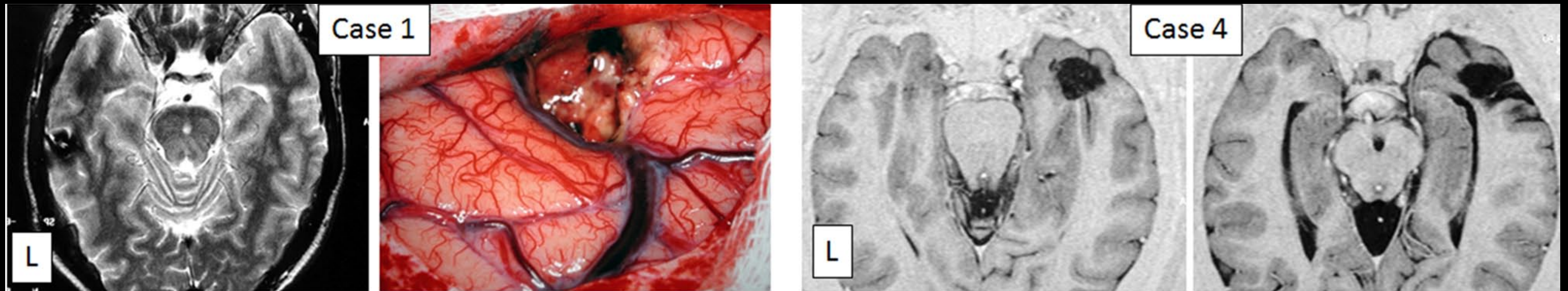
- (1) EPILEPTOGÊNESE DO TECIDO AO REDOR
- (2) EPILEPTOGENESE DO TECIDO REMOTO

CAVERNOMAS CEREBRAIS E EPILEPSIA

MECANISMOS DE EPILEPTOGÊNESE

Ao redor do CCM...

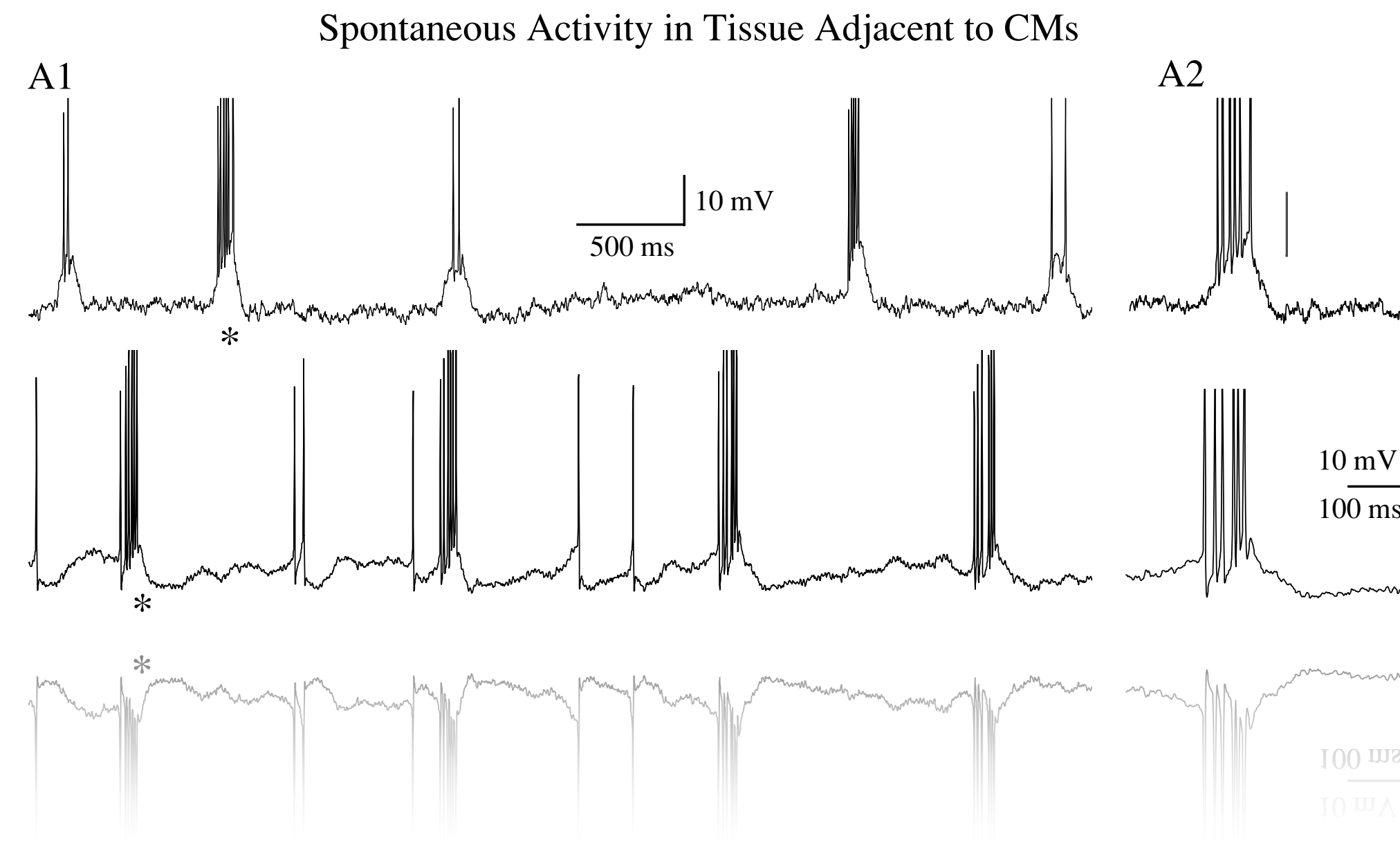
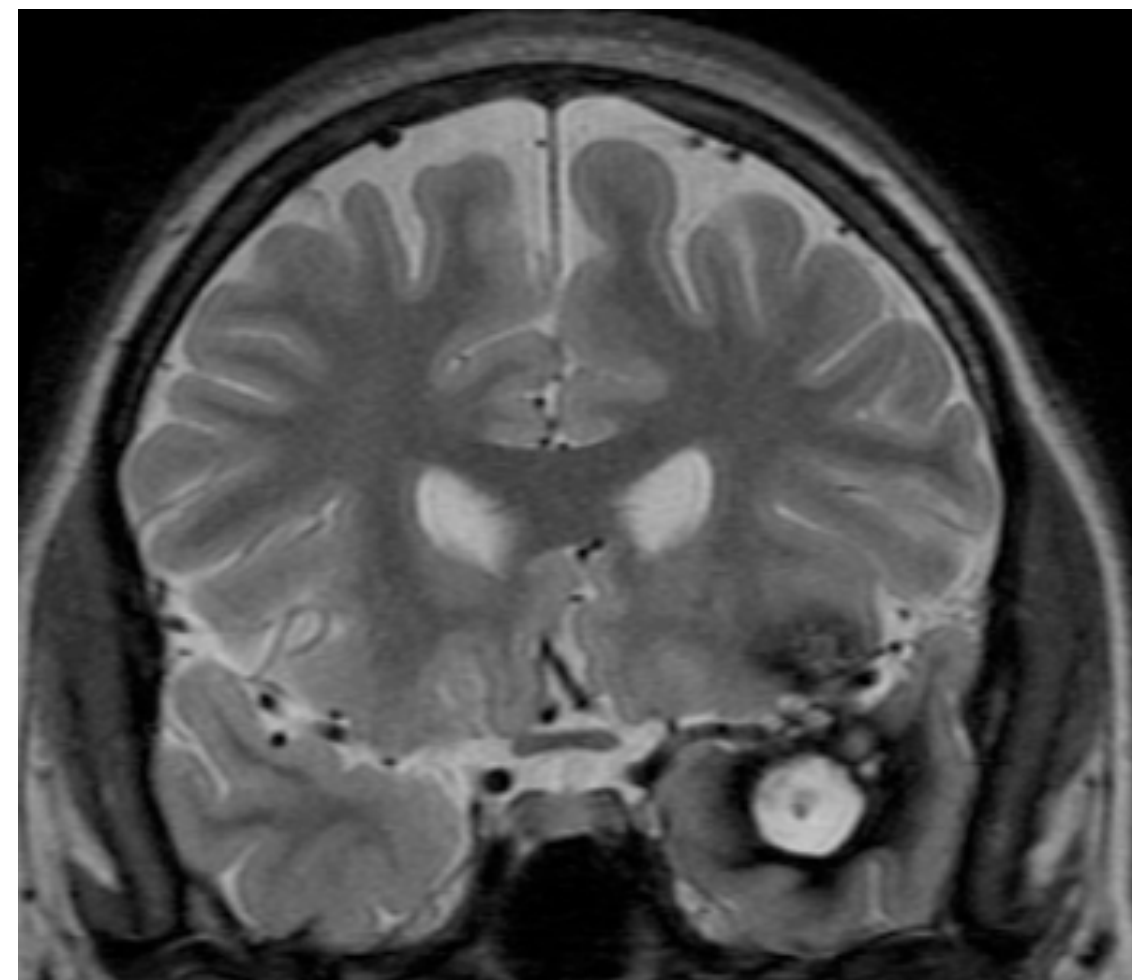
- ★ **Micro hemorragias** → **Gliose** → **Hemossideriana**
- ★ **isquemia** → **hipertensão venosa** → **gliose/ resposta inflamatória**
- ★ **alterações das camadas corticais como o que ocorre nas Displasias Focais** → **Astroglíose** → **BHE/Astrócitos**
- ★ **Clustter de citocinas pró-inflamatórias**



CAVERNOMAS CEREBRAIS E EPILEPSIA

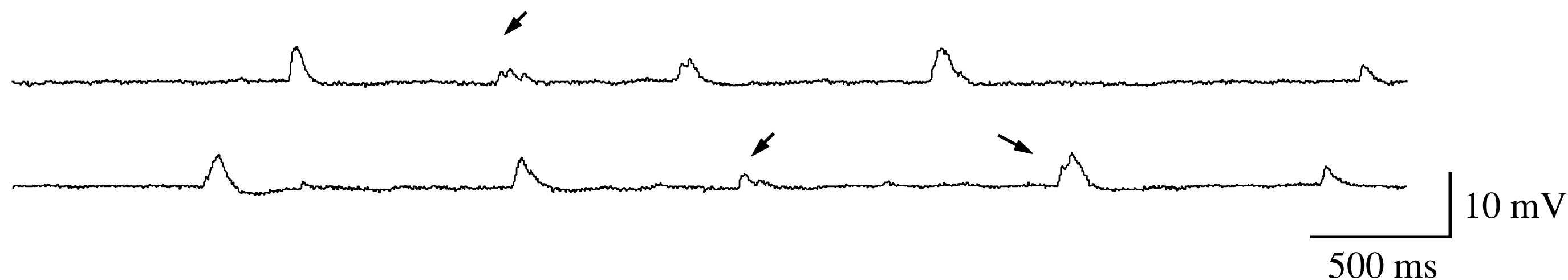
MECANISMOS DE EPILEPTOGÊNESE

*Anne Williamson, †Peter R. Patrylo, *Sunghoon Lee, and *Dennis D. Spencer



(1) epileptogenesis do
tecido cerebral ao redor
do CCM (5x mais
complexos com potenciais
pos sinápticos excitatórios
espontâneos, em 71%
células)

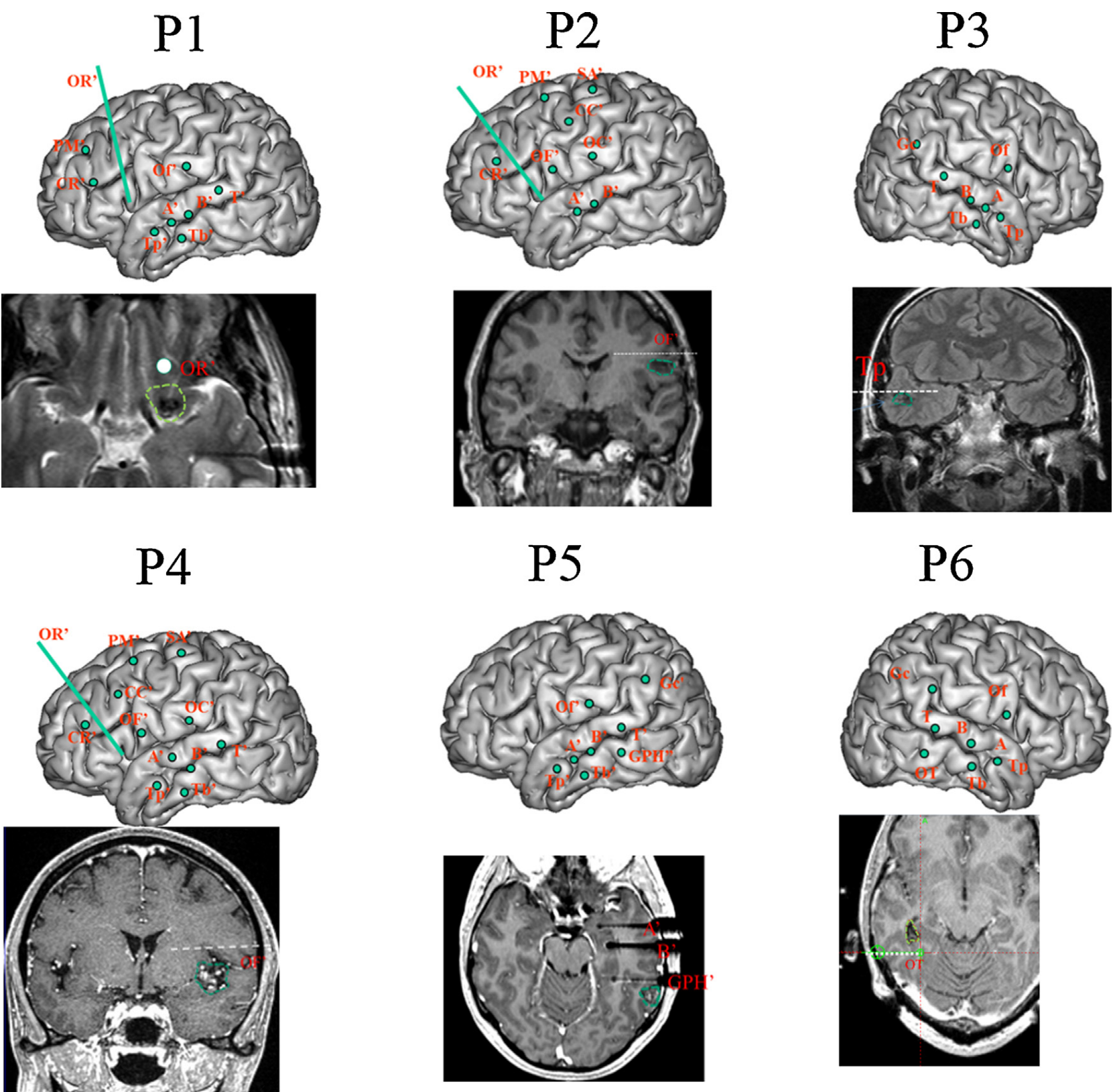
B Spontaneous Activity in Tissue Adjacent to a Glioma



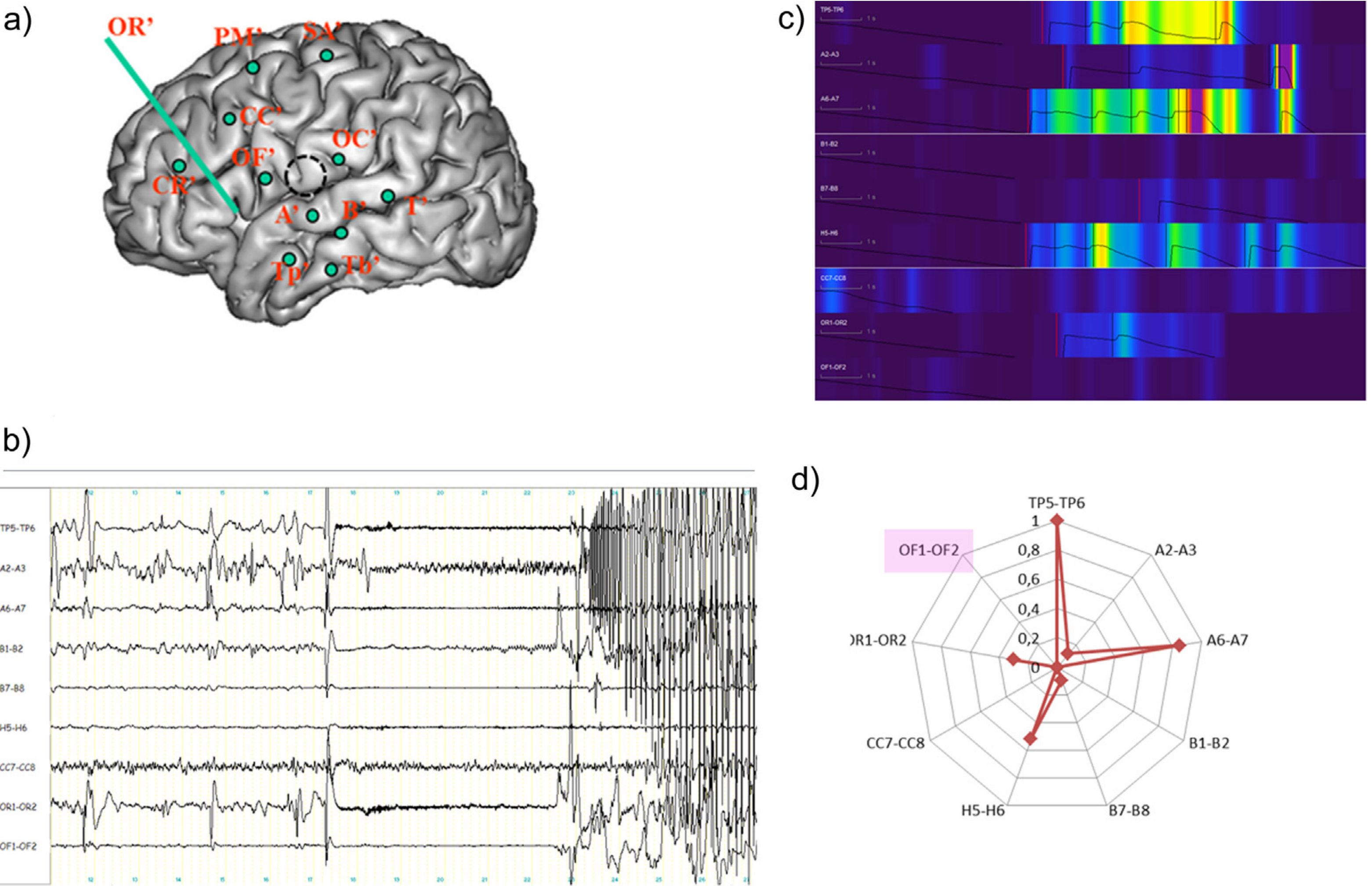


Beyond the lesion: The epileptogenic networks around cavernous angiomas

Amandine Sevy^a, Martine Gavaret^{a,b,c}, Agnès Trebuchon^{a,b,c},
Lisa Vaugier^{a,b,c}, Fabrice Wendling^e, Romain Carron^d,
Jean Regis^d, Patrick Chauvel^{a,b,c}, Aileen Mc Gonigal^{a,b,c},
Fabrice Bartolomei^{a,b,c,*}



SEEG mostrando a hiperexcitabilidade neuronal no tecido subjacente ao CCM



CAVERNOMAS CEREBRAIS E EPILEPSIA MECANISMOS DE EPILEPTOGÊNESE

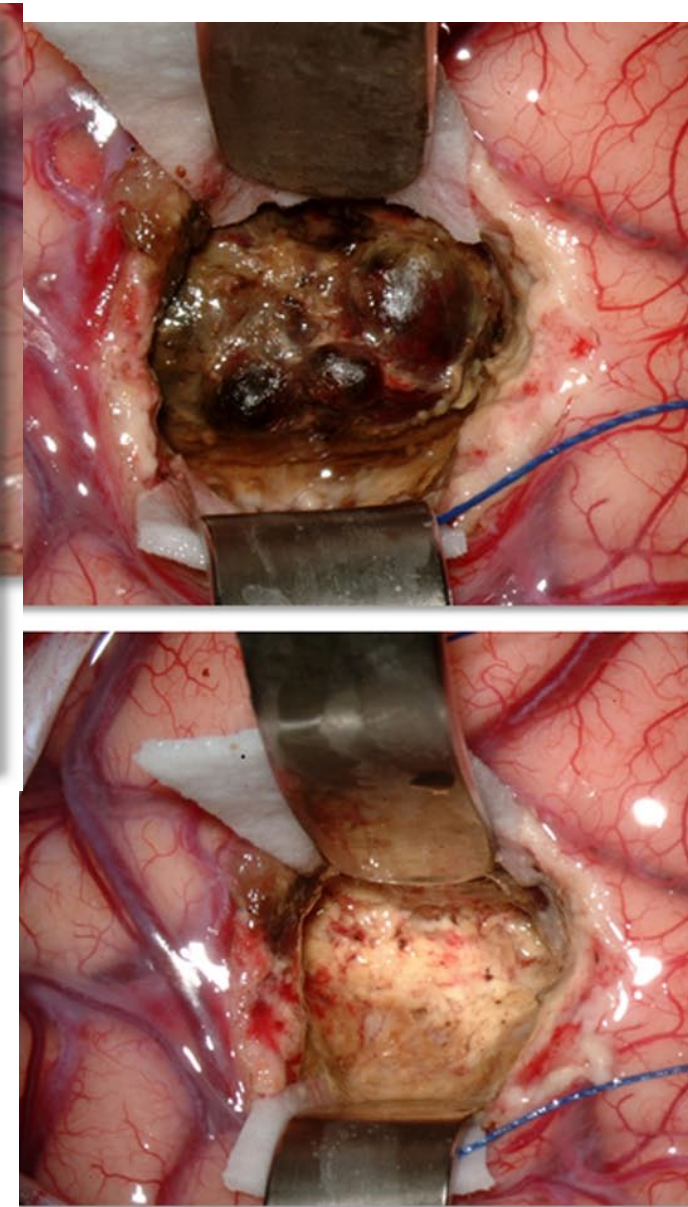
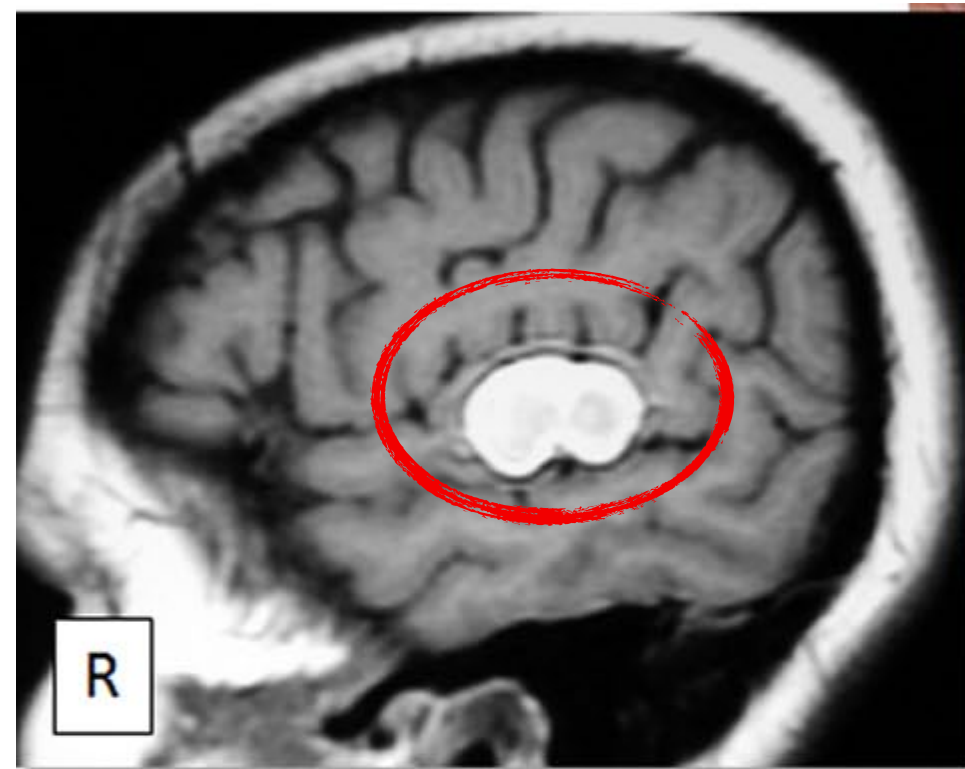
Epileptogenese secundária - PATOLOGIA DUAL/TRÍPLICE

Acta Neuropathol (2014) 128:55–65
DOI 10.1007/s00401-014-1294-y

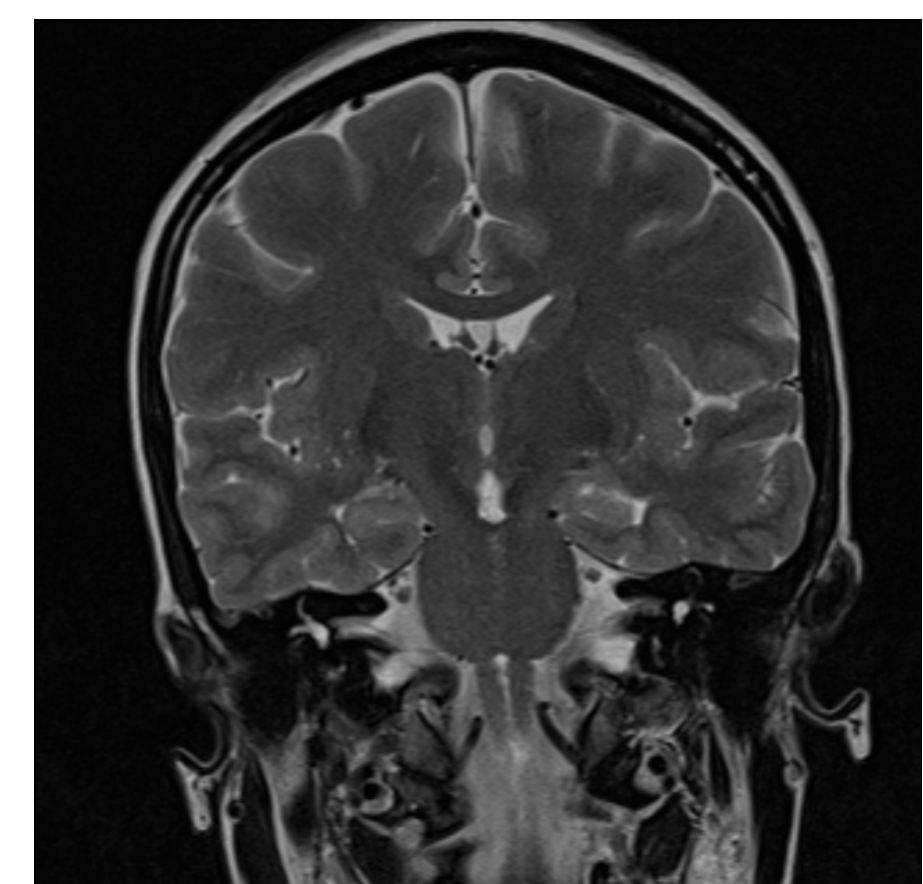
REVIEW

Cerebral cavernous malformations in the setting of focal epilepsies: pathological findings, clinical characteristics, and surgical treatment principles

Lara E. Jehi · Andre Palmmini · Usha Aryal ·
Roland Coras · Eliseu Paglioli



Ressecção completa
mostrando o tecido
adjacentemente anormal
pode incluir displasia
focal



ESCLEROSE
HIPOCAMPAL

CAVERNOMAS CEREBRAIS E EPILEPSIA

MECANISMOS DE EPILEPTOGÊNESE

Múltiplos Fatores

GENOTIPO CCM E GENES CANDIDATOS

Brain Vascular Malformation Consortium (BVMC)



- . 190 Hispánicos genotipados
- . 817.810 SNPs
- . 56 Genes candidatos:
 - . Vias inflamação/resposta imune
 - . Malformações vasculares
 - . Inflamação ou resposta imune (T, B, monócitos e macrófagos)
- . 830 SNPs analisados para associação com marcadores de gravidade da doença por CCM1

Blood-Brain Barrier Dysfunction, TGF β Signaling, and Astrocyte Dysfunction in Epilepsy

UWE HEINEMANN,¹ DANIELA KAUFER,² AND ALON FRIEDMAN^{3*}

Epilepsia, 52(Suppl. 3):33–39, 2011
doi: 10.1111/j.1528-1167.2011.03034.x

IMMUNITY AND INFLAMMATION IN EPILEPSY

Molecular cascades that mediate the influence of inflammation on epilepsy

*Alon Friedman and †Ray Dingledine

*Department of Physiology and Neurobiology, Faculty of Health Sciences, Zlotowski Center for Neuroscience, Ben-Gurion University of the Negev, Beer-Sheva, Israel; and †Department of Pharmacology, Emory Chemical

Epilepsia, 49(Suppl. 2):24–32, 2008
doi: 10.1111/j.1528-1167.2008.01490.x

SUPPLEMENT - EARLY GLIAL DYSFUNCTION

Glia as a source of cytokines: Implications for neuronal excitability and survival

*Annamaria Vezzani, *Teresa Ravizza, *Silvia Balosso, and †Eleonora Aronica

IMMUNITY AND INFLAMMATION IN EPILEPSY (IIE2016)

Neuroinflammatory targets and treatments for epilepsy validated in experimental models

^{1,2,3}Eleonora Aronica, ^{4,5}Sebastian Bauer, ^{6,7}Yuri Bozzi, ⁶Matteo Caleo, ⁸Raymond Dingledine, ²Jan A. Gorter, ⁹David C. Henshall, ¹⁰Daniela Kaufer, ¹¹Sookyong Koh, ¹²Wolfgang Löscher, ^{13,14}Jean-Pierre Louboutin, ^{15,16}Michele Mishto, ^{4,17}Braxton A. Norwood, ¹⁸Eleonora Palma, ¹⁹Michael O. Poulter, ²⁰Gaetano Terrone, ²⁰Annamaria Vezzani, and ²¹Rafal M. Kaminski

Epilepsia, 53(7):1215–1224, 2012
doi: 10.1111/j.1528-1167.2012.03540.x

FULL-LENGTH ORIGINAL RESEARCH

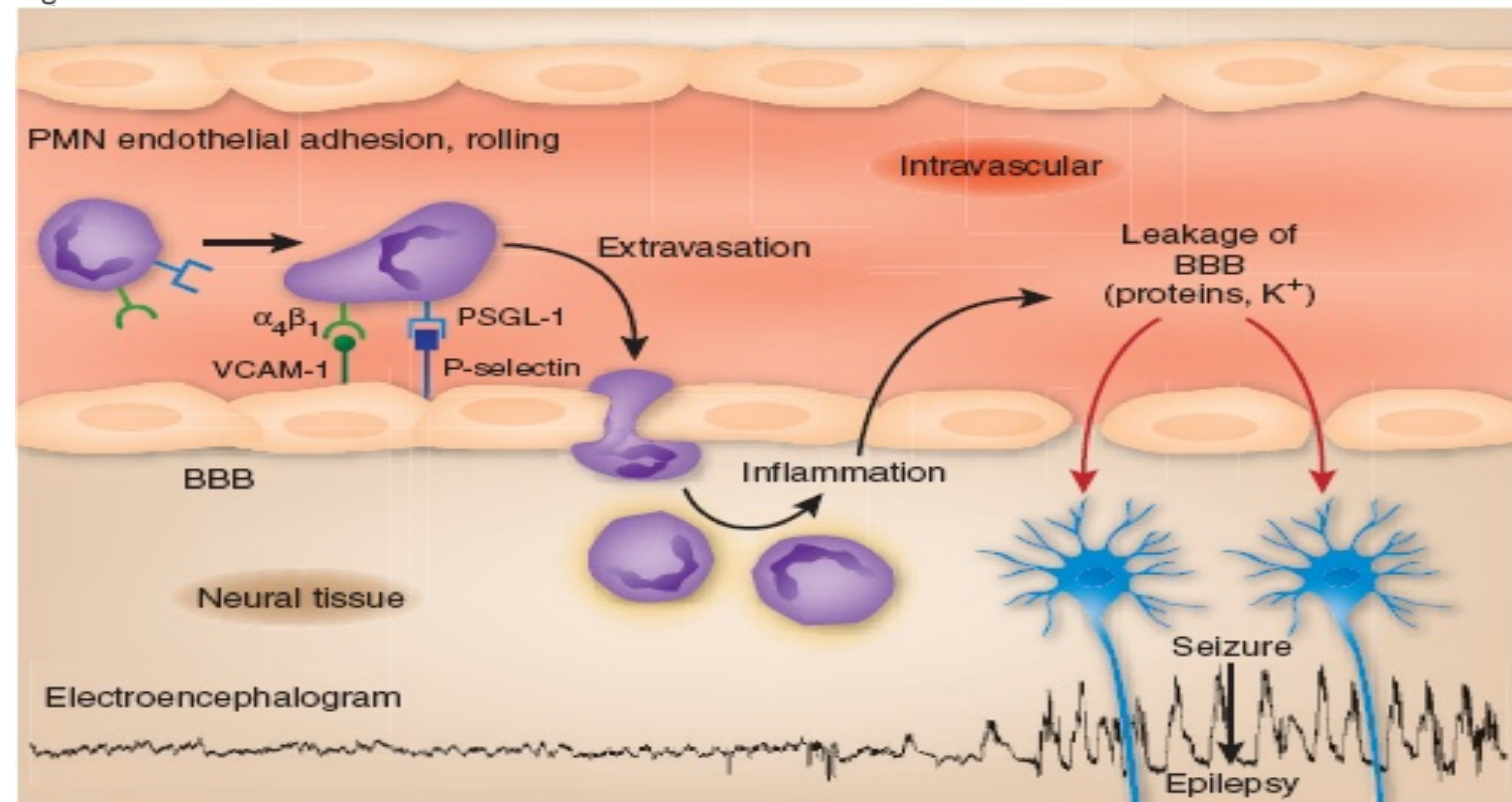
Interleukin-1 β and microRNA-146a in an immature rat model and children with mesial temporal lobe epilepsy

*Ahmed Omran, *Jing Peng, *Ciliu Zhang, *Qiu-Lian Xiang, †Jinfeng Xue, *Na Gan, *Huimin Kong, and *Fei Yin

Brain inflammation initiates seizures

Jonathan K Kleen & Gregory L Holmes

Interfering with the adhesion of immune cells to the cerebral vasculature holds seizures in check, potentially opening a new realm of therapeutics (pages 1377–1383).



Biomarkers of cavernous angioma with symptomatic hemorrhage

Seán B. Lyne,¹ Romuald Girard,¹ Janne Koskimäki,¹ Hussein A. Zeineddine,¹ Dongdong Zhang,¹ Ying Cao,¹ Yan Li,² Agnieszka Stadnik,¹ Thomas Moore,¹ Rhonda Lightle,¹ Changbin Shi,¹ Robert Shenkar,¹ Julián Carrión-Penagos,¹ Sean P. Polster,¹ Sharbel Romanos,¹ Amy Akers,³ Miguel Lopez-Ramirez,⁴ Kevin J. Whitehead,⁵ Mark L. Kahn,⁶ Mark H. Ginsberg,⁴ Douglas A. Marchuk,⁷ and Issam A. Awad¹

Plasma Biomarkers of Inflammation and Angiogenesis Predict Cerebral Cavernous Malformation Symptomatic Hemorrhage or Lesional Growth

Short Communication

Romuald Girard,* Hussein A. Zeineddine,* Janne Koskimäki, Maged D. Fam, Ying Cao, Changbin Shi, Thomas Moore, Rhonda Lightle, Agnieszka Stadnik, Kiranj Chaudagar, Sean Polster, Robert Shenkar, Ryan Duggan, David Leclerc, Kevin J. Whitehead, Dean Y. Li, Issam A. Awad

O DESFECHO DOS ESTUDOS DE BIOMARCADORES FORAM PARA CASH BIOMARCADORES IMUNOLÓGICOS SEMELHANTES EM EPILEPSIAS

RESULTS. T (sCD14), VEGF, C-reactive protein (CRP), and IL-10 distinguishing CASH patients with 76% sensitivity and 80% specificity ($P = 0.0003$). The prognostic CASH biomarker (sCD14, VEGF, IL-1 β , and sROBO-4) was confirmed to predict a bleed in the subsequent year with 83% sensitivity and 93% specificity ($P = 0.001$). Genes associated with diagnostic and prognostic CASH biomarkers were differentially expressed in CASH lesional NVUs. Thirteen plasma miRNAs were differentially expressed between CASH and non-CASH patients.

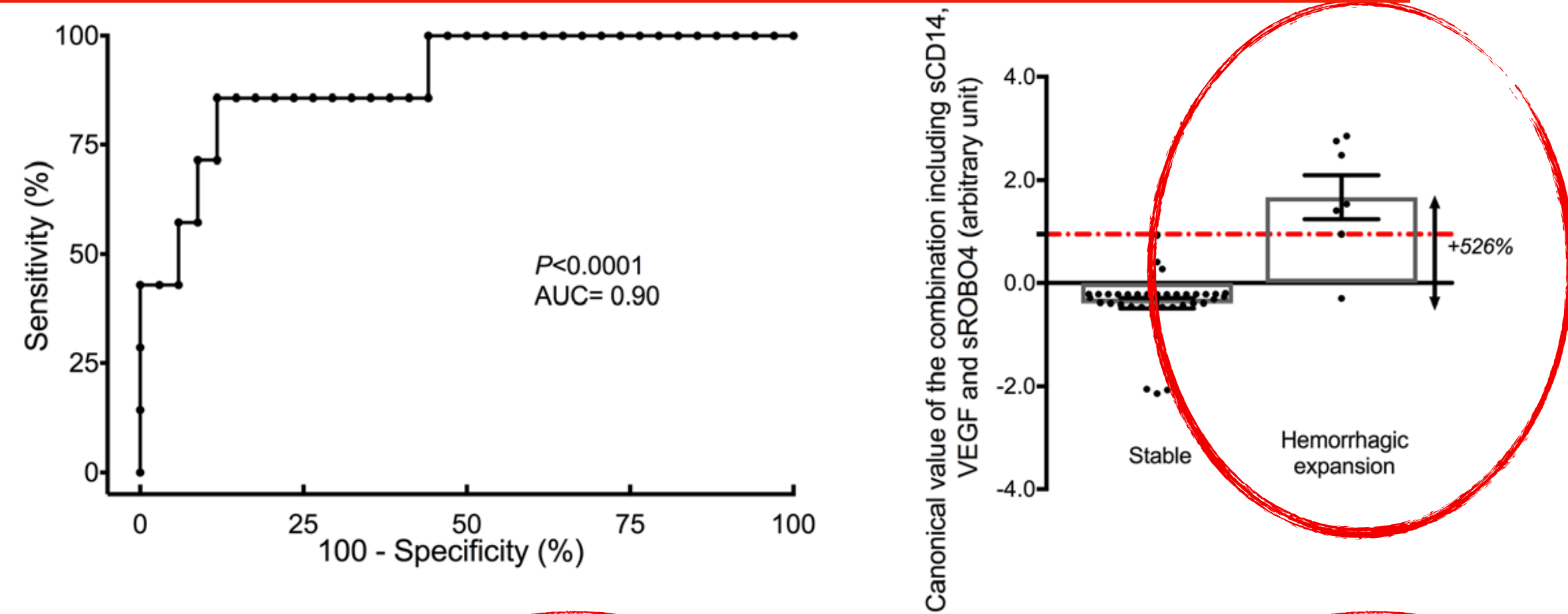
CONCLUSION. Shared and unique biomarkers of recent symptomatic hemorrhage and of future bleeding in CA are mechanistically linked to lesional transcriptome and miRNA. The biomarkers may be applied for risk stratification in clinical trials and developed as a tool in clinical practice.

DIAGNÓSTICO
sCD14, VEGF, PCR, IL-10

SENSIBILIDADE 76%
ESPECIFICIDADE 80%

PROGNÓSTICO
sCD14, VEGF, IL1-BETA ,
sROBO-4

SENSIBILIDADE 83%
ESPECIFICIDADE 93%

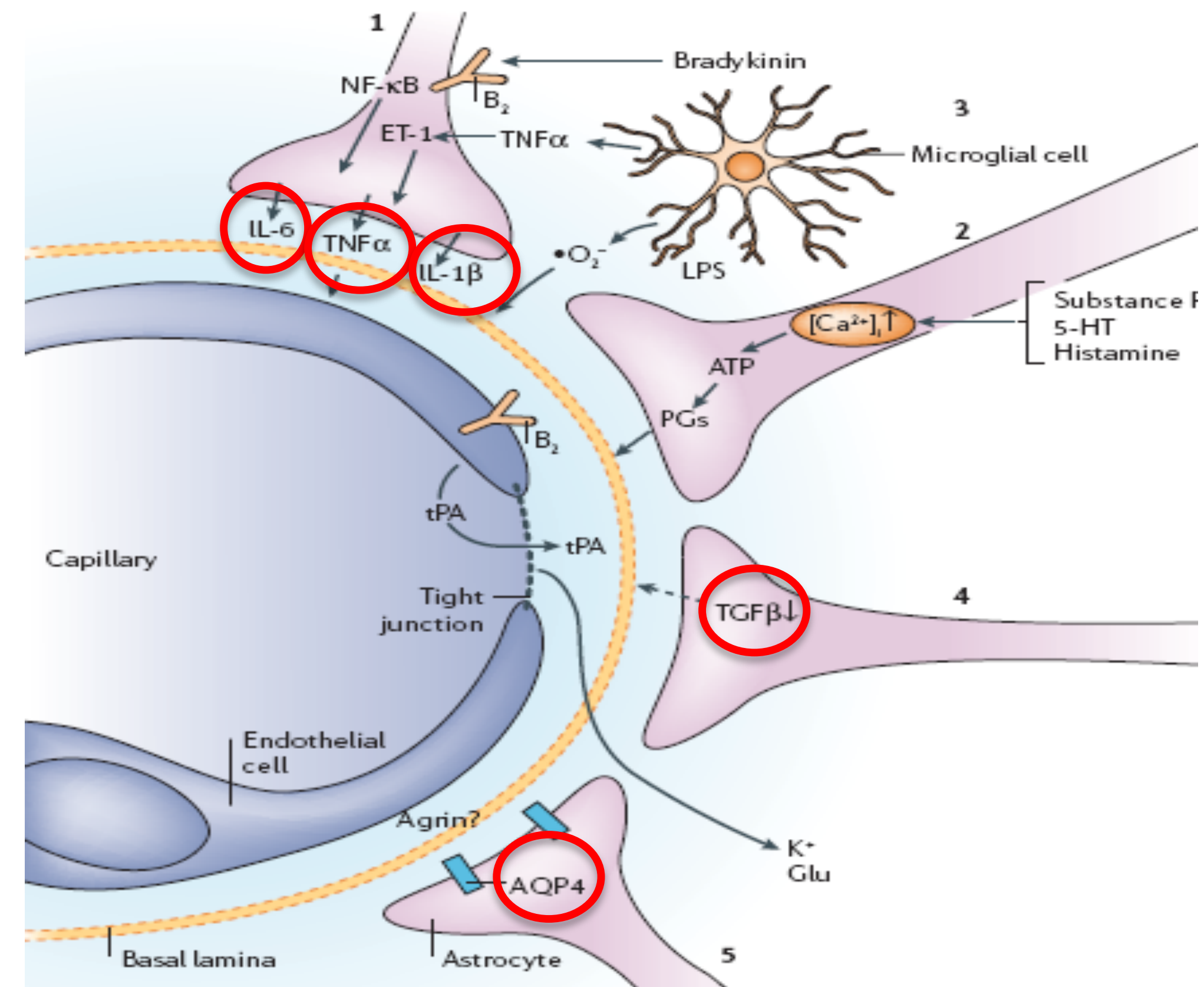


sCD14, IL-1 β , sRO-BO4, VEGF, IL-6

significativa diferença nos pacientes CCM com evento em 1 ano

❑ Mesial temporal lobe epilepsy with hippocampal sclerosis (**TLE-HS**) is a frequent condition within the pharmacoresistant group of epilepsies classified as a syndrome with clinical, electroencephalographic, genetic and immunological features (Berg, 2009; Vezzani et al., 2011).

❑ The release of inflammatory cytokines in mesial structures may activate mechanisms associated with prolonged epileptic seizure and neuronal damage (Balosso et al., 2009), and also neurogenesis, neuroplasticity and synaptic reorganization (Jankowsky and Patterson, 2001; Vezzani et al., 2011).



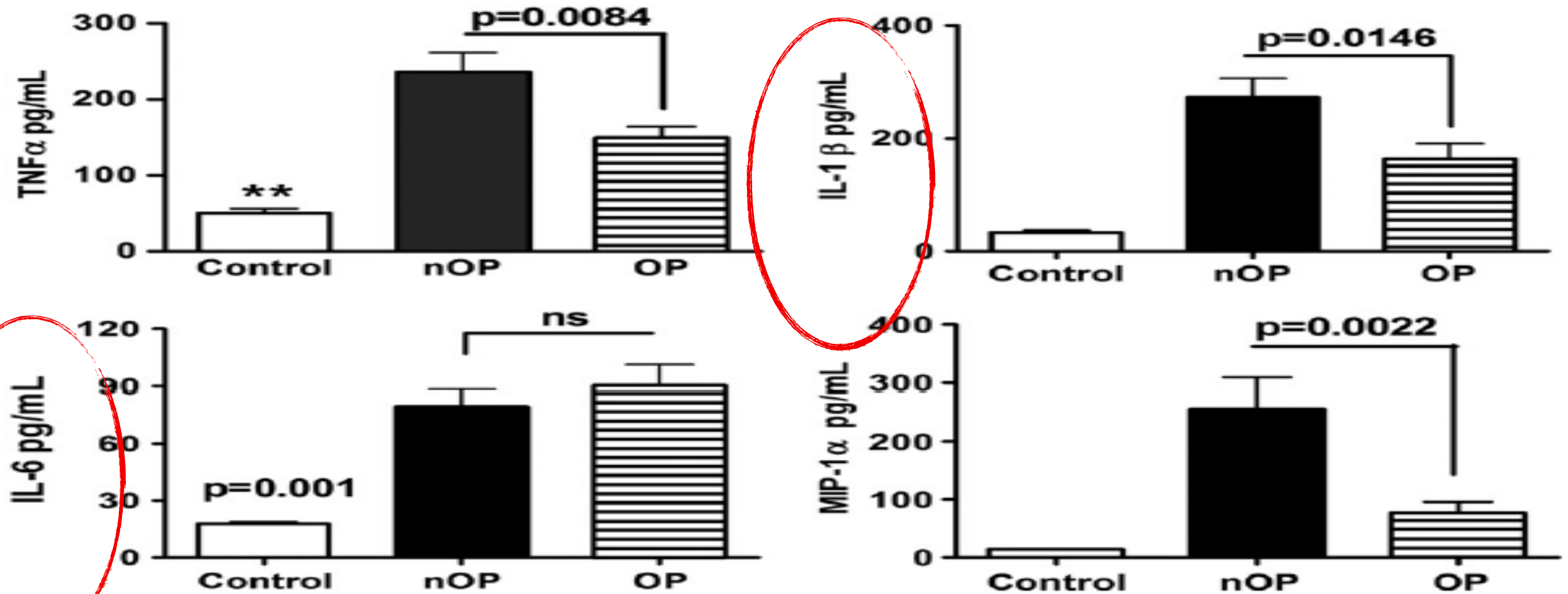
Resection of the epileptogenic lesion abolishes seizures and reduces inflammatory cytokines of patients with temporal lobe epilepsy

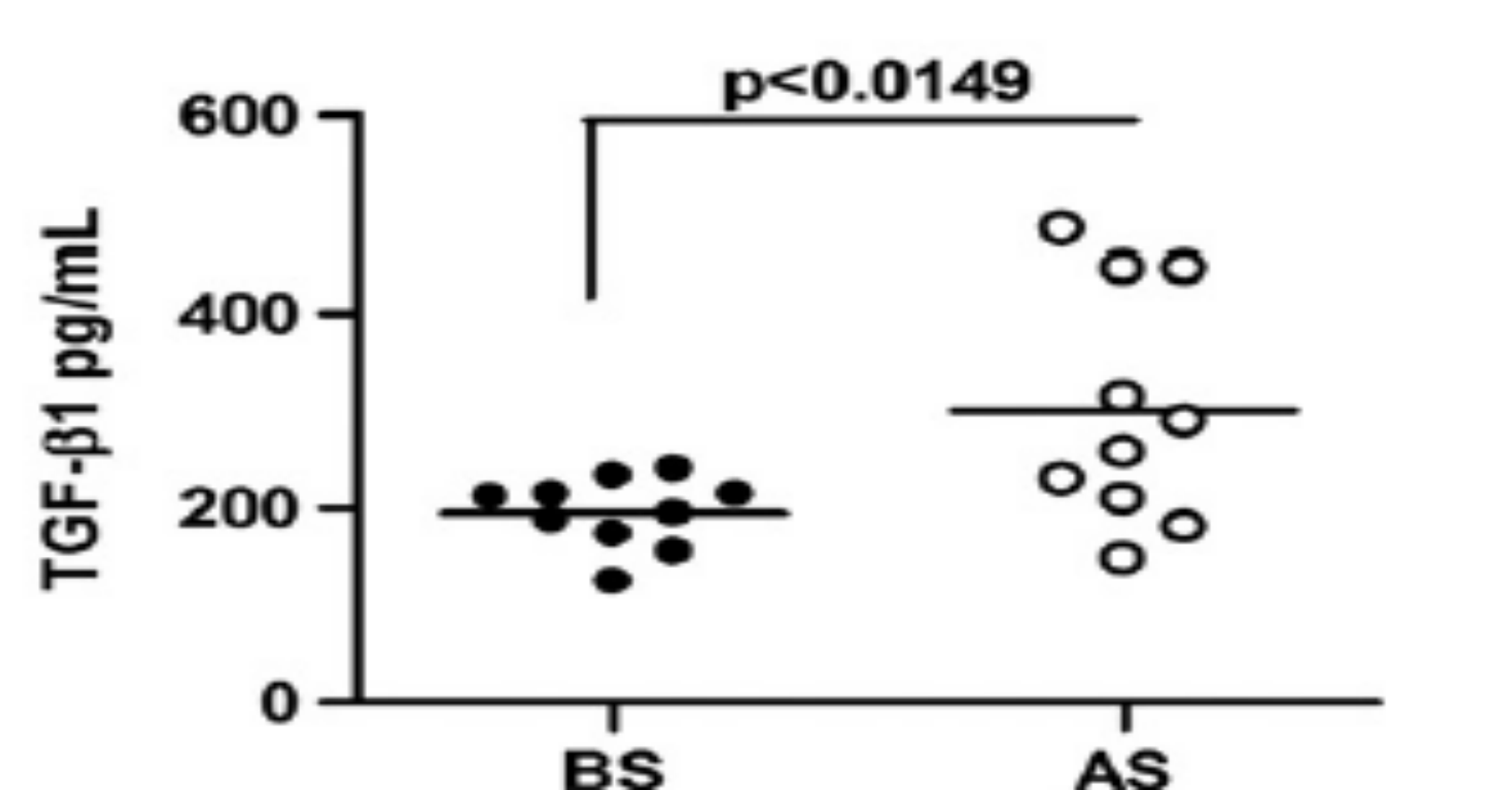
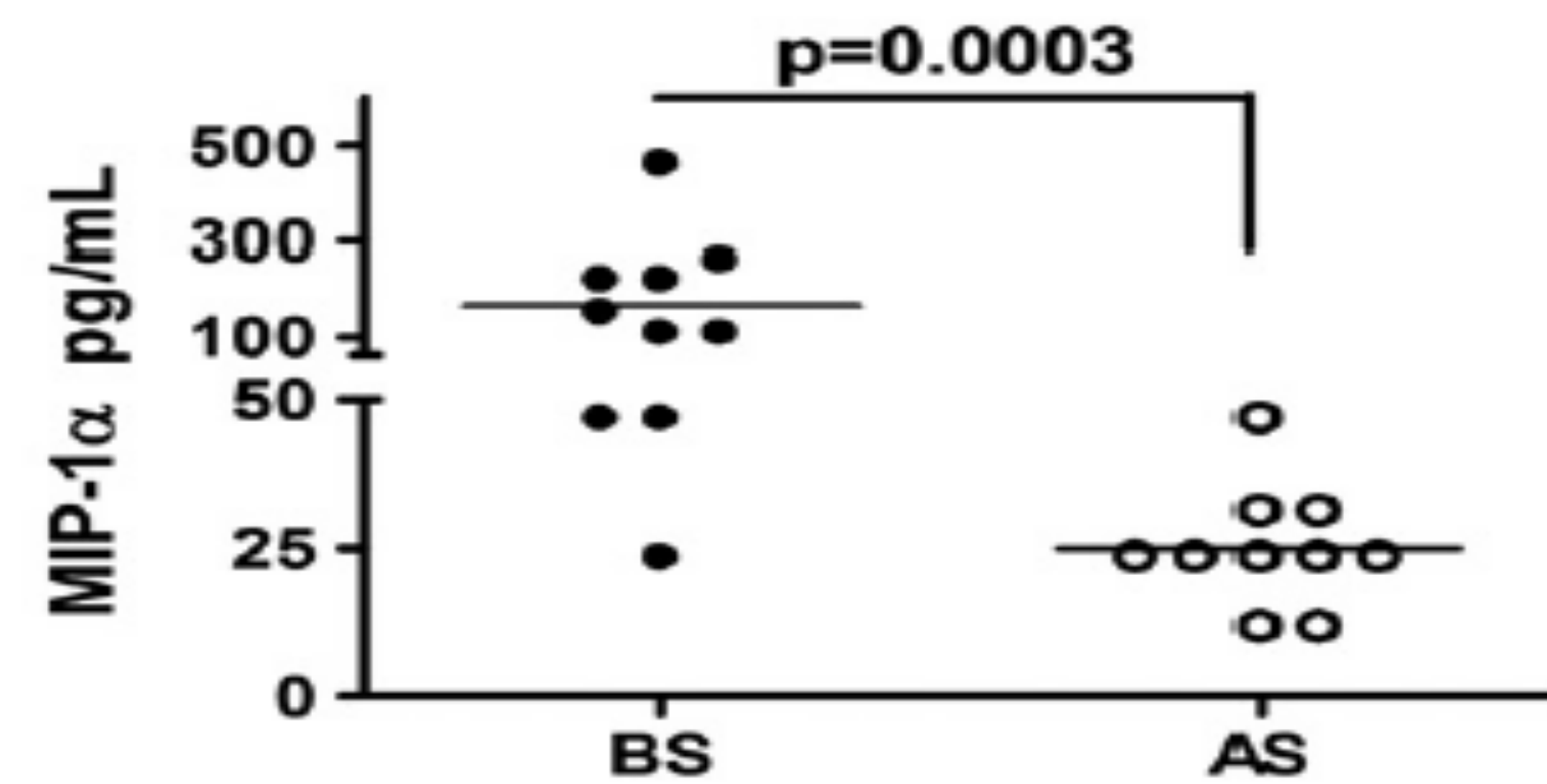
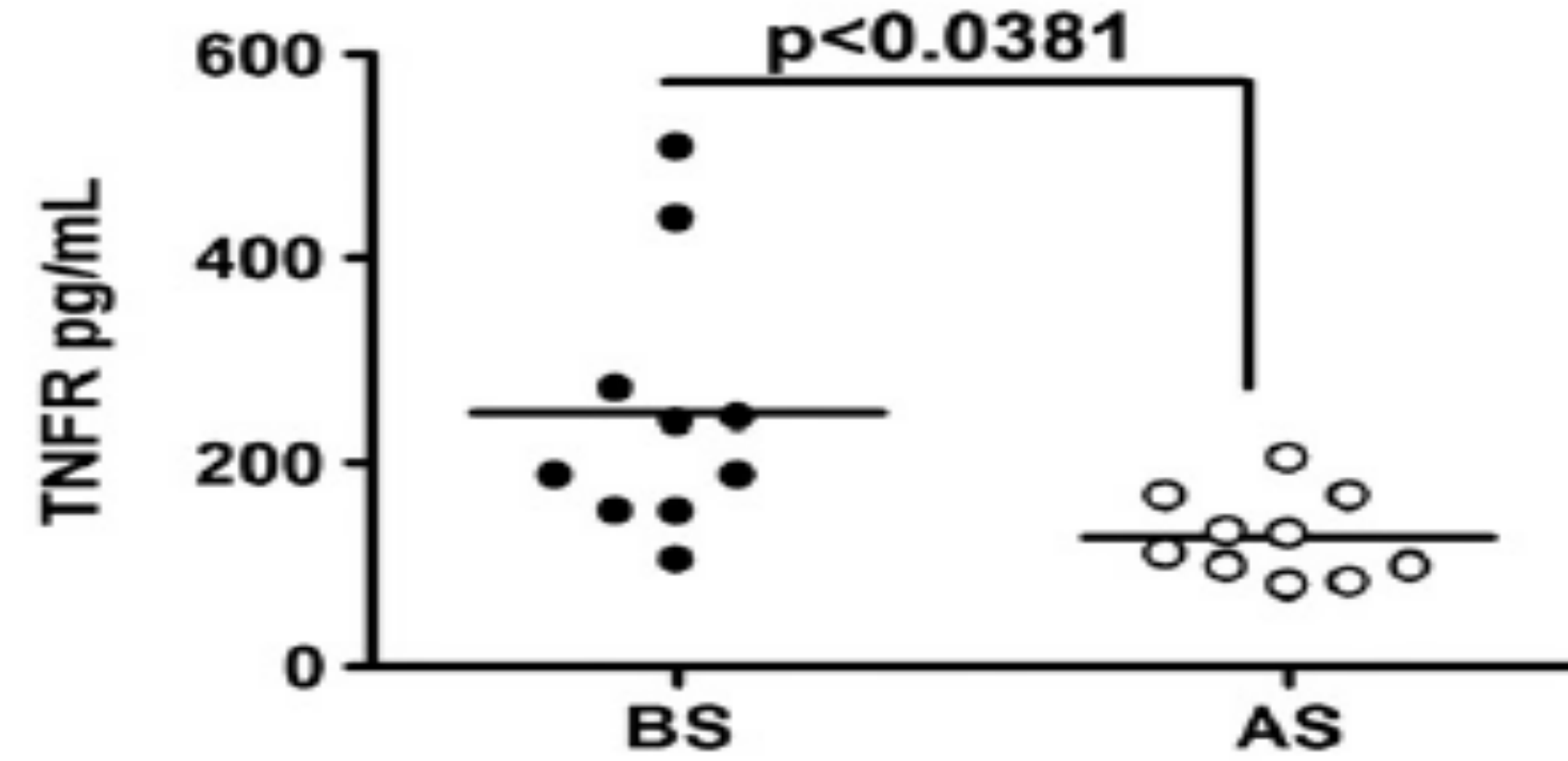
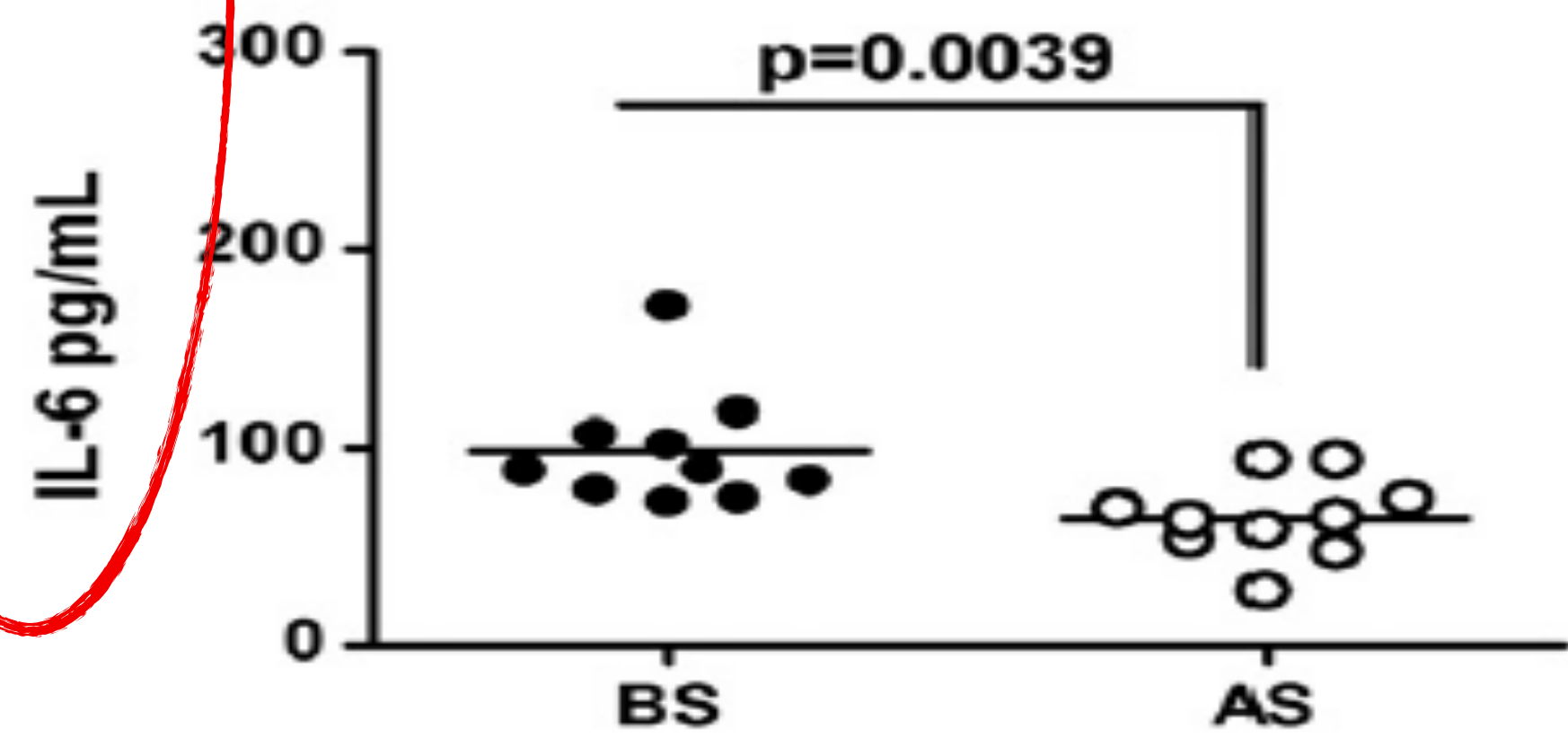
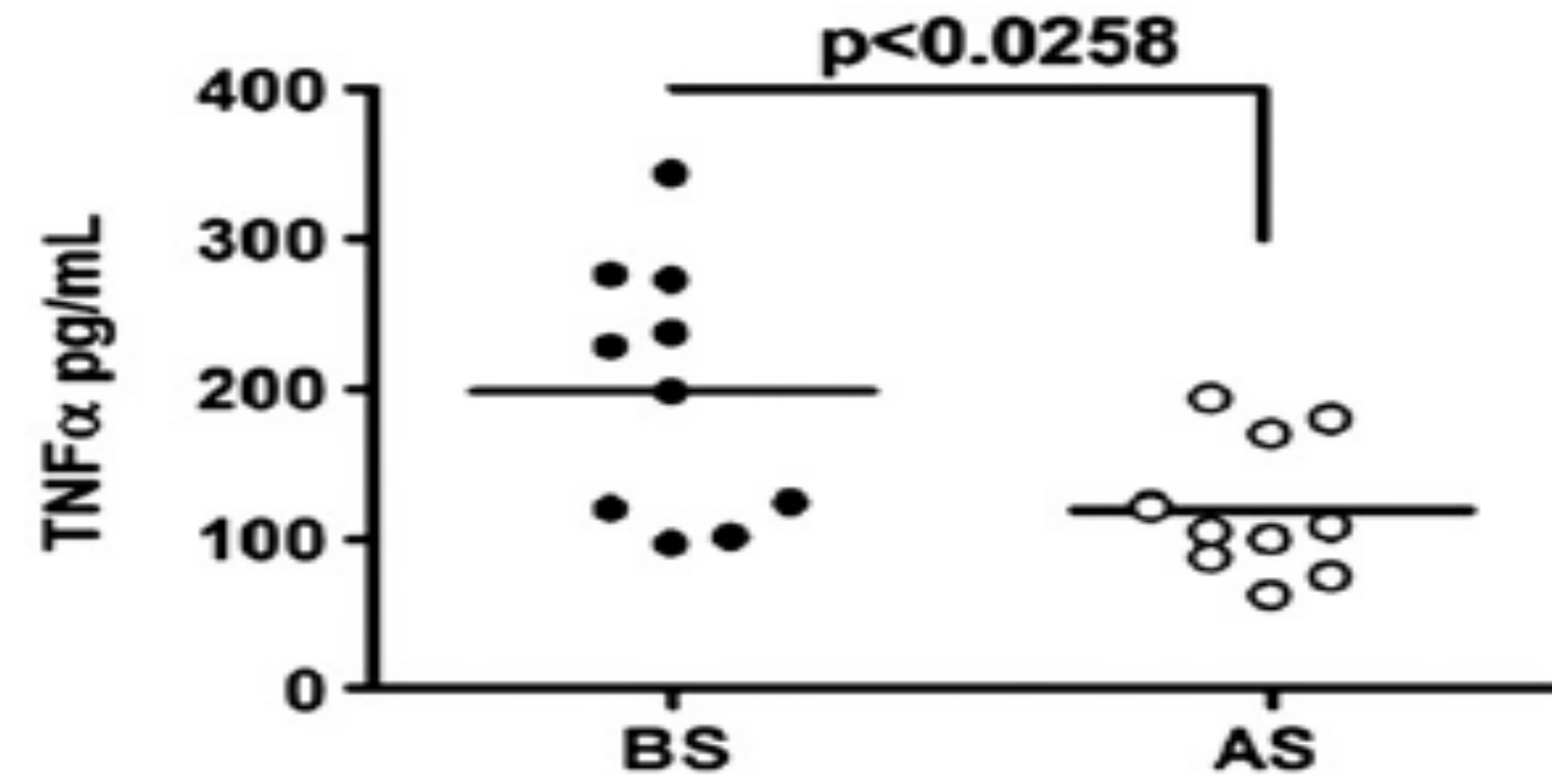
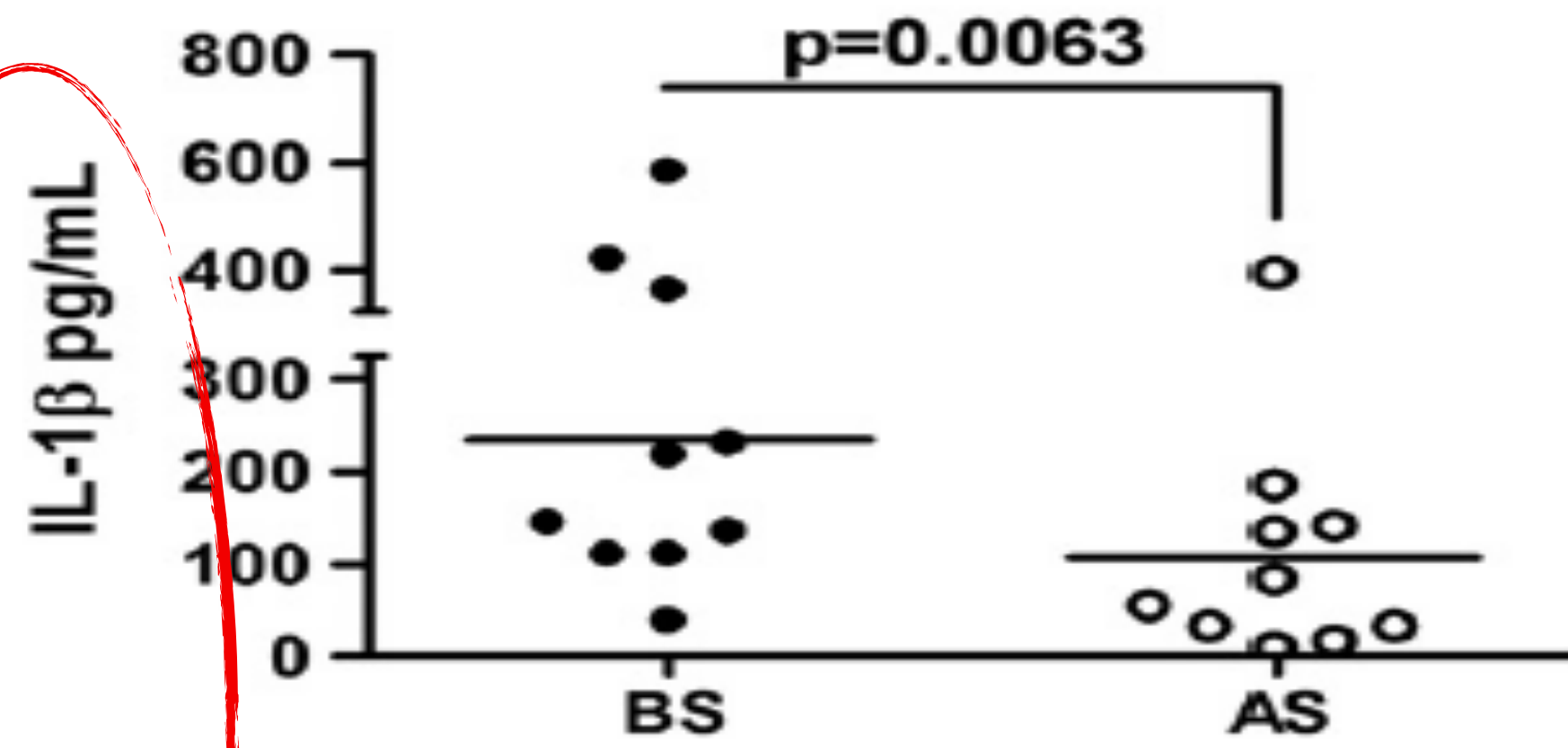
Thereza Quirico-Santos ^{a,*}, Isabella D'Andrea Meira ^{a,b}, Aline C. Gomes ^a, Valeria C. Pereira ^b, Moises Pinto ^b, Marisa Monteiro ^b, Jorge M. Souza ^c, Soniza V. Alves-Leon ^b

^a Department of Cellular and Molecular Biology, Institute of Biology, Fluminense Federal University, Rio de Janeiro Federal University, Rio de Janeiro, Brazil

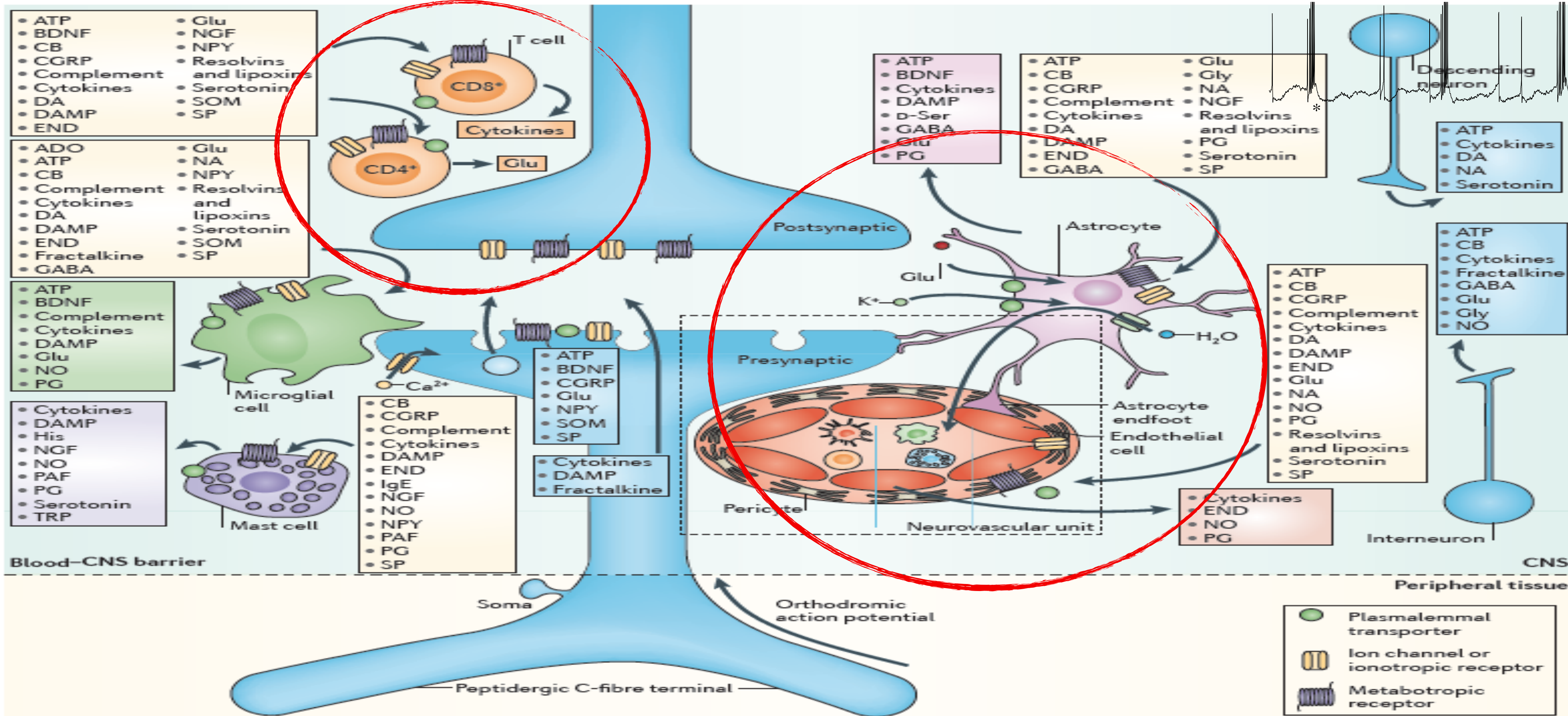
^b Department of Neurology, Rio de Janeiro Federal University, Rio de Janeiro, Brazil

^c Department of Neurosurgery, Rio de Janeiro Federal University, Rio de Janeiro, Brazil





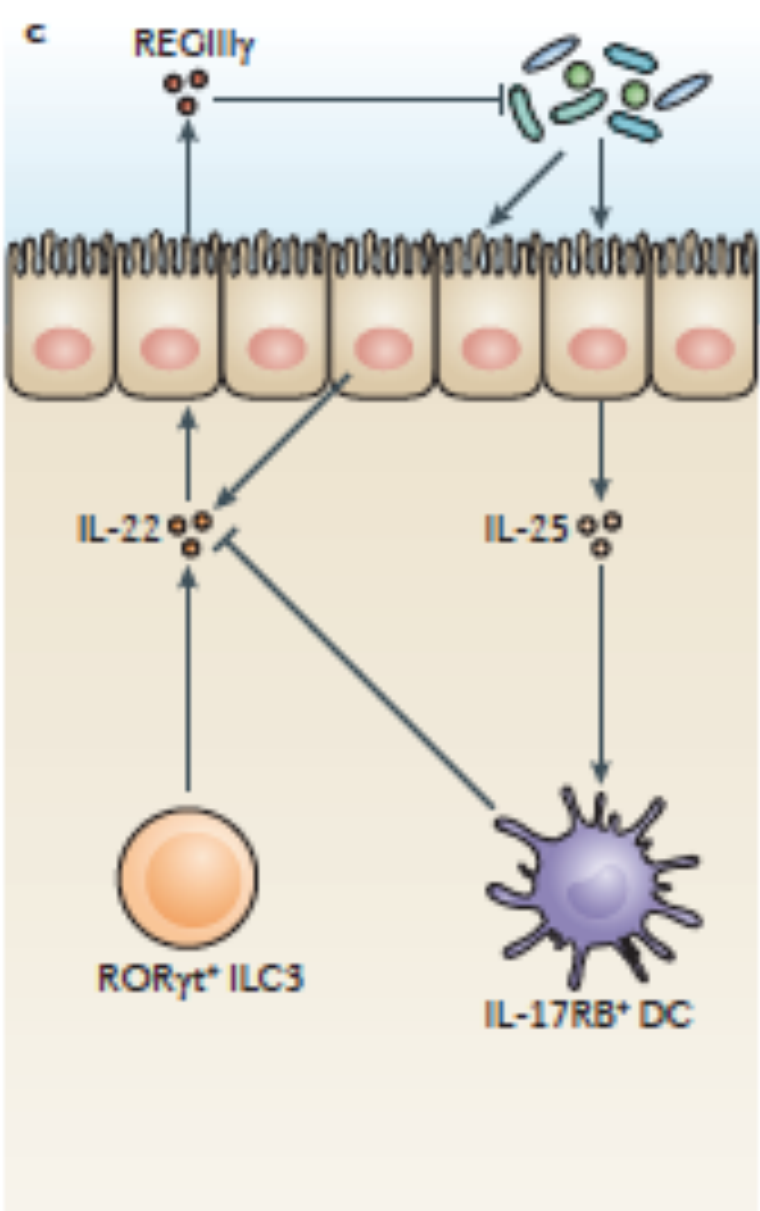
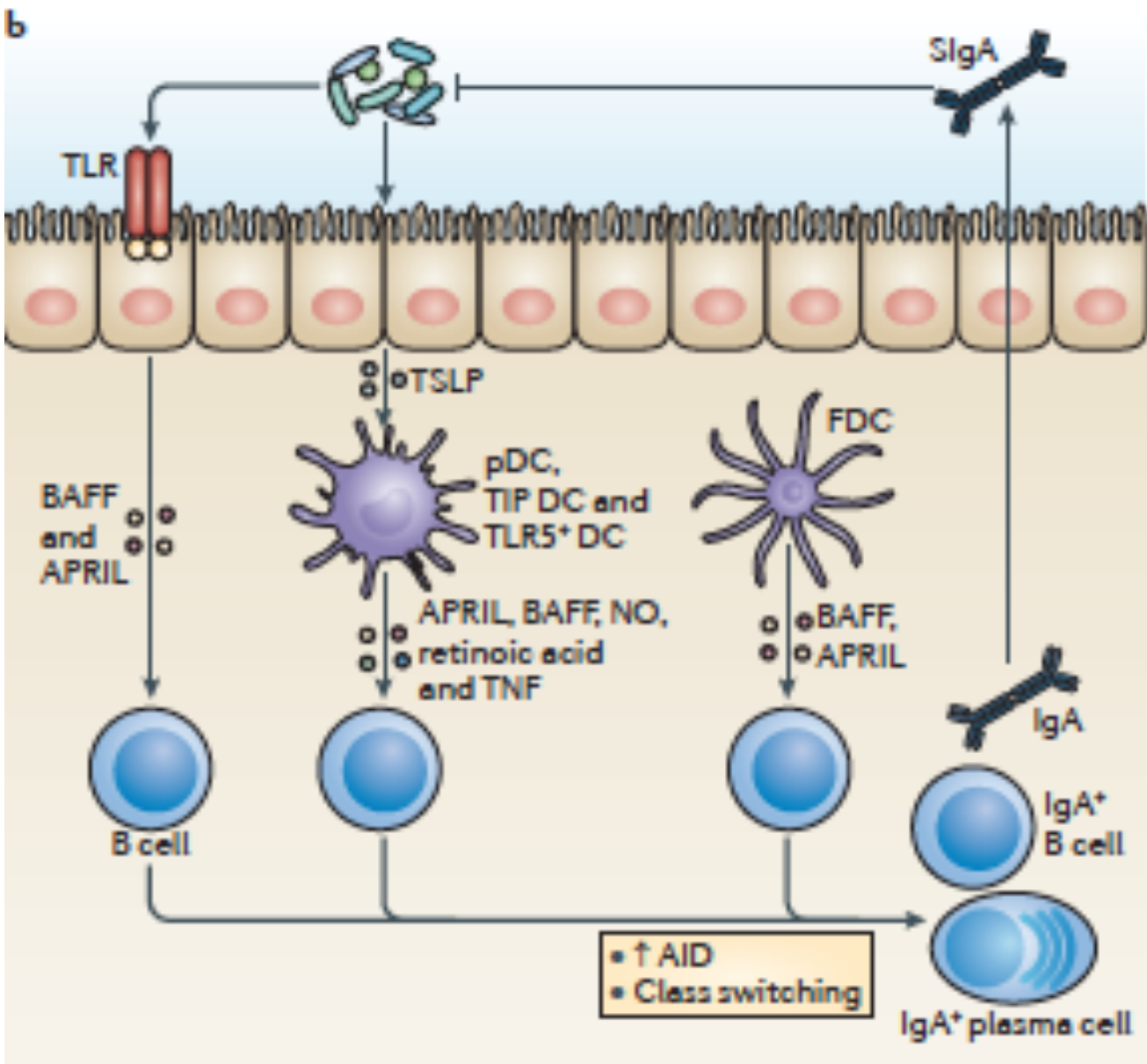
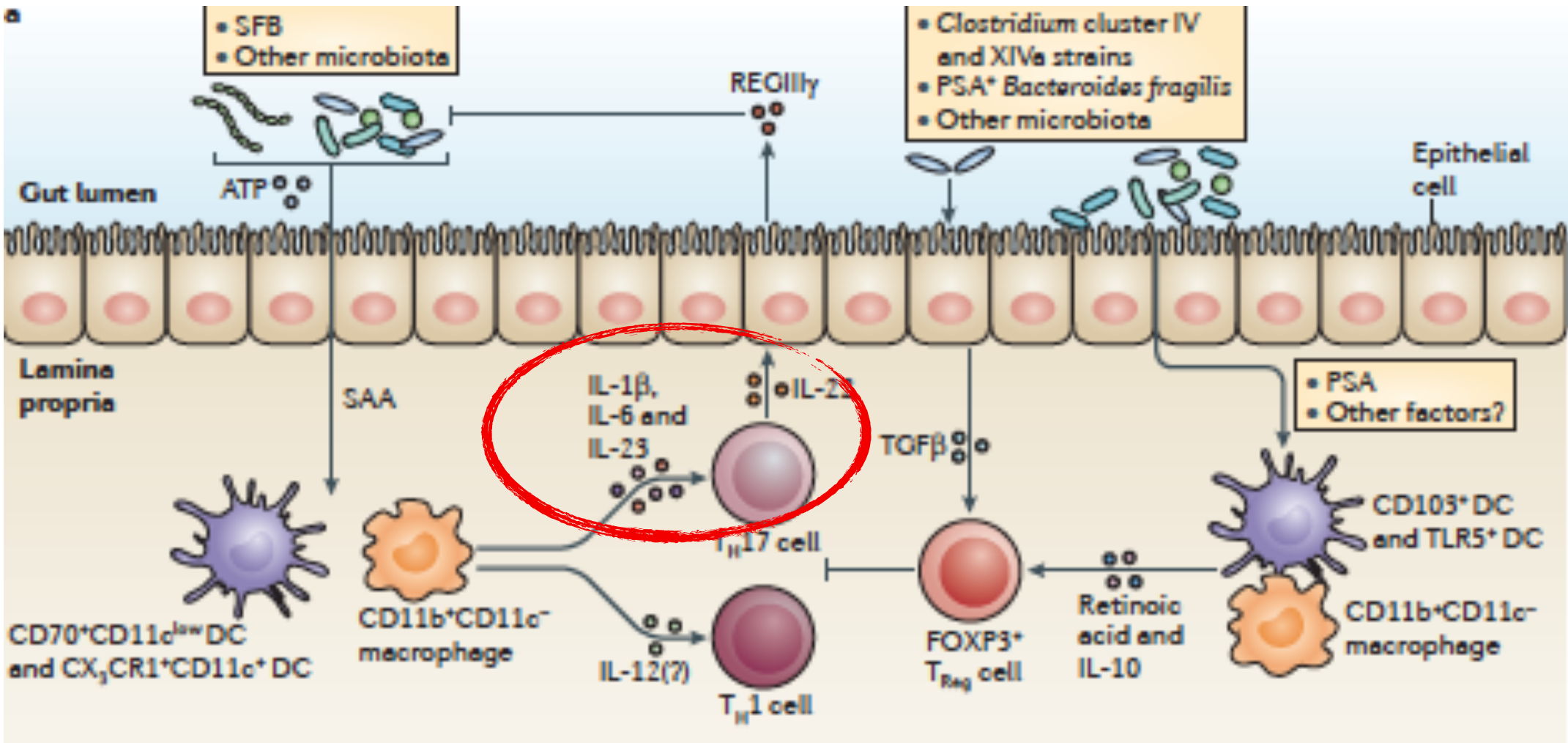
NEURÔNIOS AO REDOR DO CCM APRESENTAM RESPOSTA EXCITATÓRIA MAIOR À ESTIMULAÇÃO SINÁPTICA, COM MÚLTIPLOS POTENCIAS DE AÇÃO EM SURTOS OU POTENCIAS PÓS SINÁPTICOS EXCITATÓRIOS PROLONGADOS



Dimitris N. Xanthos and Jürgen Sandkühler, *Neurogenic neuroinflammation: inflammatory CNS reactions in response to neuronal activity*. NATURE REVIEWS | **NEUROSCIENCE** Volume 14, January 2014

Role of the gut microbiota in immunity and inflammatory disease

Nobuhiko Kamada¹, Sang-Uk Seo¹, Grace Y. Chen² and Gabriel Núñez¹



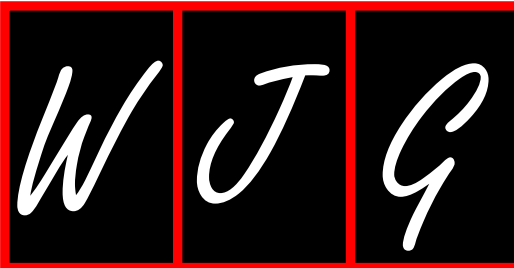
CCM and the microbiome

Genetic and/or environmental factors can modulate variability in disease

Endothelial TLR4 and the microbiome drive cerebral cavernous malformations

Alan T. Tang¹, Jaesung P. Choi², Jonathan J. Kotzin^{3,4}, Yiqing Yang¹, Courtney C. Hong¹, Nicholas Hobson⁵, Romuald Girard⁵, Hussein A. Zeineddine⁵, Rhonda Lightle⁵, Thomas Moore⁵, Ying Cao⁵, Robert Shenkar⁵, Mei Chen¹, Patricia Mericko¹, Jisheng Yang¹, Li Li¹, Ceylan Tanes⁶, Dmytro Kobuley^{4,7}, Urmo Vösa⁸, Kevin J. Whitehead⁹, Dean Y. Li⁹, Lude Franke⁸, Blaine Hart¹⁰, Markus Schwaninger¹¹, Jorge Henao-Mejia^{3,4,12}, Leslie Morrison¹⁰, Helen Kim¹³, Issam A. Awad⁵, Xiangjian Zheng^{2,14,15} & Mark L. Kahn¹

Cerebral cavernous malformations (CCMs) are a cause of stroke and seizure for which no effective medical therapies yet exist. CCMs arise from the loss of an adaptor complex that negatively regulates MEKK3–KLF2/4 signalling in brain endothelial cells, but upstream activators of this disease pathway have yet to be identified. Here we identify endothelial Toll-like receptor 4 (TLR4) and the gut microbiome as critical stimulants of CCM formation. Activation of TLR4 by Gram-negative bacteria or lipopolysaccharide accelerates CCM formation, and genetic or pharmacologic blockade of TLR4 signalling prevents CCM formation in mice. Polymorphisms that increase expression of the *TLR4* gene or the gene encoding its co-receptor CD14 are associated with higher CCM lesion burden in humans. Germ-free mice are protected from CCM formation, and a single course of antibiotics permanently alters CCM susceptibility in mice. These studies identify unexpected roles for the microbiome and innate immune signalling in the pathogenesis of a cerebrovascular disease, as well as strategies for its treatment.



World Journal of
Gastroenterology

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World J Gastroenterol 2017 September 7; 23(33): 6164-6171

DOI: 10.3748/wjg.v23.i33.6164

ISSN 1007-9327 (print) ISSN 2219-2840 (online)

ORIGINAL ARTICLE

Retrospective Study

Ketogenic diet poses a significant effect on imbalanced gut microbiota in infants with refractory epilepsy

Gan Xie, Qian Zhou, Chuang-Zhao Qiu, Wen-Kui Dai, He-Ping Wang, Yin-Hu Li, Jian-Xiang Liao, Xin-Guo Lu, Su-Fang Lin, Jing-Hua Ye, Zhuo-Ya Ma, Wen-Jian Wang

MANEJO COM DAE VERSUS CIRURGIA CAVERNOMAS CEREBRAIS E EPILEPSIAS



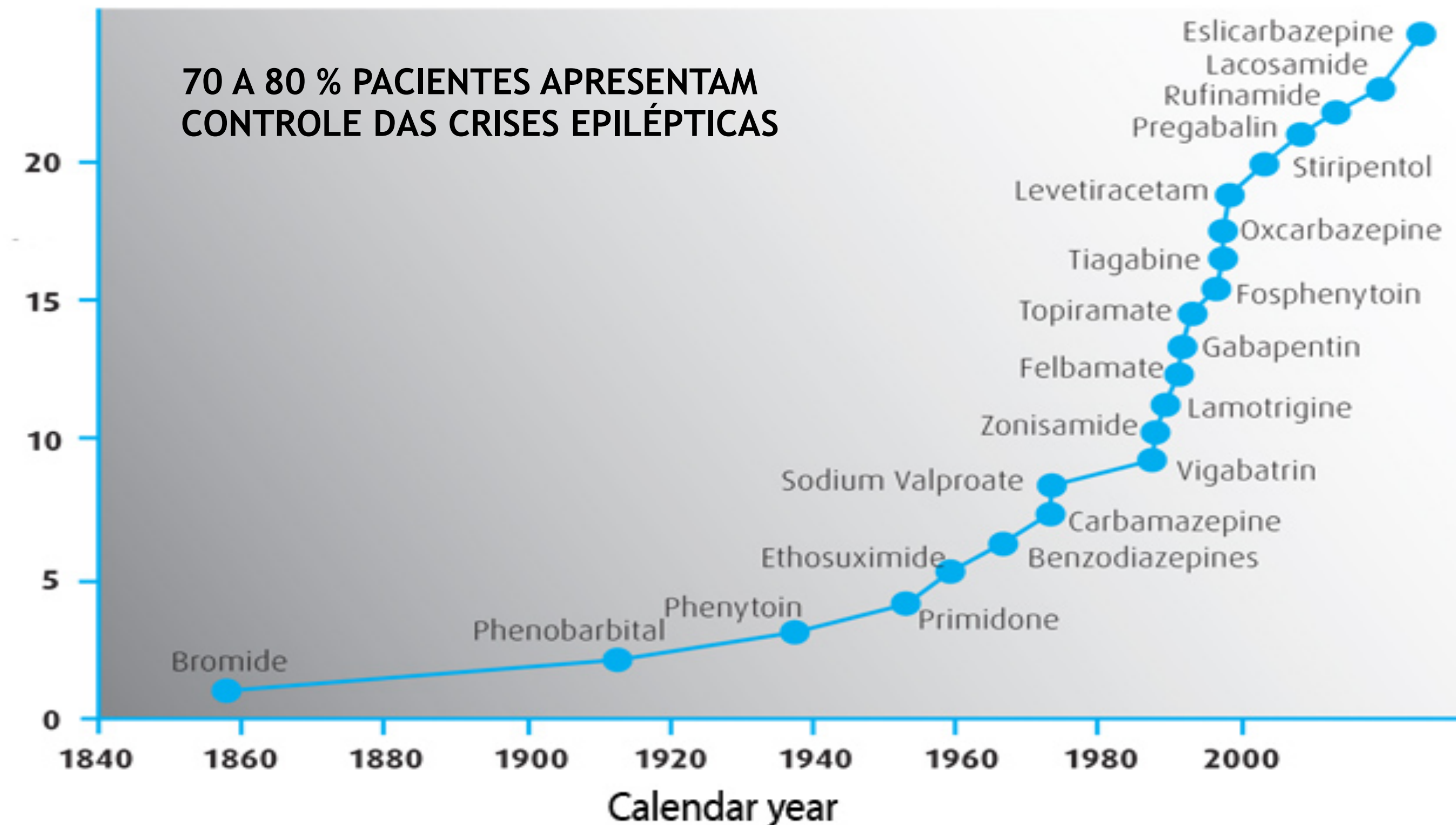
CAVERNOMAS CEREBRAIS E EPILEPSIA DROGAS ANTI EPILEPTICAS (DAE)

Clinical outcome following medical treatment of cavernous malformation related epilepsy



Yoonju Lee^a, Kyoo Ho Cho^a, Hye Ihn Kim^a, Seung-Koo Lee^b, Yang-Je Cho^a, Kyoung Heo^a, Byung In Lee^{c,*}

- O controle das crises em 1 ano, com DAE, em pacientes com CCM/CRE (64,7%) foi semelhante aos de pacientes com Epilepsia recém diagnosticadas
- Falha após 2 DAE - investigar possível indicação de tratamento cirúrgico
- CRE TEMPORAL- falha na 1a. DAE considera cirurgia - fator preditivo de maior risco de falha (p=0.01)



FULL-LENGTH ORIGINAL RESEARCH

The role of underlying structural cause for epilepsy classification: Clinical features and prognosis in mesial temporal lobe epilepsy caused by hippocampal sclerosis versus cavernoma

*Katja Menzler, *Patricia Thiel, *Anke Hermsen, †Xu Chen, ‡Ludwig Benes, ‡§Dorothea Miller, †§Ulrich Sure, *Susanne Knake, and *Felix Rosenow

Table 2. MANCOVA for outcome after surgery, Engel classification

	MTLE-HS	MTLE-C	p-Value
Outcome			
Engel at 1-year follow-up	Mean 2.6 (±3.0)	Mean 1.2 (±0.4)	0.019
Seizure-free at latest follow-up	42%	82%	0.029

mean (±SD).
Covariates are age at surgery, age at onset of epilepsy, and time interval between onset of epilepsy and operation for the two patient groups.

► MTLE-CCM apresentam melhor controle das crises - Comissão da ILAE deve dar ênfase nas causas em futuras classificações

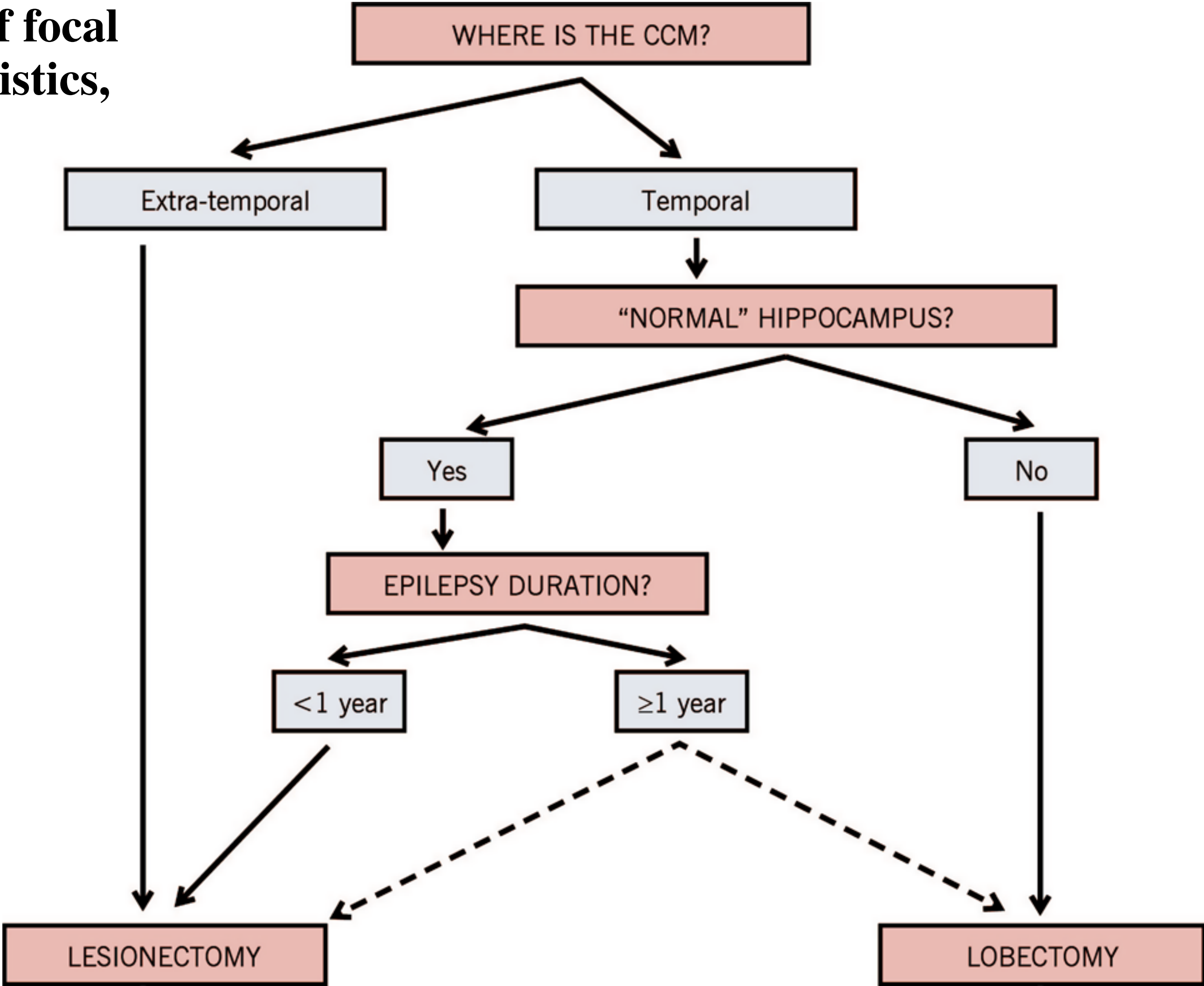
Significance: The results suggest that patients with MTLE-C show a more favorable postoperative outcome, supporting the commission’s suggestion to put more emphasis on the underlying cause in future epilepsy classifications.

CAVERNOMAS CEREBRAIS E EPILEPSIA

ALGORÍTIMO PROPOSTO PARA MAIOR CONTROLE DA EPILEPSIA

Cerebral cavernous malformations in the setting of focal epilepsies: pathological findings, clinical characteristics, and surgical treatment principles

Lara E. Jehi · Andre Palmmini · Usha Aryal ·
Roland Coras · Eliseu Paglioli



Radiation-induced Cavernous Malformation as a Late Sequelae of Stereotactic Radiosurgery for Epilepsy?

Ethan A. Winkler¹, Caleb Rutledge¹, Mariann Ward², Tarik Tihan³, Patricia K. Sneed⁴, Nicholas Barbaro⁵, Paul Garcia⁶, Michael McDermott¹, Edward F. Chang²

DEPÓSITO DE HEMOSSIDERINA É MAIS UM INDICADOR DO DANO OCORRIDO DO QUE UM FATOR CAUSAL DE MAIOR CONTRIBUIÇÃO PARA EPILEPTOGÊNESE...

RESEARCH ARTICLE

The Role of Hemosiderin Excision in Seizure Outcome in Cerebral Cavernous Malformation Surgery: A Systematic Review and Meta-Analysis

Di Ruan[☯], Xiao-Bo Yu[☯], Sudeep Shrestha, Lin Wang, Gao Chen^{*}

Department of Neurosurgery, the Second Affiliated Hospital of Zhejiang University School of Medicine, Hangzhou, the People's Republic of China

☯ These authors contributed equally to this work.

* d.chengao@163.com

Neurosurg Rev

DOI 10.1007/s10143-016-0797-5

SHORT REVIEW

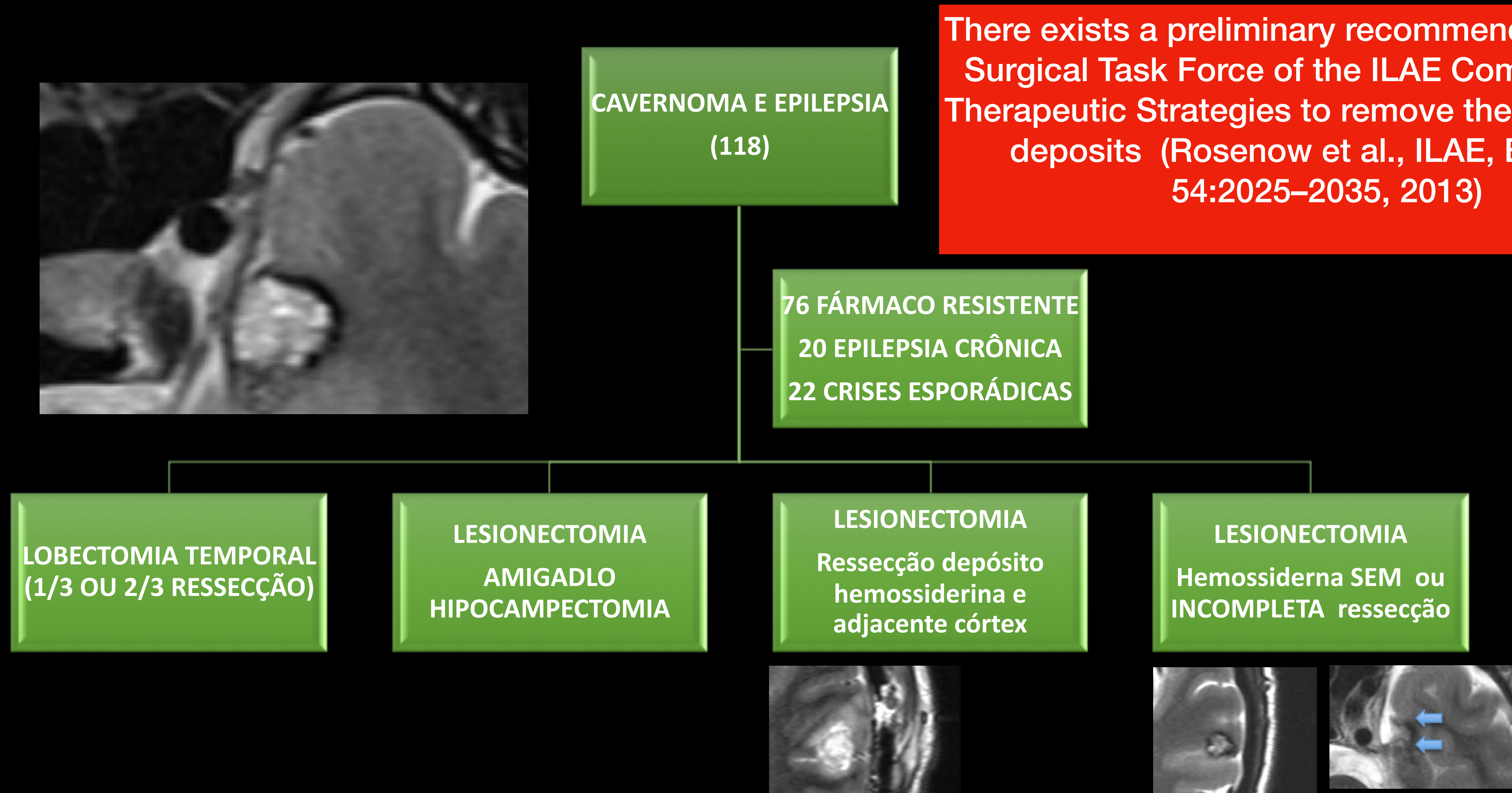
Should we resect peri-lesional hemosiderin deposits when performing lesionectomy in patients with cavernoma-related epilepsy (CRE)?

P. Dammann^{1,2} • C. Schaller² • U. Sure¹

Conclusion

Patients who underwent extended surrounding hemosiderin excision could exhibit significantly improved seizure outcomes compared to patients without hemosiderin excision. However, further well-designed prospective multiple-center RCT studies are still needed.

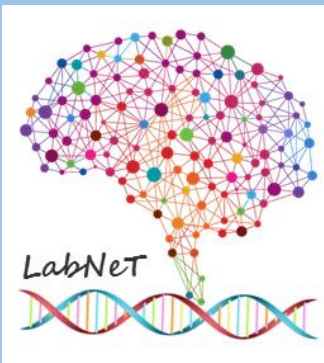
INFLUÊNCIA DE PARÂMETROS PRÉ OPERATÓRIOS NAS EPILEPSIAS ASSOCIADAS À CCM





MAL FORMAÇÃO CAVERNOSA CEREBRAL

Prof. Jorge Marcondes de Souza, Docente
permanente do PPGEURO



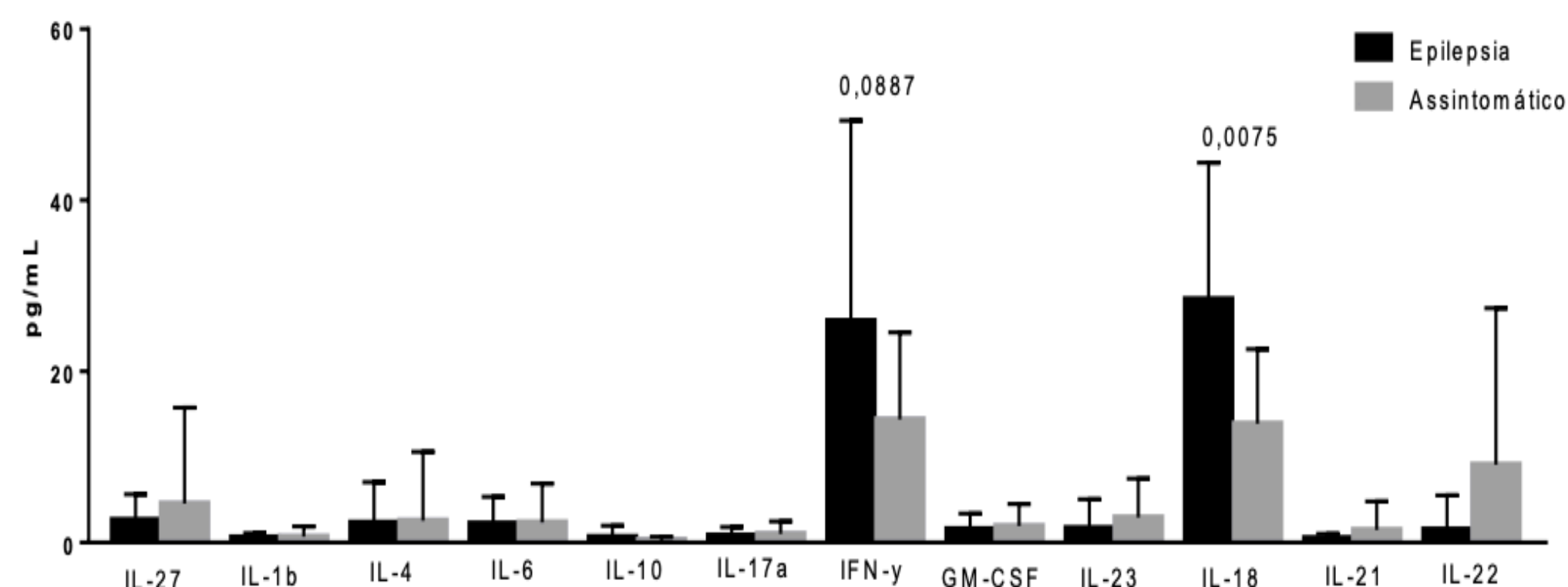
**ALTOS NÍVEIS DE INF-GAMA E IL-18 EM PACIENTES
COM MALFORMAÇÃO CAVERNOSA CEREBRAL (CCM)
PODEM REPRESENTAR POSSÍVEIS BIOMARCADORES
PLASMÁTICOS DE EPILEPSIA**



Gonçalves J. P. C.^{1 2}; Fontes-Dantas F. L.²; Dutra A.^{1 2}; Alves-Leon S. V.²; Campolina D.³; Galvão G.¹; Domingues F.³; Leite P. E. C. L.⁴; Souza J. M.³

1 - Faculdade de Medicina - Universidade Federal do Rio de Janeiro. 2 - Laboratório de Neurociências Translacional - PPGEURO - Universidade Federal do Estado do Rio de Janeiro. 3- Serviço de Neurocirurgia - Hospital Universitário Clementino Fraga Filho - Universidade Federal do Rio de Janeiro. 4 - Instituto Nacional de Metrologia, Qualidade e Tecnologia, INMETRO, Brasil.

Citocinas Plasmáticas



LabNet está 😊 se sentindo feliz em
Windsor Barra.

27 de setembro às 22:43 · Rio de Janeiro · 🌐

Hoje durante IX Congresso da ABN-RJ/ANERJ tivemos prêmios em dose dupla para o LabNet. Ganhamos na categoria trabalho original apresentado pelo aluno de IC João Paulo, e na categoria caso clínico com a Pós-doutoranda Fabrícia Fontes. Os trabalhos premiados fazem parte da linha de pesquisa que estuda os mecanismos imunes e genéticos relacionados ao Cavernoma Cerebral em parceria com o professor Jorge Marcondes da UFRJ e Aliança Cavernoma do Brasil.





VARIANTS IN INFLAMMATION-RELATED GENES AND DNA REPAIR ENZYMES AFFECT SEVERITY IN A *CCM3* BRAZILIAN PATIENT WITH CEREBRAL CAVERNOUS MALFORMATIONS



Fabricia Fontes-Dantas¹, Amanda Dutra^{1,2}, Elielson Veloso^{1,3}, Diego Campolina⁴, Gustavo Galvão², Larissa Watabe², Flavio Domingues⁴, Marcelo Chagas Muniz⁴, Soniza Alves-Leon^{1,5}, Jorge Marcondes de Souza^{1,4}.

Correspondence e-mail: jormarcondes@gmail.com



Dra. Fabrícia Lima Fontes-Dantas, MD, PhD
Dra. Amanda Duta, MSC

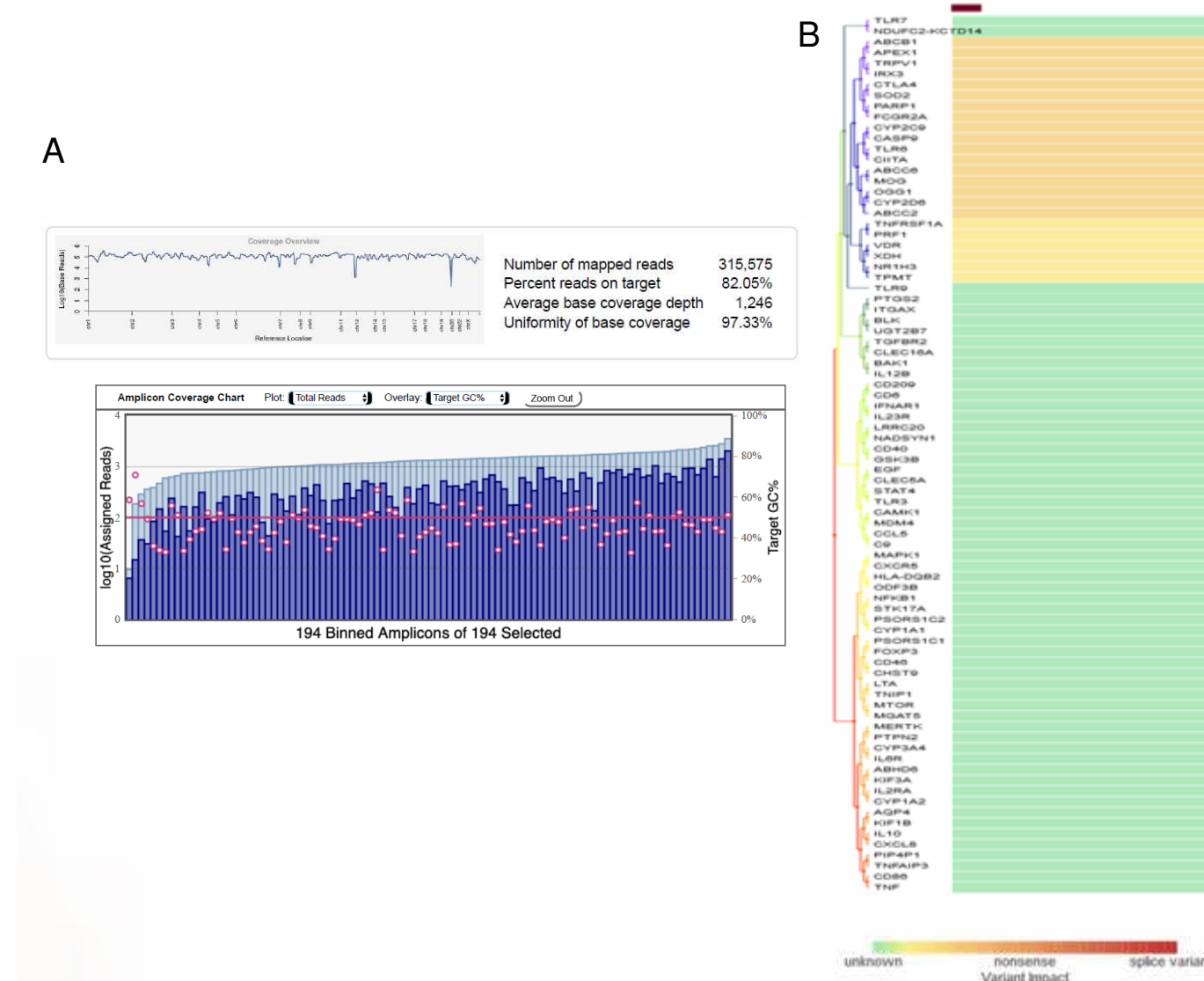
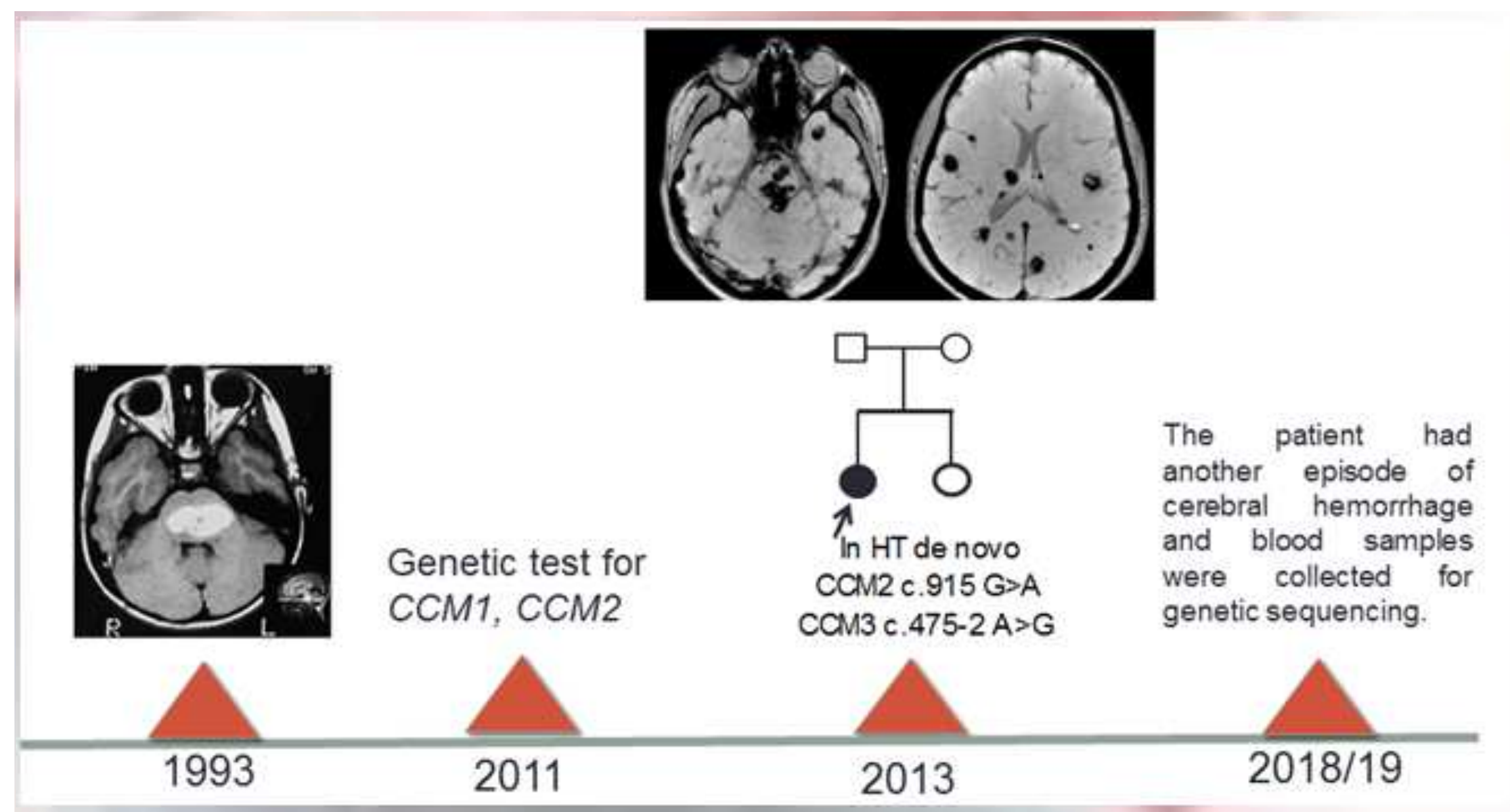


Figure 2. Sequencing analysis: A) Coverage parameters and amplicons sequencing. B) Functional impact of identified variants.

Simpósio Internacional da Cavernoma Alliance, Professor Issan Awadi, Presidente da Cavernoma Alliance Sra. Conny Lee e pesquisadores do nosso LabNet/UNIRIO.



CONSIDERAÇÕES FINAIS

TAKE HOME MESSAGE

- EPILEPSIA é a manifestação mais frequente dos CCMs
- É recomendado definir a correlação dos CCMs e identificação neuroanatômica com Epilepsia em Centro de Referência
- Pacientes com CRE recém diagnosticados apresentam frequência semelhante aos pacientes com CRE estabelecida
- EFR inclui a topografia e a associação com Hipocampal/tumores (patologia dual/tríplice)
- CRE apresenta múltiplos mecanismos de epileptogênese que vão além da localização e podem incluir processos imunes/inflamatórios sugerindo novos alvos terapêuticos e a necessidade de avaliação de desfecho tendo como alvo a Epilepsia

J Neurosurg. 2019 Jul 1;131(1):1-13. doi:
10.3171/2019.3.JNS181724.

**Cavernous angiomas: deconstructing a
neurosurgical disease.**

Awad IA, Polster SP.



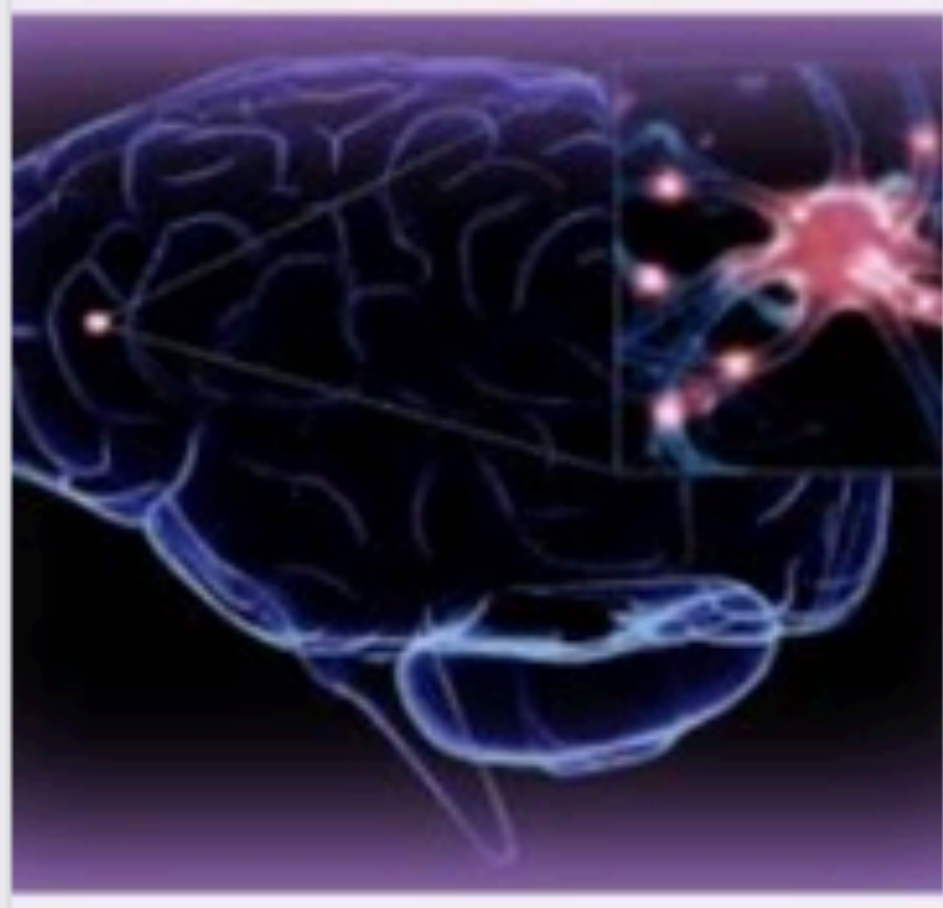
PROGRAMA DE PÓS GRADUAÇÃO EM NEUROLOGIA
UNIVERSIDADE FEDERAL DO ESTADO
DO RIO DE JANEIRO (UNIRIO)



Cl
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Jane Silva
Técnicas do Vídeo-EEG



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