



4° CORSO RESIDENZIALE EEG e POTENZIALI EVOCATI

22 – 27 NOVEMBRE 2021

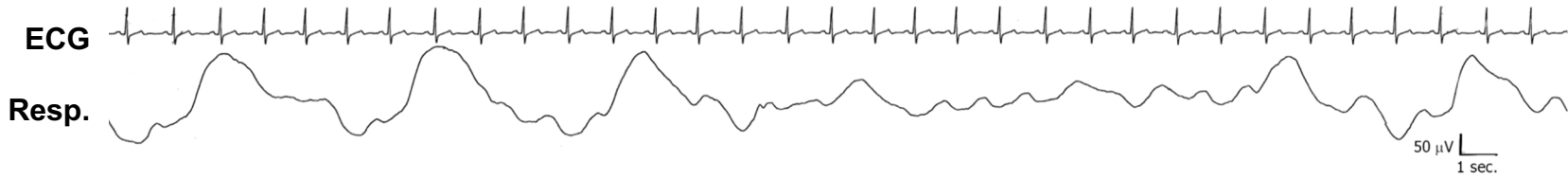
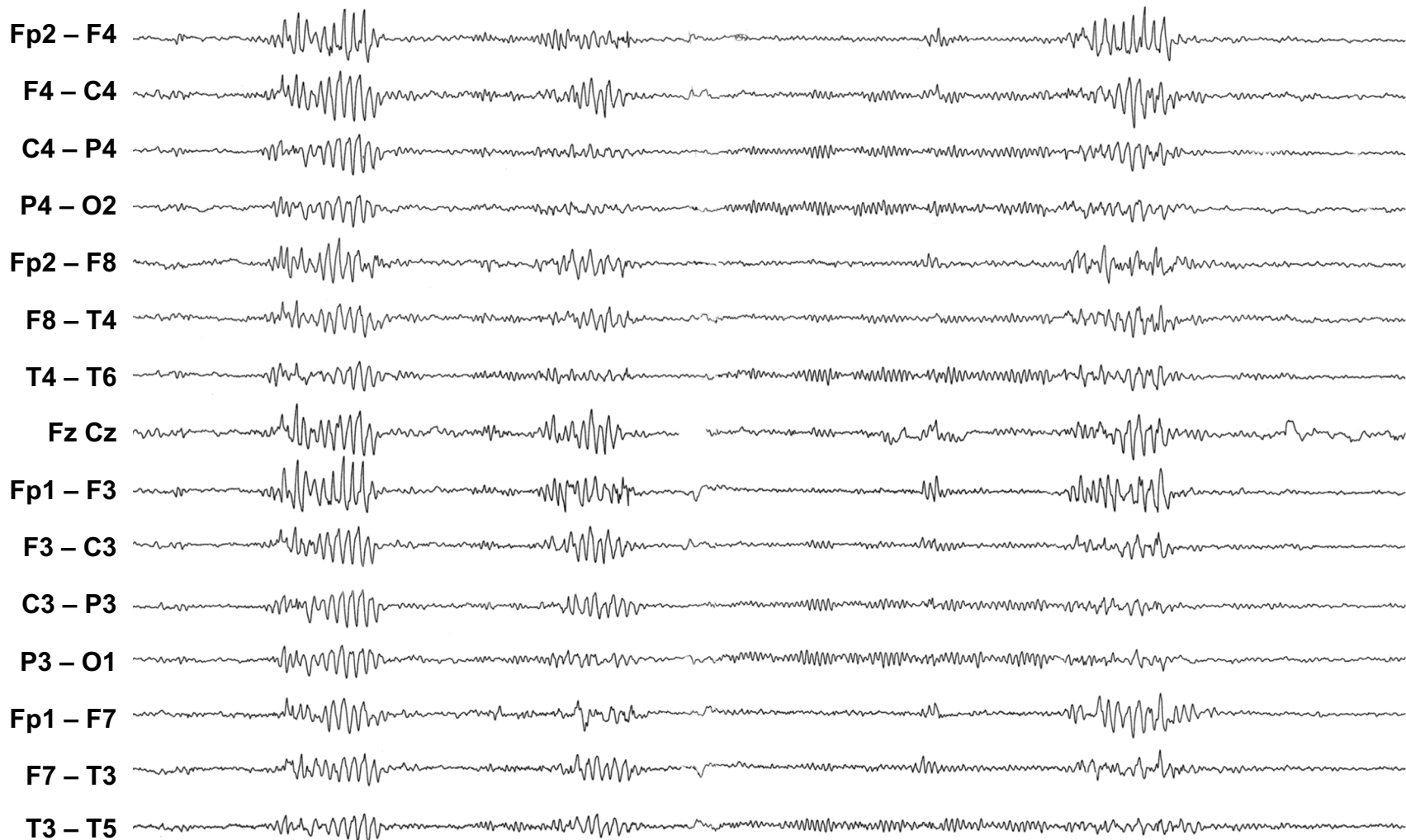


Pattern inusuali di veglia e sonno

Francesca Bisulli

IRCCS Istituto delle Scienze Neurologiche di Bologna
DIBINEM, Università di Bologna





Sch. Ale. ♀ 20 yrs

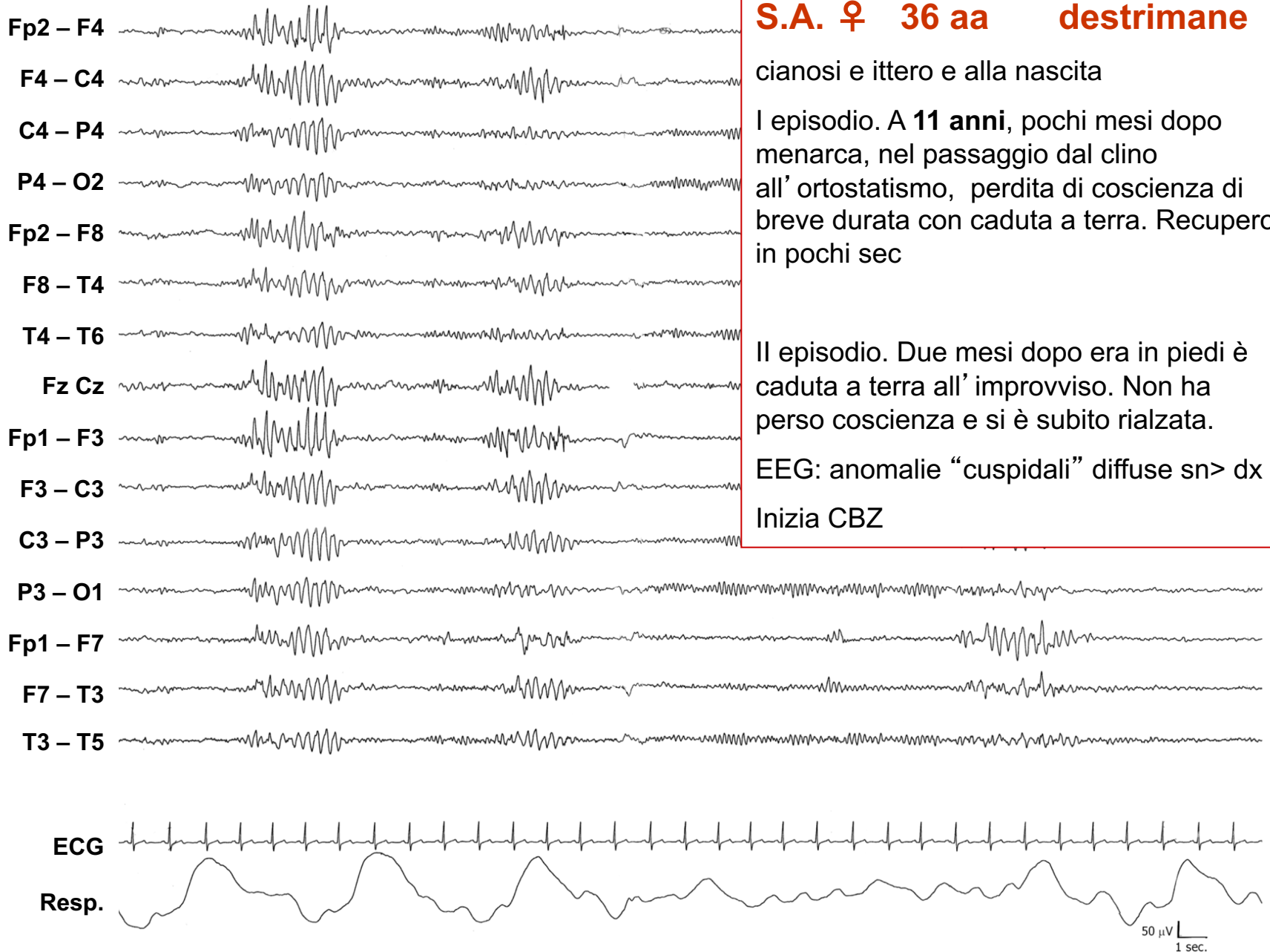
S.A. ♀ 36 aa destrimane

cianosi e ittero e alla nascita

Il episodio. A **11 anni**, pochi mesi dopo menarca, nel passaggio dal clino all' ortostatismo, perdita di coscienza di breve durata con caduta a terra. Recupero in pochi sec

Il episodio. Due mesi dopo era in piedi è caduta a terra all' improvviso. Non ha perso coscienza e si è subito rialzata.

EEG: anomalie "cuspidali" diffuse sn> dx
Inizia CBZ



Sch. Ale. ♀ 20 yrs



Over-reading is potentially more harmful
to the patient than under-reading!

Errori Concettuali

False credenze in EEG e nella diagnosi di Epilessia

Il riscontro di un'attività epilettiforme nell'EEG
implica una diagnosi di epilessia...

Perciò...

Attività Epilettiforme=Epilessia=Attività Epilettiforme

Ci sono epilessie in cui non si osservano anomalie epilettiformi sullo scalpo ne in veglia ne in sonno ne durante la registrazione delle crisi

Punte ed altre attività parossitiche non indicano automaticamente la diagnosi di epilessia e non sono necessariamente patologiche

FIGURE INABITUALI

o BEV=benign epileptiform variants

Prevalence of benign epileptiform variants

Balagopal Santoshkumar ^{a,b}, Jaron J.R. Chong ^c, Warren T. Blume ^{a,b}, Richard S. McLachlan ^{a,b}, G. Bryan Young ^{a,b}, David C. Diosy ^{a,b}, Jorge G. Burneo ^{a,b,d}, Seyed M. Mirsattari ^{a,b,e,f,g,*}

Clinical Neurophysiology 120 (2009) 856–861

Table 1

Prevalence and demographic characteristics of benign epileptiform variants (BEVs) among 35,249 general outpatient subjects.

BEVs	Frequency		Percentage of (%)			Age (years) Range, mean ± SD	Gender (male:female)	P-value (Chi-square)
	# of records	# of patients	BEV+ records (N = 1399)	BEV+ patients (N = 1183)	Outpatients (N = 35,249)			
Outpatient	54,945	35,249	–	–	–	0–100 36.16 ± 22.35	17,492: 17,757	–
BEV+	1399	1183	–	–	3.356	4–94 34.60 ± 17.23	566:617	0.221
BSSS	814	652	58.184	55.114	1.850	4–94 39.75 ± 17.80	345:307	0.093
Wicket waves	13	13	0.929	1.099	0.037	32–76 55.36 ± 13.31	5:8	0.421
14 and 6 Hz positive spikes	193	185	13.796	15.638	0.525	4–67 23.23 ± 10.49	82:103	0.149
6 Hz spike-waves	565	360	40.386	30.431	1.021	5–77 28.75 ± 12.99	159:201	0.038*
RTTD	48	43	3.431	3.635	0.122	8–71 27.49 ± 15.83	19:24	0.476
SREDA	31	26	2.216	2.198	0.074	9–80 52.10 ± 16.51	9:17	0.125

BSSS, benign sporadic sleep spikes; RTTD, rhythmic temporal theta burst of drowsiness; SREDA, subclinical rhythmic electrographic discharge of adults; SD, standard deviation.

* P < 0.05.

Specificità EEG per diagnosi epilessia

			E.D.s	Specificity
Standard awake recordings	Gibbs et al. 1943	1,000 normal subjects	0.9%	99%
	Robin et al. 1978	7,500 pilots	0.34%	99%
	Gregory et al. 1993	13,650 pilots	0.5%	99%
Drowsiness & Whole-night sleep recordings	Santamaria & Chiappa 1987	55 normal subjects	30%	?
	Beun et al. 1997	60 students	70-97%	?

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 - SREDA
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 - SSS= small sharp spikes

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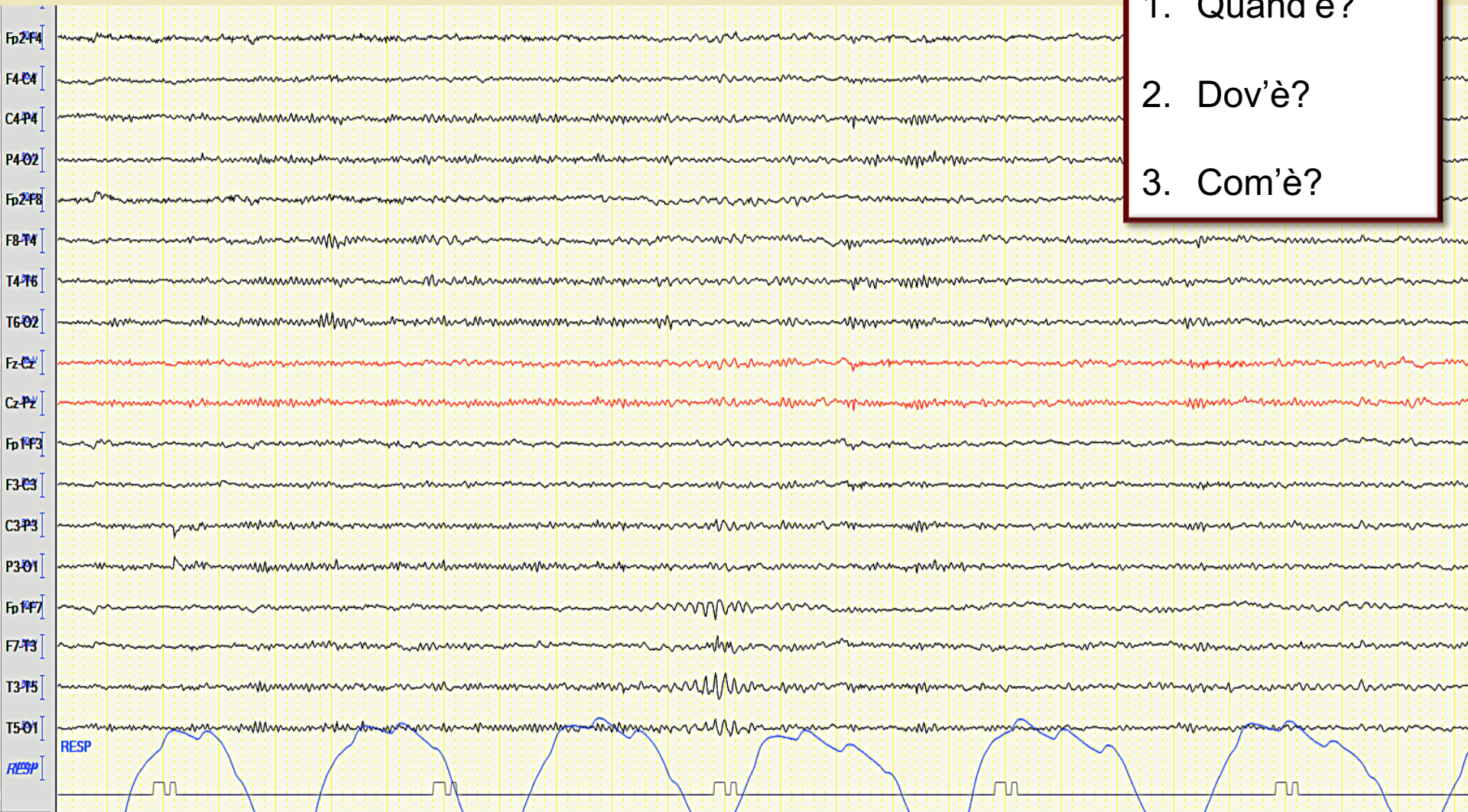
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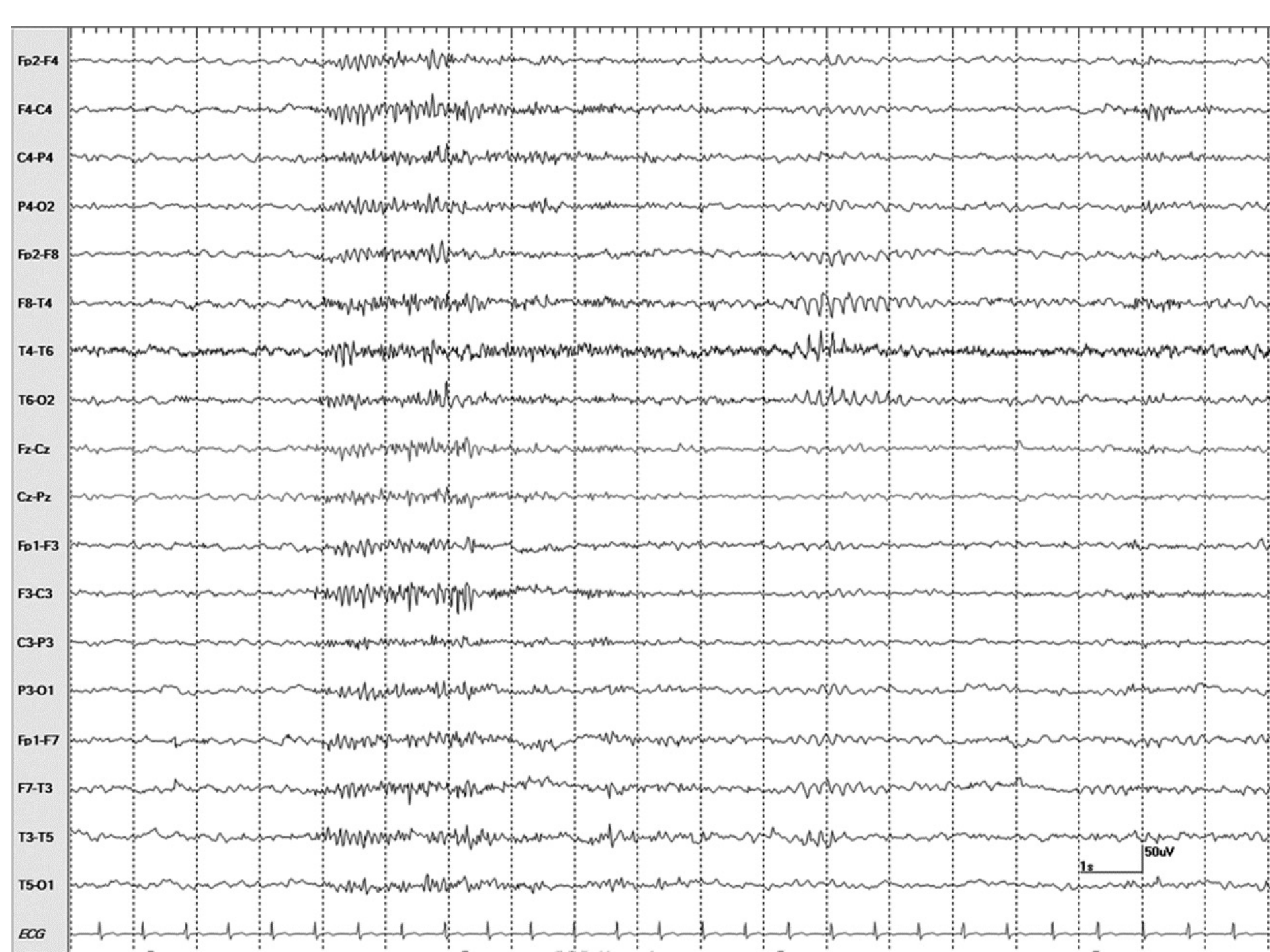
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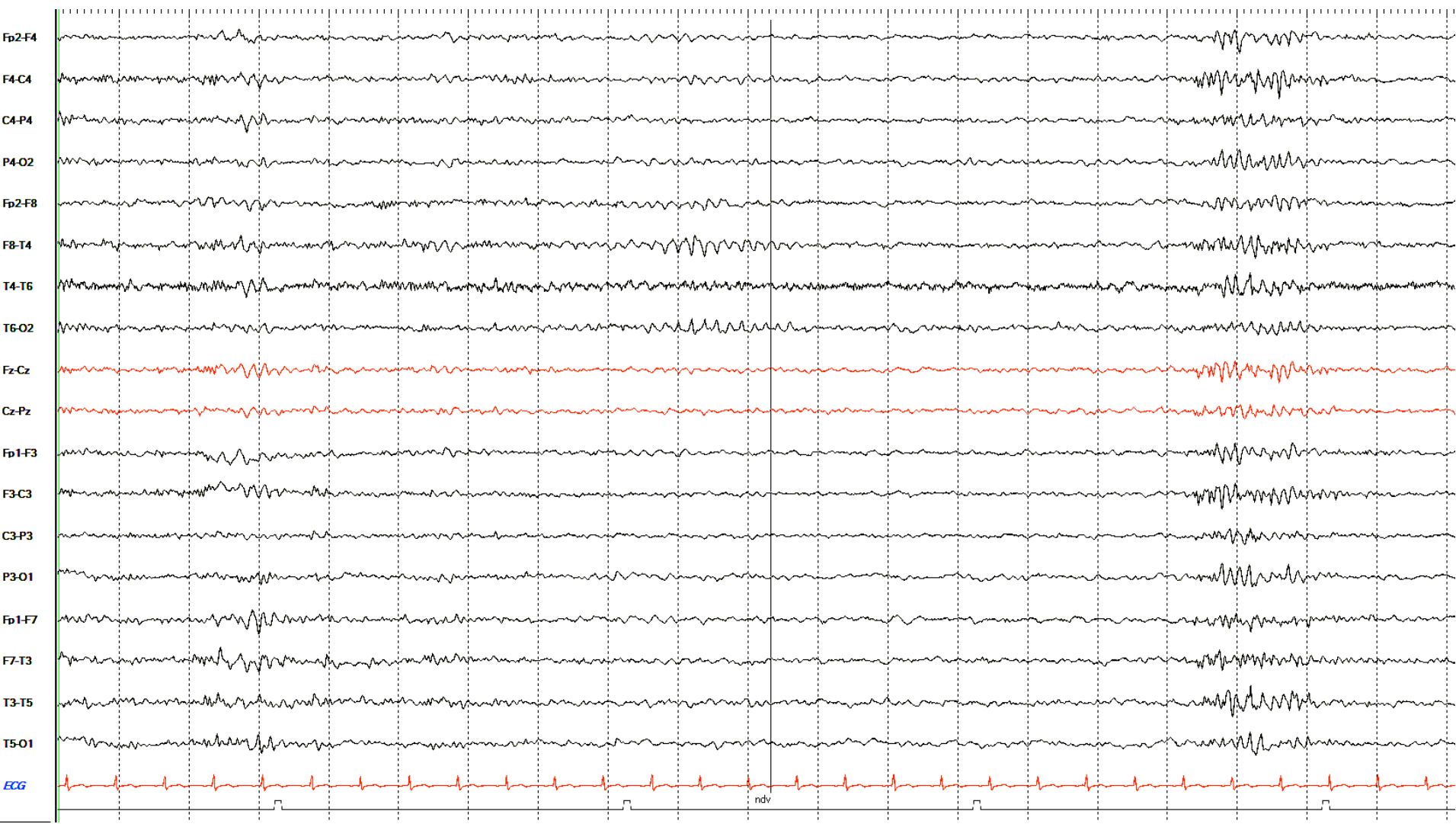
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1. Quand'è?
2. Dov'è?
3. Com'è?

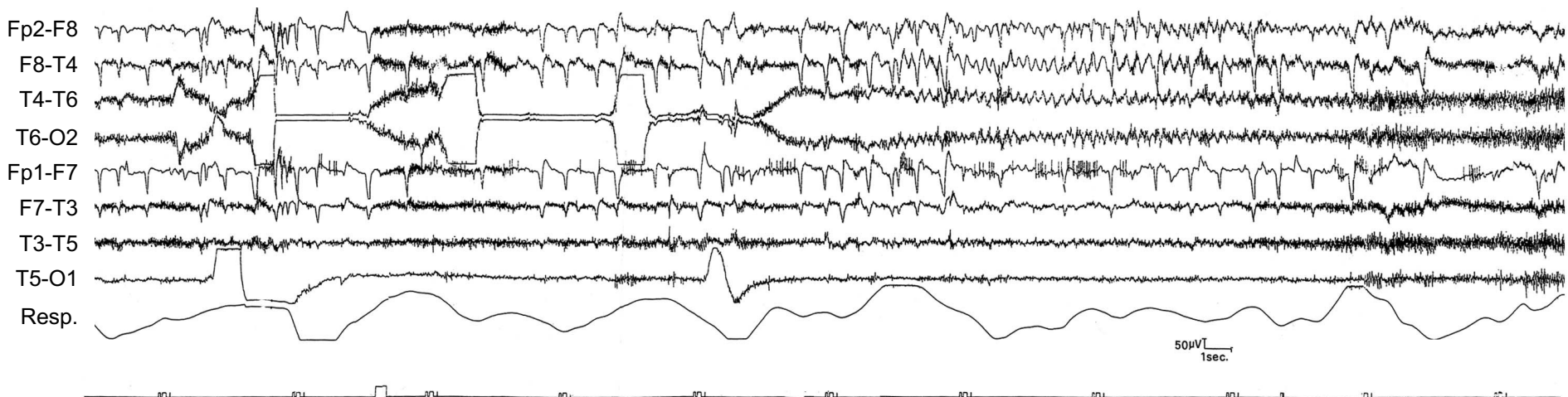






RMTD: Rhythmic Mid Temporal Discharges *Lipman and Hughes 1969*

- ✓ Psychomotor Variant *Gibbs 1963* → analogia EEG critico psychomotor seizure (ora crisi con alterazione della consapevolezza)



RMTD: Rhythmic Mid Temporal Discharges

DD crisi temporale

Pattern uniforme: non si modifica ne in frequenza ne in morfologia

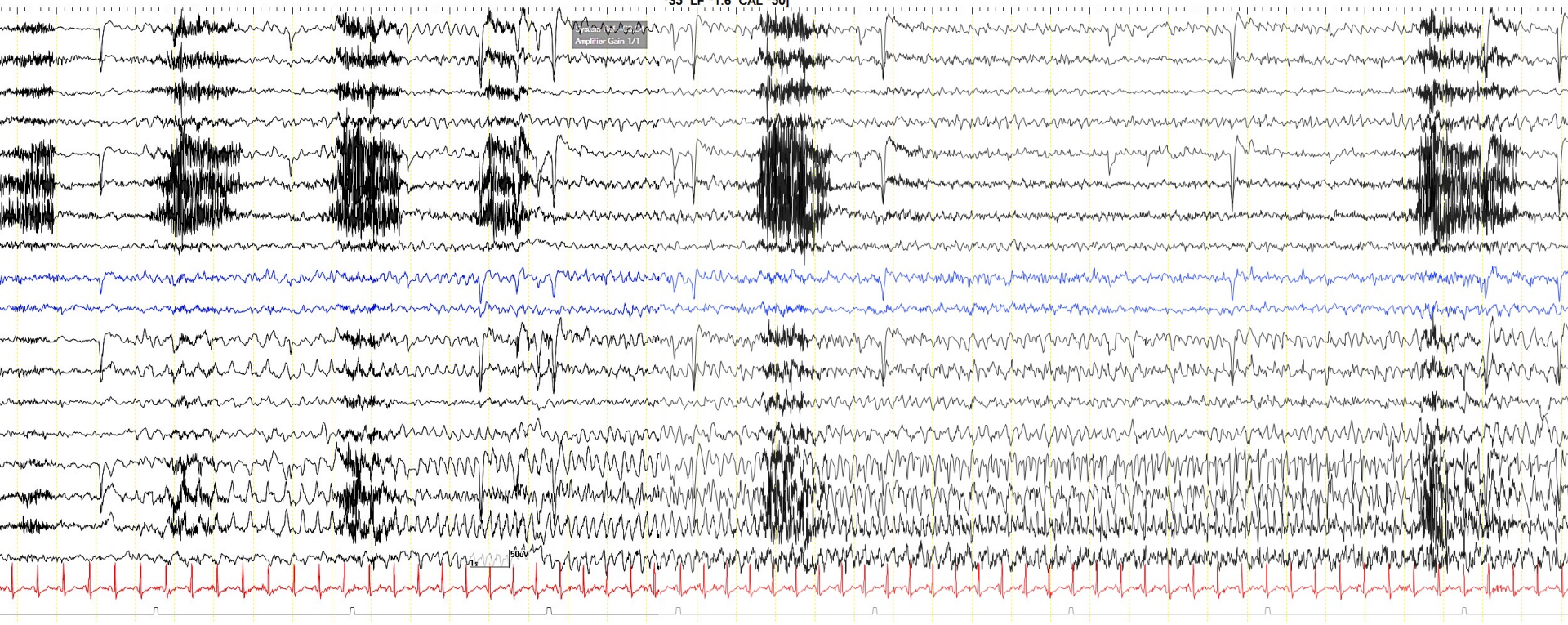
Breve durata (pochi secondi)

Spesso bilaterali

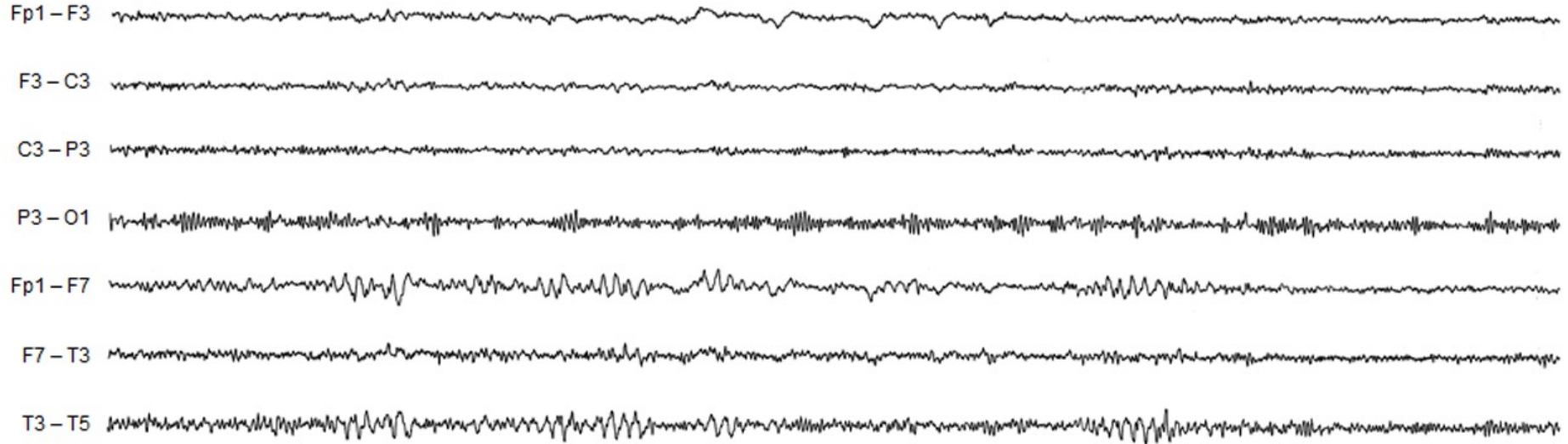
Ritmo di fondo normale

*35 LF *1.6 CAL *50]

Amplifier Gain 1/1

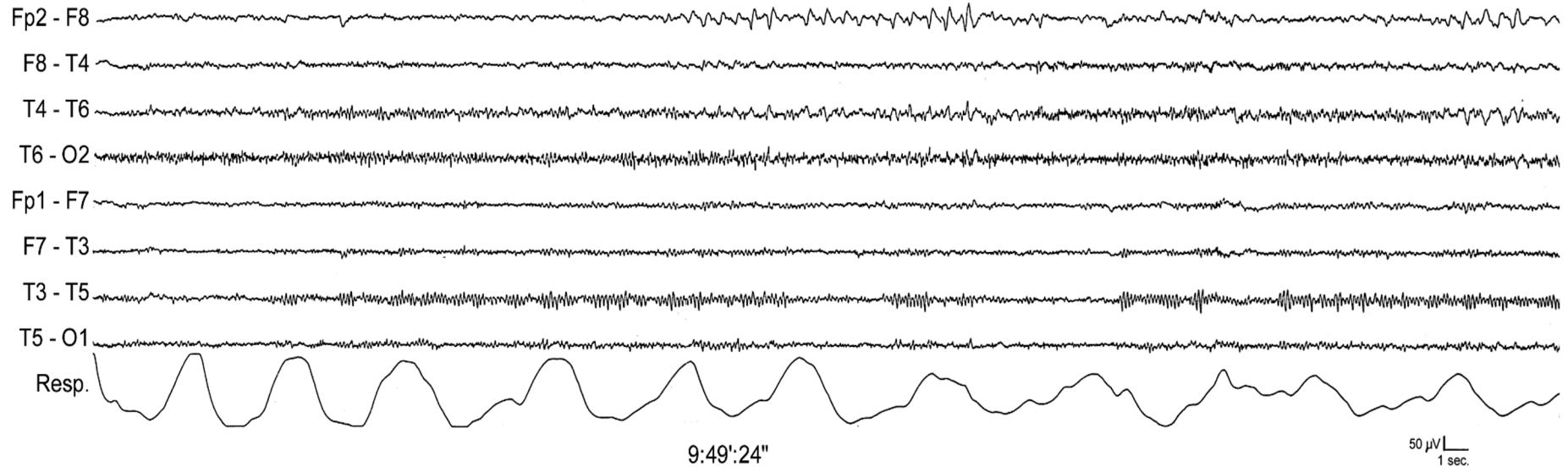


Paziente 1



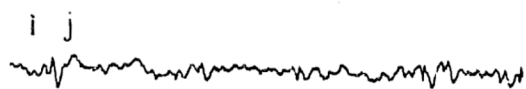
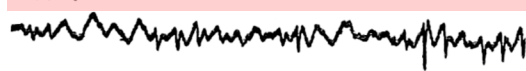
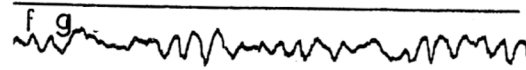
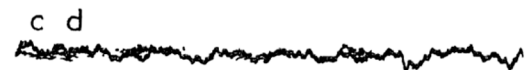
?

Paziente 2

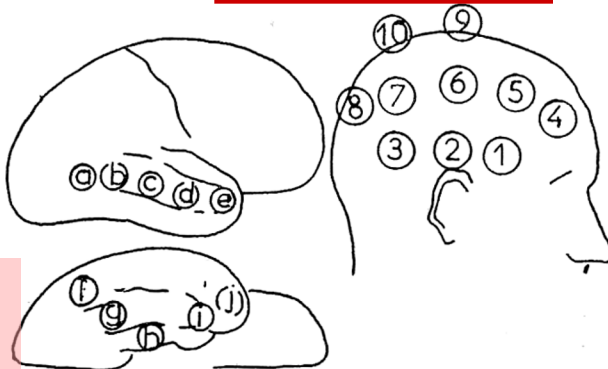
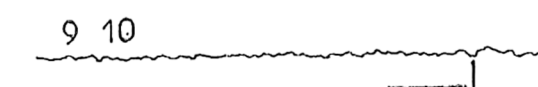
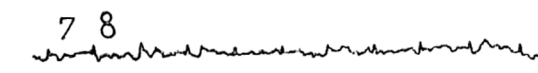
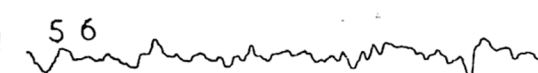
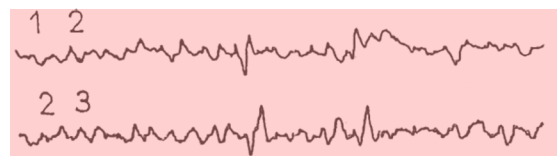
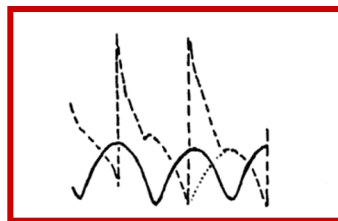


Etude électroencéphalographique et électrocorticographique du rythme thêta local dans les épilepsies temporales, par M. G. E. CHATRIAN (1) (Rome).

Rev Neurol (Paris). 1953; 88 (5): 384-6



MART...



WAKE

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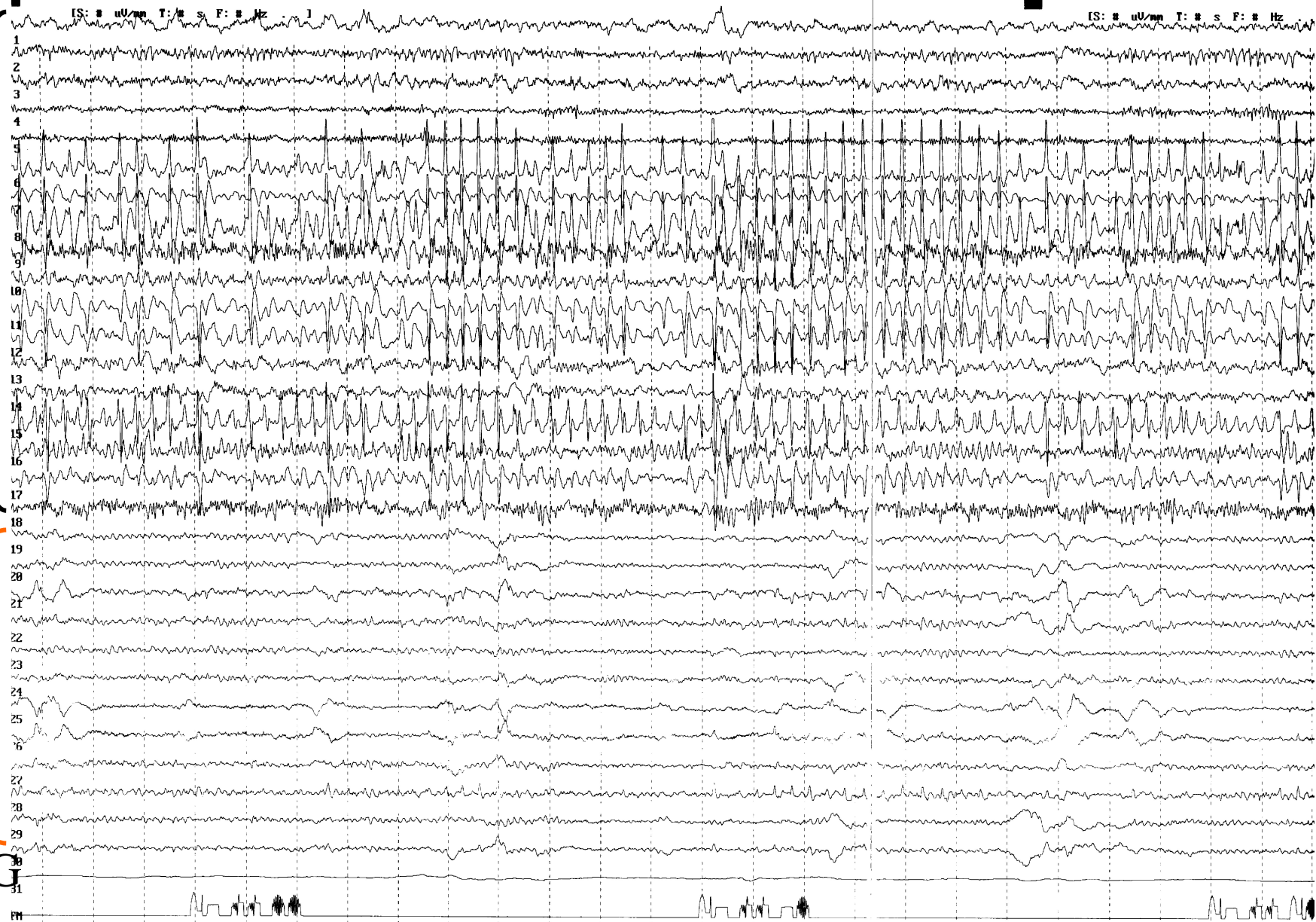


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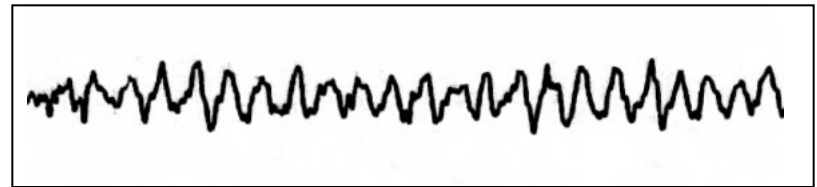
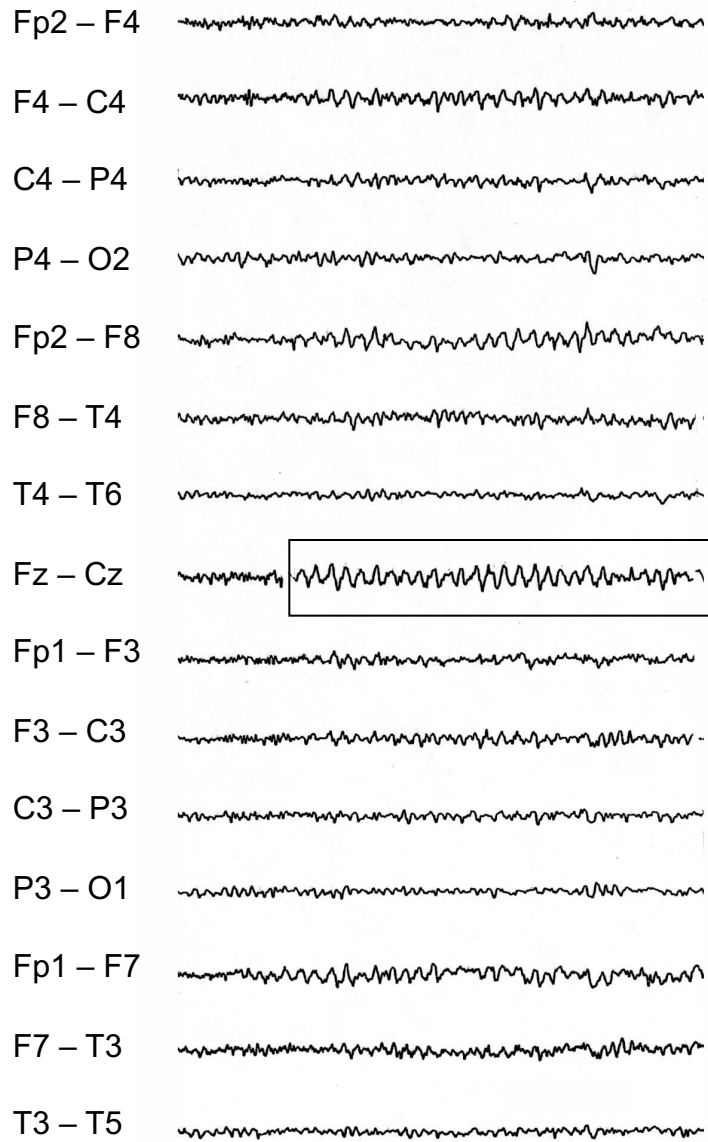
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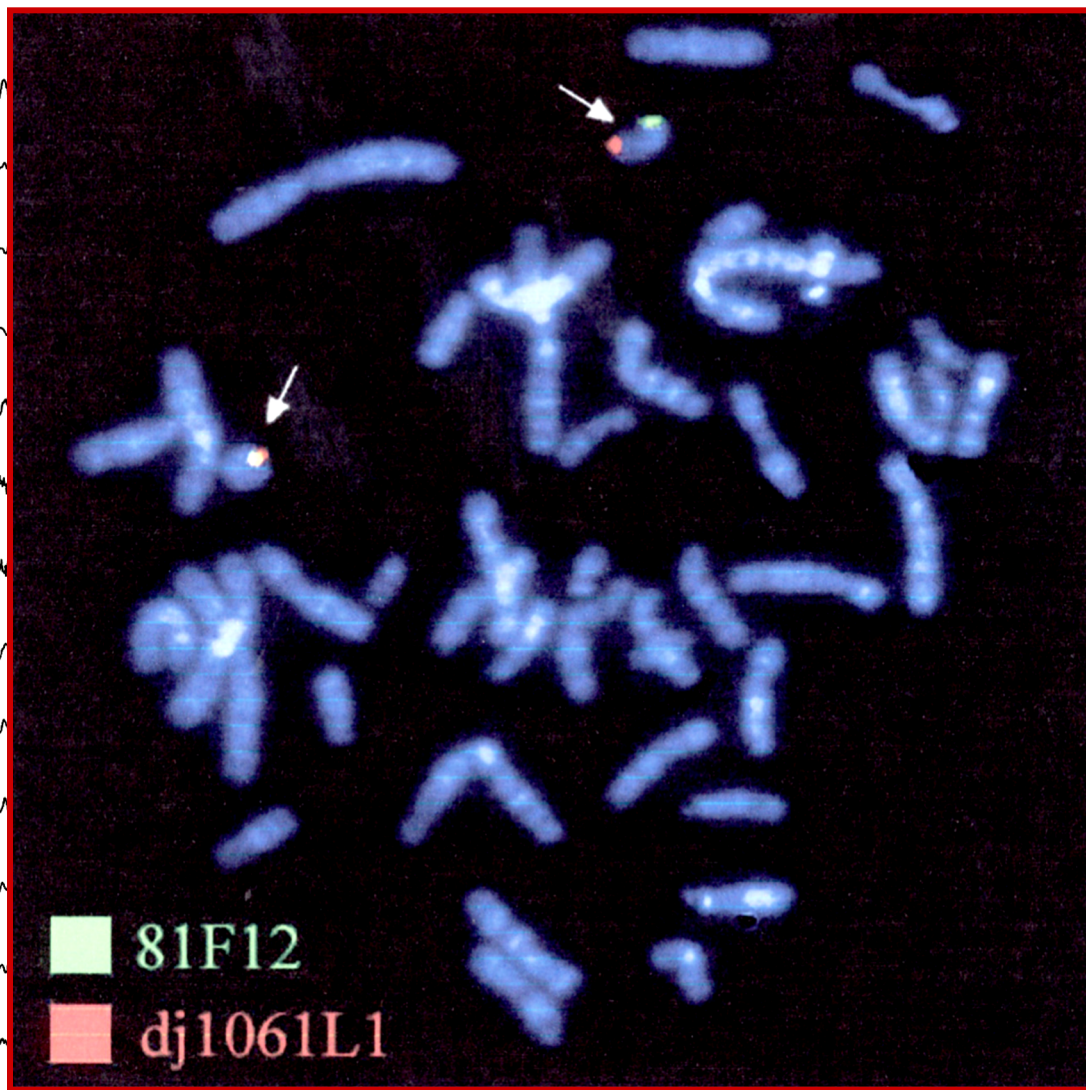
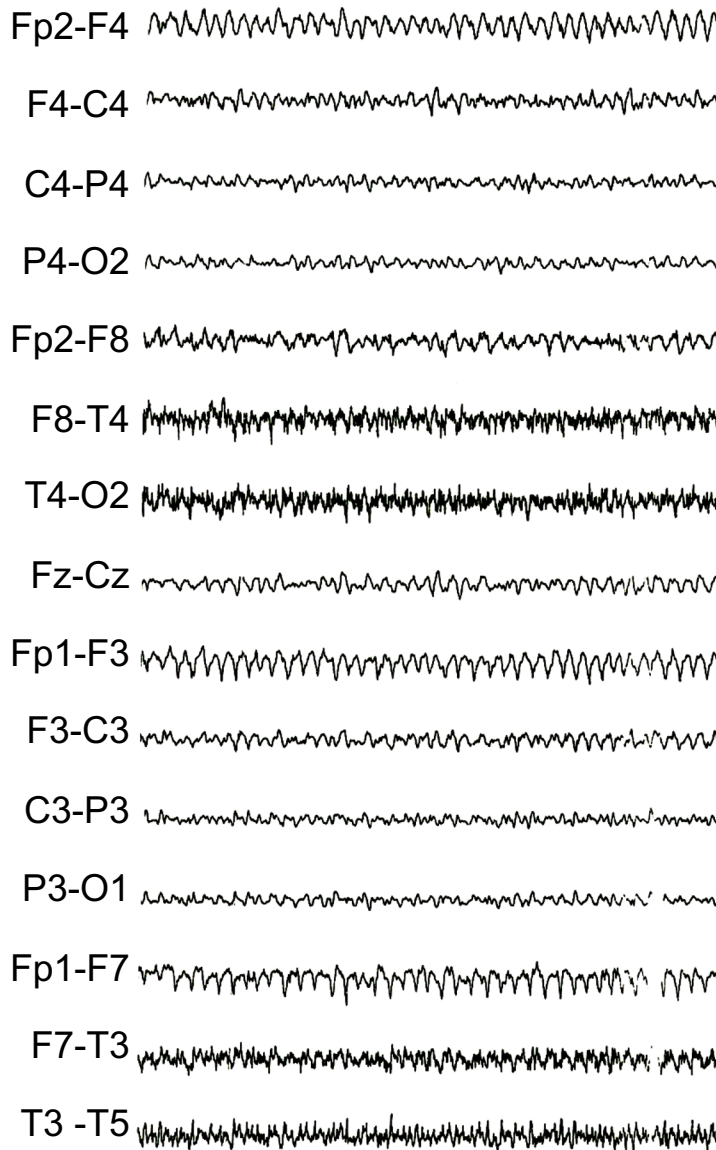
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50 μ V \perp
1 sec.



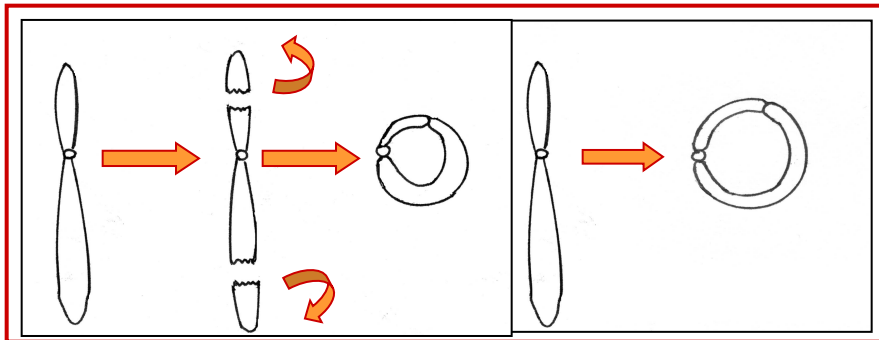
50μV | 1sec.

Ant. Cin. ♀ 33 yrs

Chromosome 20 Ring: A Chromosomal Disorder Associated with a Particular Electroclinical Pattern

Epilepsia, 39(9):942-95 1, 1998

Maria Paola Canevini, Vincenzo Sgro, *Orsetta Zuffardi, Raffaele Canger, ‡Romeo Carrozzo, §Elena Rossi, ¶David Ledbetter, †Fabio Minicucci, Aglaia Vignoli, Ada Piazzini, Loredana Guidolin, Amalia Saltarelli, and ¶¶Bernardo dalla Bernardina



- Ex-novo nel 99% dei casi
- Alta possibilità di mosaicismo.

Borgaonkar 1976

Epilessia

Ritardo psicomotorio

Dismorfismi

Disturbi comportamentali

The bursts or long trains of theta waves we describe are difficult to interpret. The complete absence of delays in reaction times, of subjective symptoms, and of cognitive impairment during the bursts of theta waves in the 3 patients probably indicates a nonepileptic nature of this pattern, i.e., they could be interpreted as nonepileptogenic epileptiform patterns of uncertain significance, or might resemble rhythmic midtemporal discharges or psychomotor variants (17–20).

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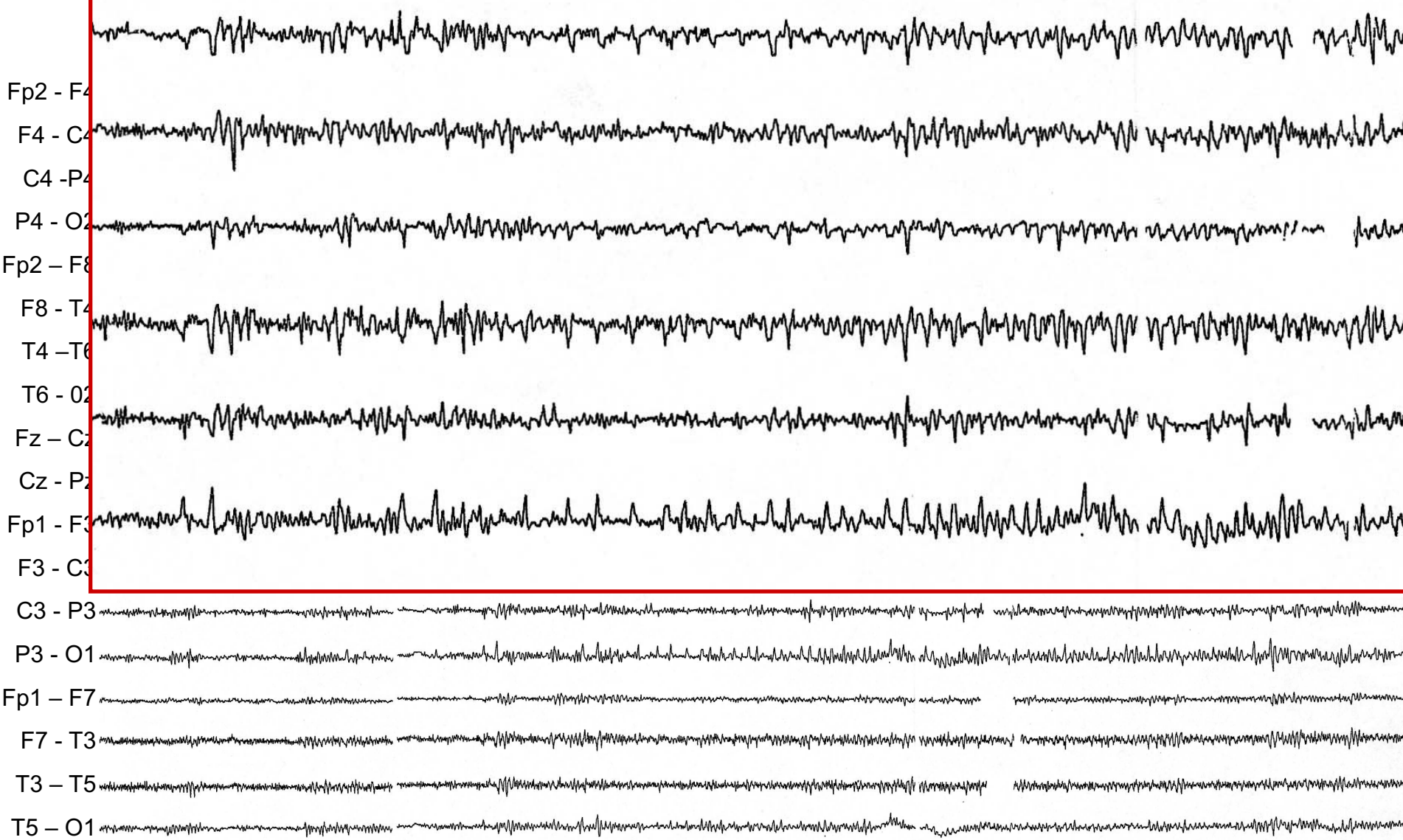
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Don. Vin. ♂ 69 aa

D.V. ♂ 69 aa destrimane

Dai **49aa** sonnolenza diurna.

62aa ricovero in Neuro per episodi diurni di addormentamento. Registrate crisi elettriche temporali sn → diagnosi di “epilessia parziale in vasculopatia cerebrale”. Inizia CBZ sospesa 2 anni dopo per inefficacia.

Fp2 - F4

F4 - C4

C4 - P4

P4 - O2

Fp2 - F8

F8 - T4

T4 - T6

T6 - O2

Fz - Cz

Cz - Pz

Fp1 - F3

F3 - C3

C3 - P3

P3 - O1

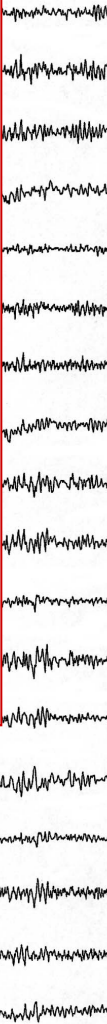
Fp1 - F7

F7 - T3

T3 - T5

T5 - O1

Don. Vin. ♂ 69 aa



D.V. ♂ 69 aa destrimane

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69 aa peggioramento sonnolenza + episodi di “perdita di contatto” alla guida dell’auto: non si ferma perché durano pochi sec e si riprende immediatamente. Mai incidenti stradali. La moglie lo sorprende spesso con lo “sguardo assente” → se interrogato risponde a tono, senza confusione.

Fp2 - F4

F4 - C4

C4 - P4

P4 - O2

Fp2 - F8

F8 - T4

T4 - T6

T6 - O2

Fz - Cz

Cz - Pz

Fp1 - F3

F3 - C3

C3 - P3

P3 - O1

Fp1 - F7

F7 - T3

T3 - T5

T5 - O1

Don. Vin. ♂ 69 aa

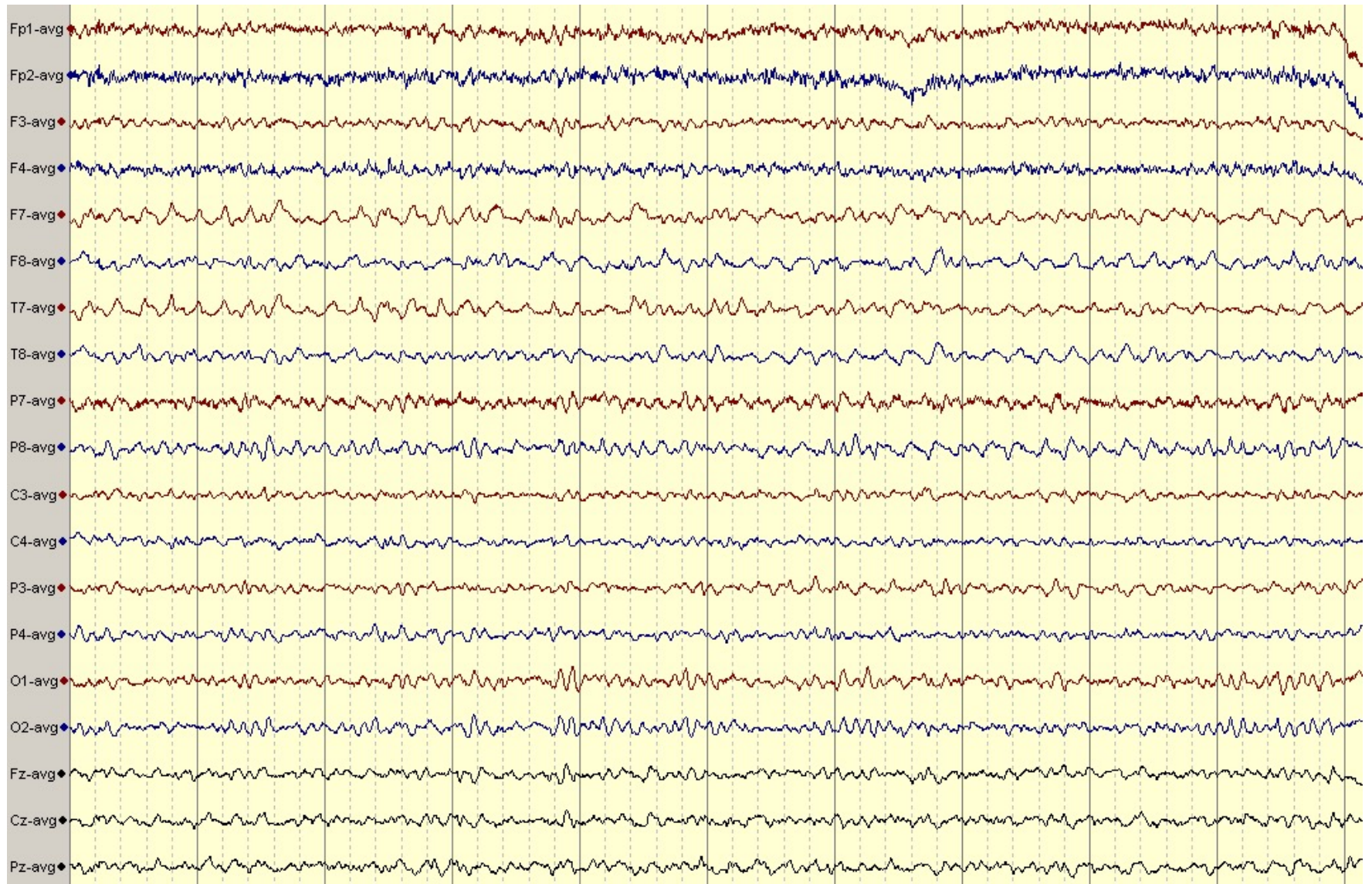
S R E D A

Subclinical Rhythmic Epileptiform Discharges of Adults_{Westmoreland and Klass W.D. 1981}

Decharges inexpliques du carrefour

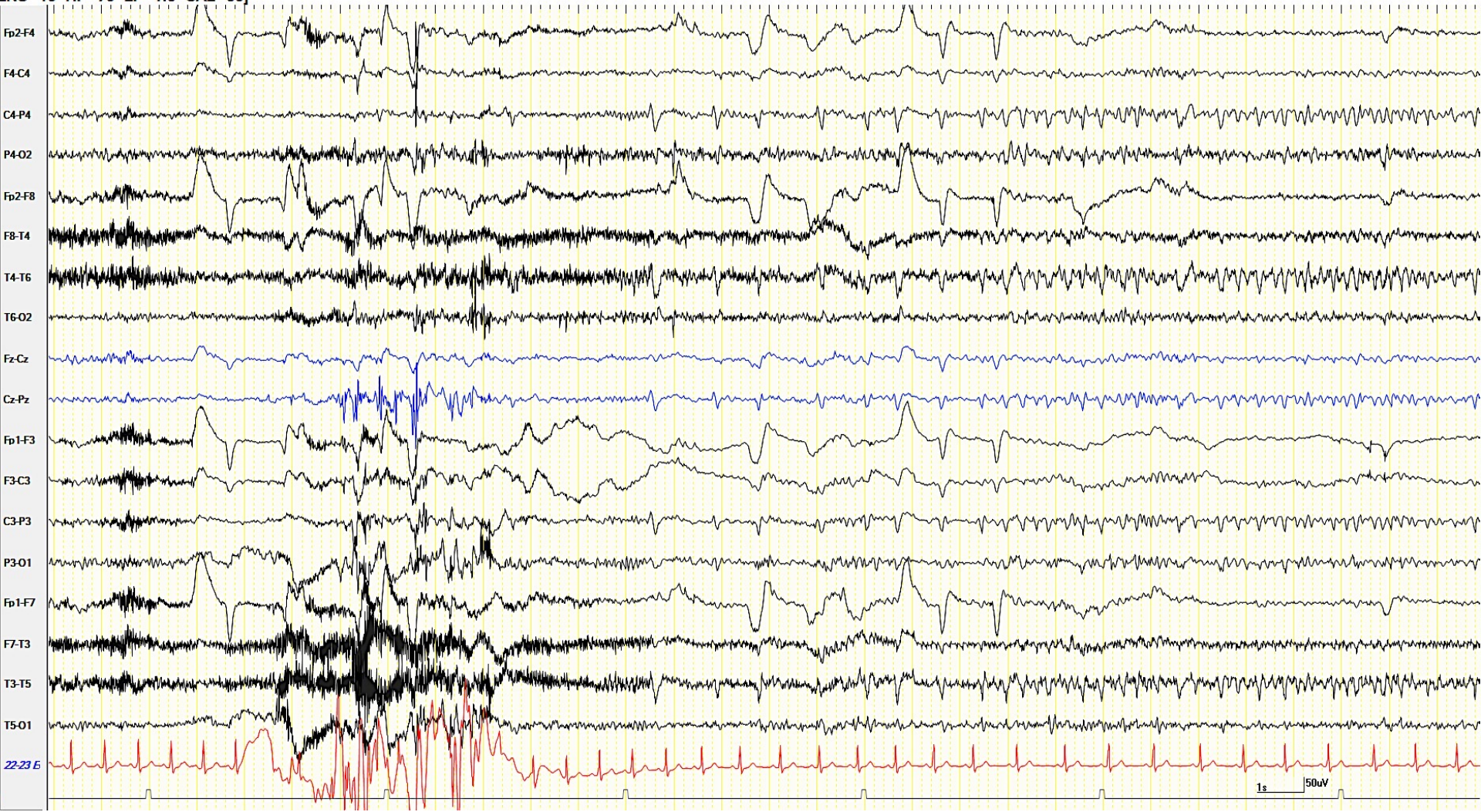
- adulti- anziani
- attività theta ritmica (5-7 Hz) combinata con attività di frequenza doppia (10-12 Hz)
- 0,5% pop. generale afferente ad un laboratorio EEG
- durata media: 40–80 sec (range: 8'' – 20')
- distribuzione: diffusa, di solito bilaterale ma asimmetrica
> in temporo–parieto-occipitale
- occorrenza : veglia (HP e SLI), addormentamento, sonno (anche REM)

SREDA



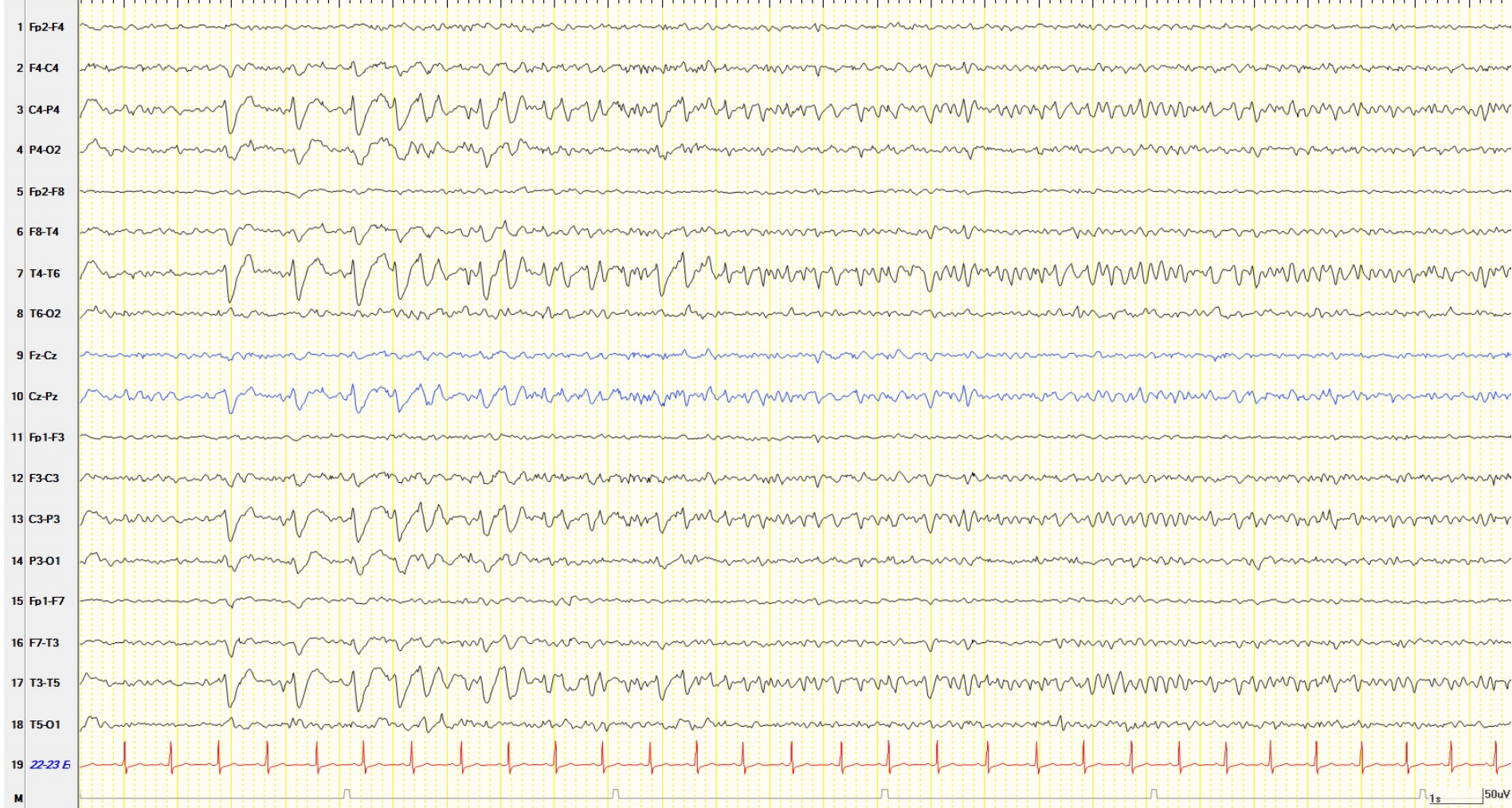
SREDA

ENS *10 HF *70 LF *1.6 CAL *50]



SREDA in REM

[SENS *10 HF *70 LF *1.6 CAL *50]





Sleep Medicine 5 (2004) 77–81

**SLEEP
MEDICINE**

www.elsevier.com/locate/sleep

Case report

Subclinical rhythmic electrographic discharge of adults (SREDA) in REM sleep

W. Elon Fleming, Alon Avidan*, Beth A. Malow


*Department of Neurology, University of Michigan, Michael S. Aldrich Sleep Disorders Center, UH Room 8D-8720, 1500 E. Medical
Center Drive, Ann Arbor, MI 48109-0117, USA*

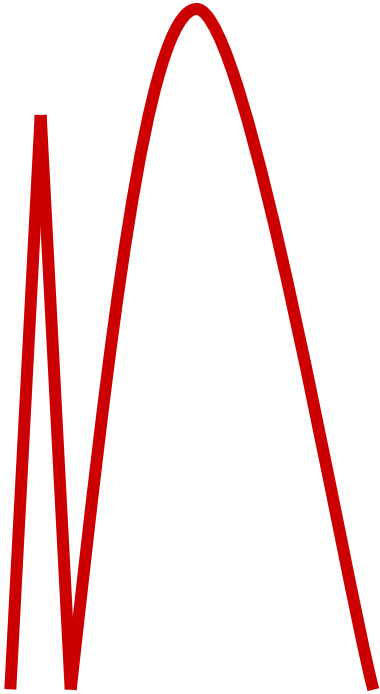
Received 12 March 2003; received in revised form 17 June 2003; accepted 18 June 2003

Case Report

Atypical SREDA During Wakefulness, NREM and REM Sleep in a Young Teenager: A Diagnostic Challenge

Laura Gil^{1,2}, Ahsan Moosa¹, and Ajay Gupta¹

Clinical EEG and Neuroscience
1–4
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DOI: 10.1177/1550059418824446
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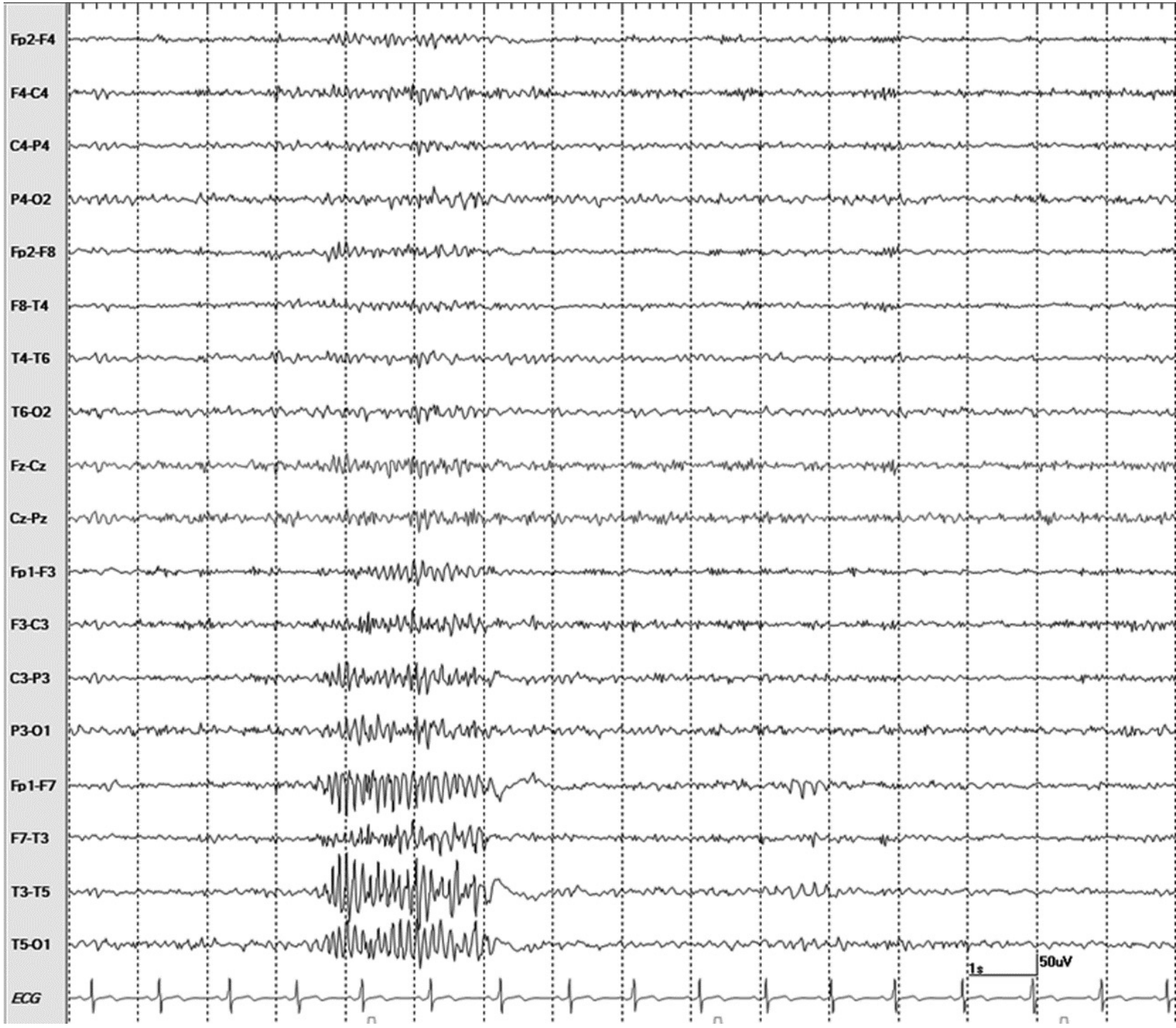
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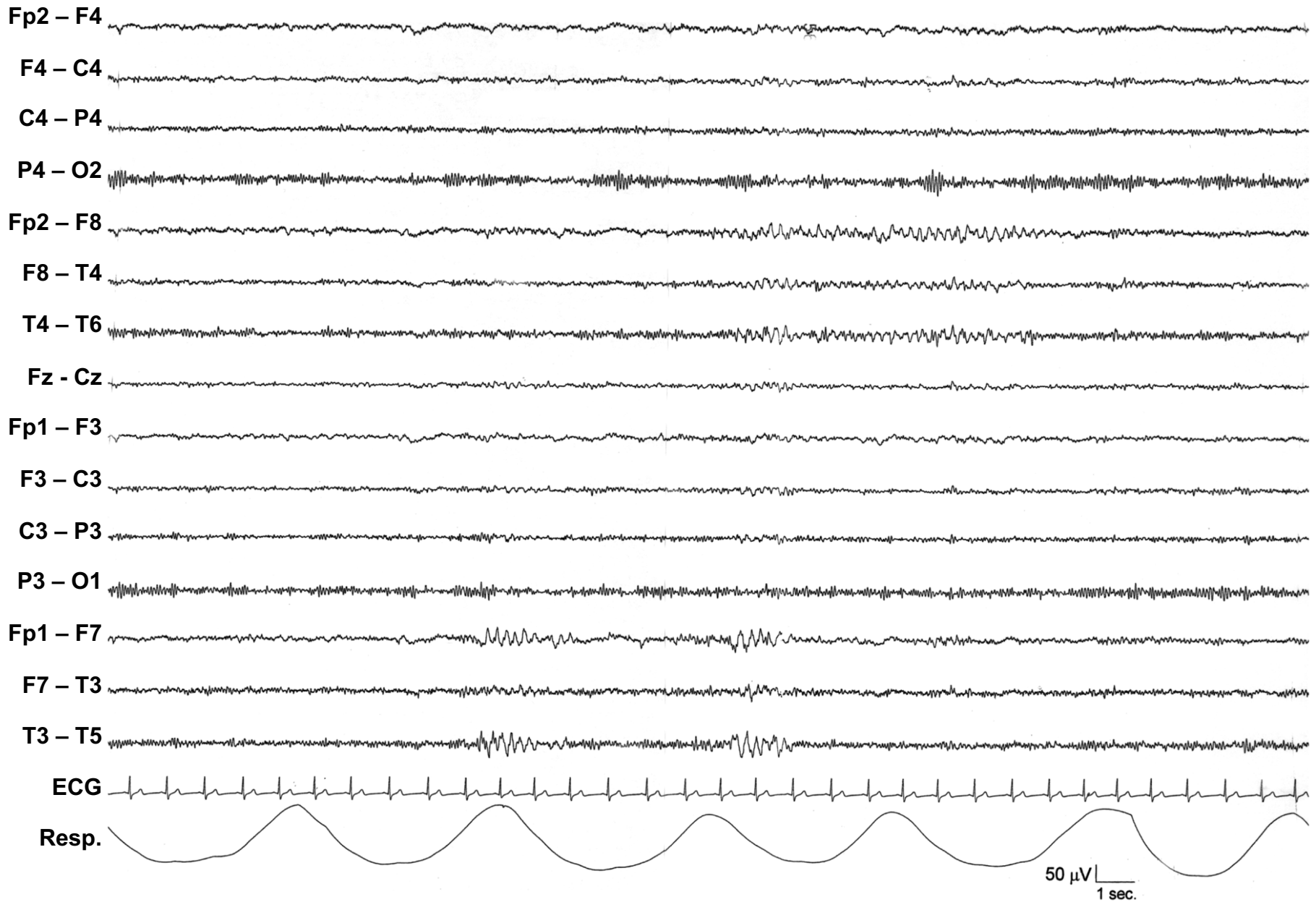
Epilepsy

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Cav. Sab. 32 ♀ 13 - 07 - 2004

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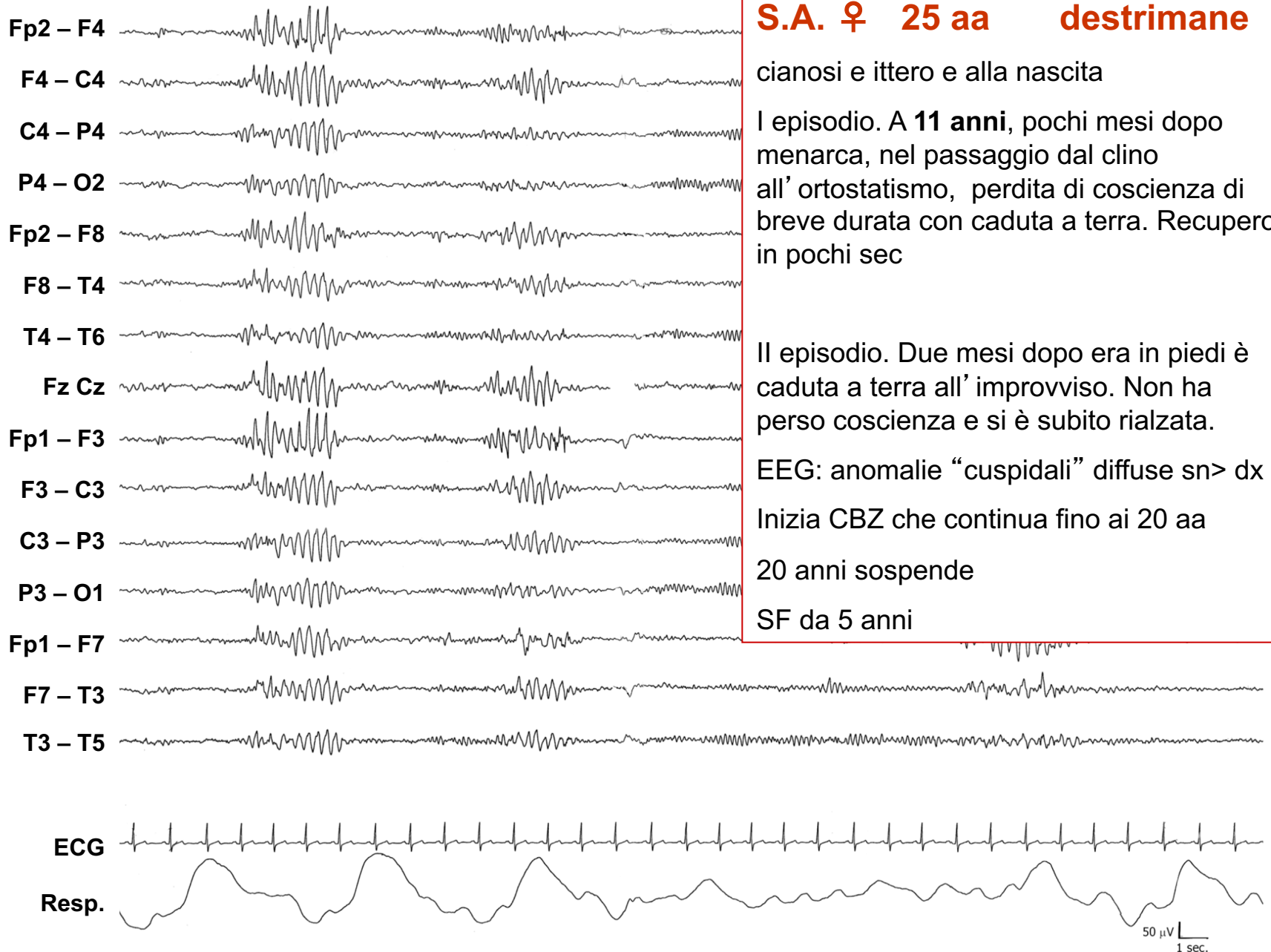
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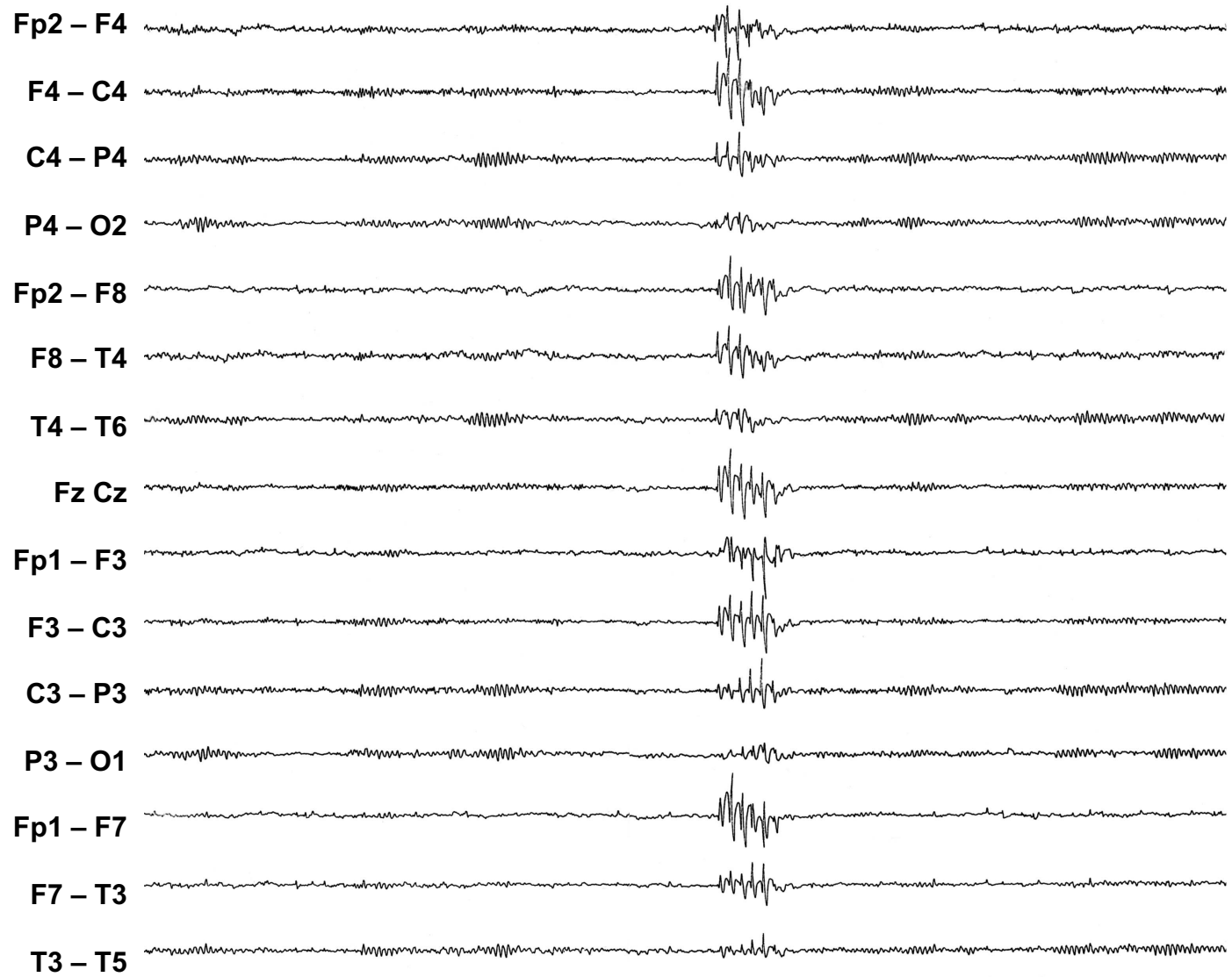
Inizia CBZ che continua fino ai 20 aa



20 anni sospende

SF da 5 anni

Phantom Spikes or *Six Hz spike and wave burst*

- Phantom: short duration and the fleeting quality of the spike, smaller in amplitude and shorter than the slow wave component of the pattern
- also: 6 Hz spike and wave bursts
- brief (1-2 sec), low voltage, bilateral spike-wave complexes
- frequency: 5-7 Hz, mean 6
- monomorphic morphology
- wakefulness and mild drowsiness
- tend to disappear during sleep,
- most prominent over the anterior or posterior head regions
- both adolescents and adults



50 μ V 
1sec. 

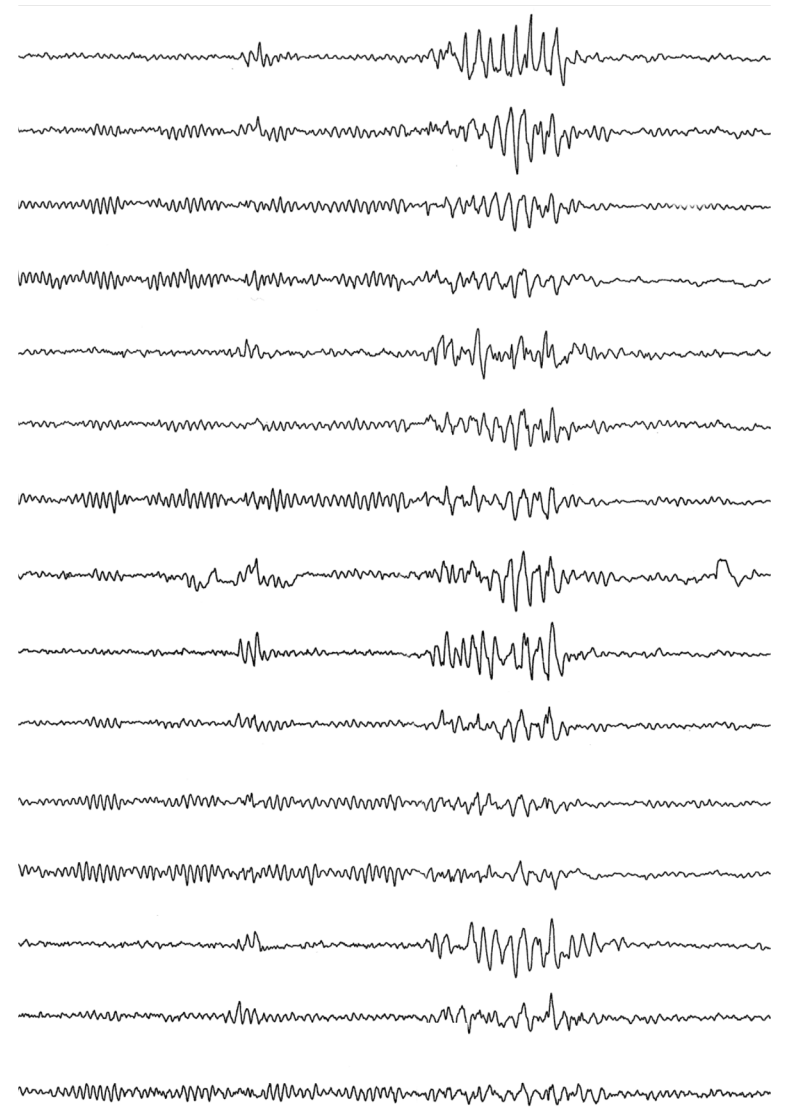
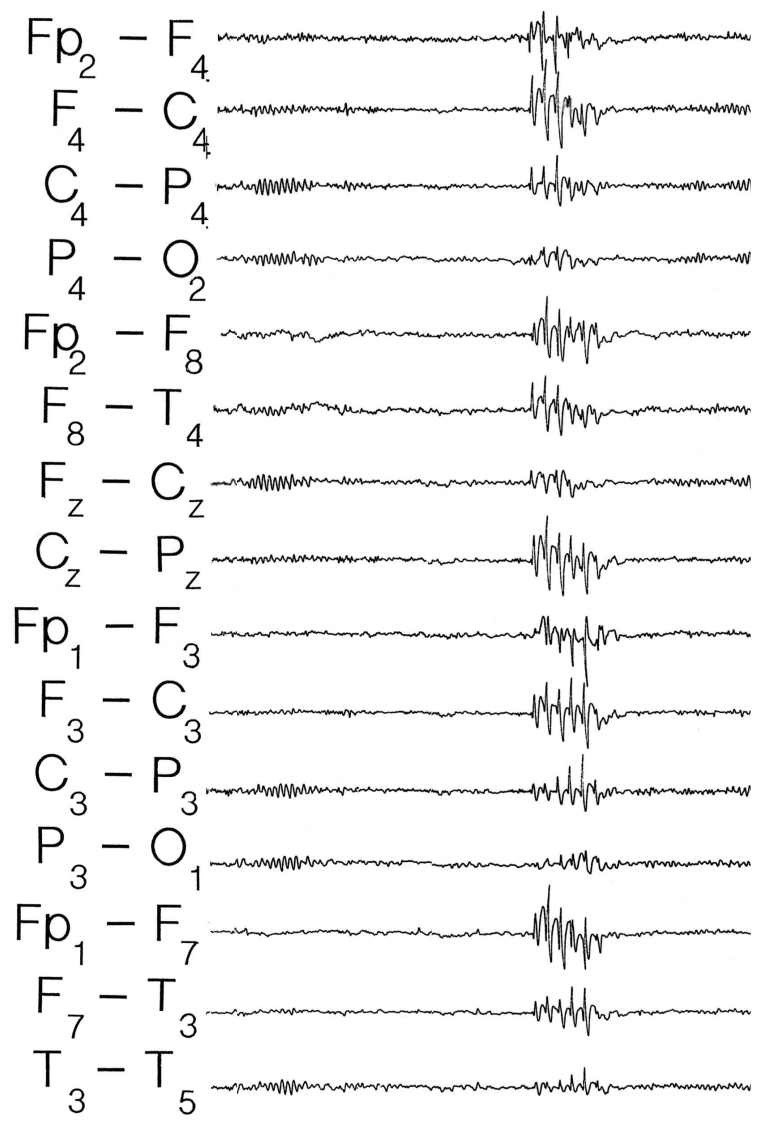


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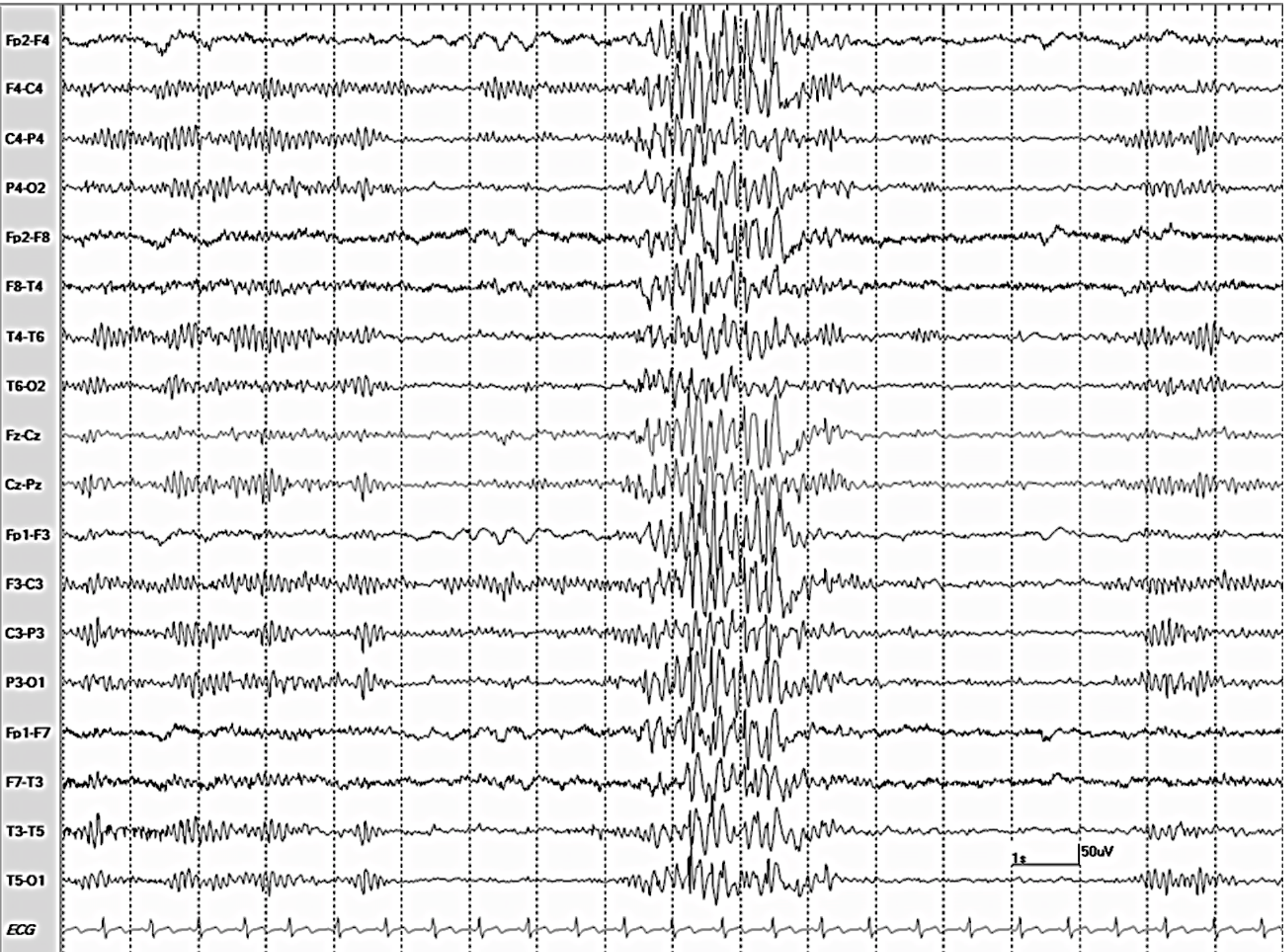


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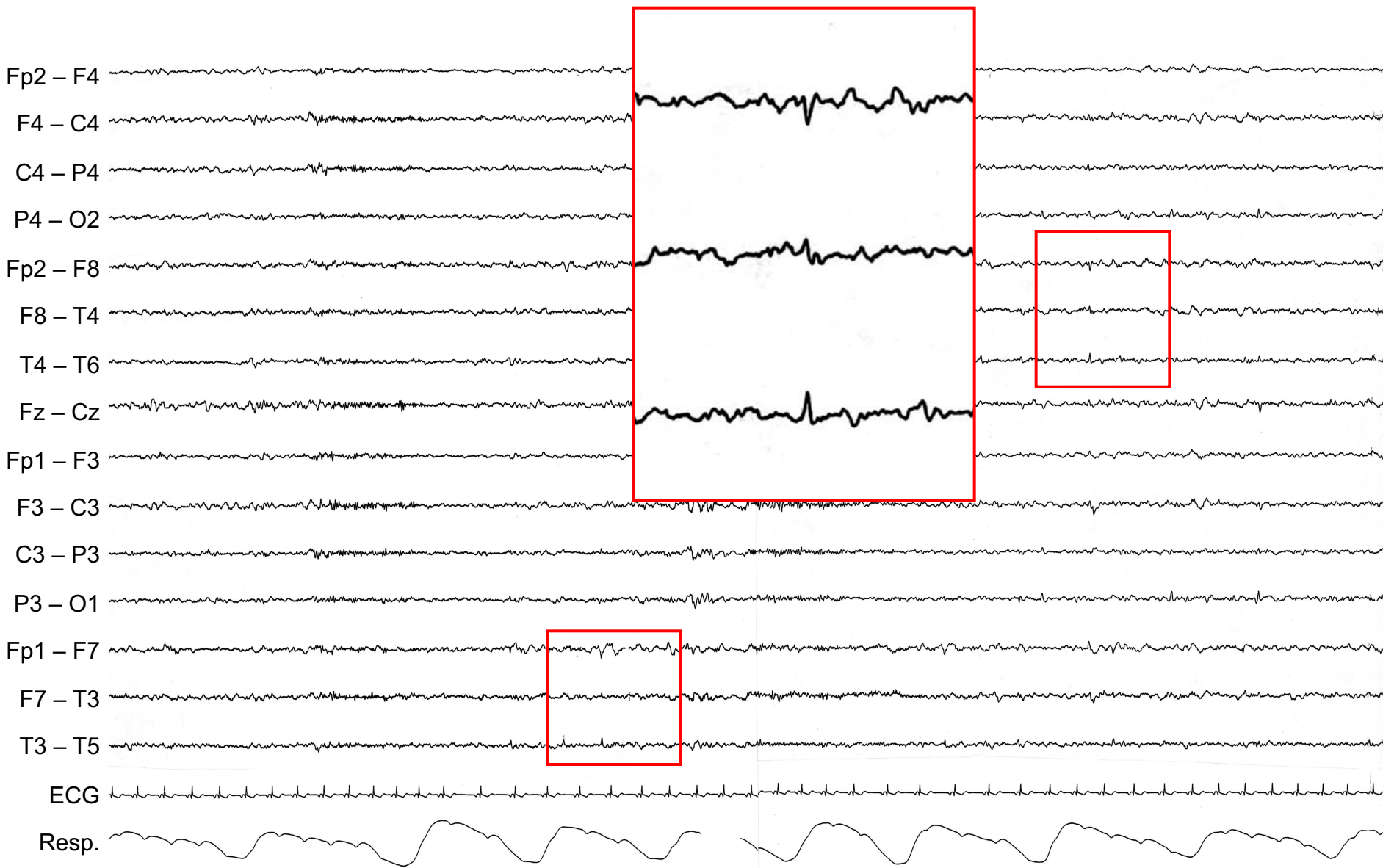
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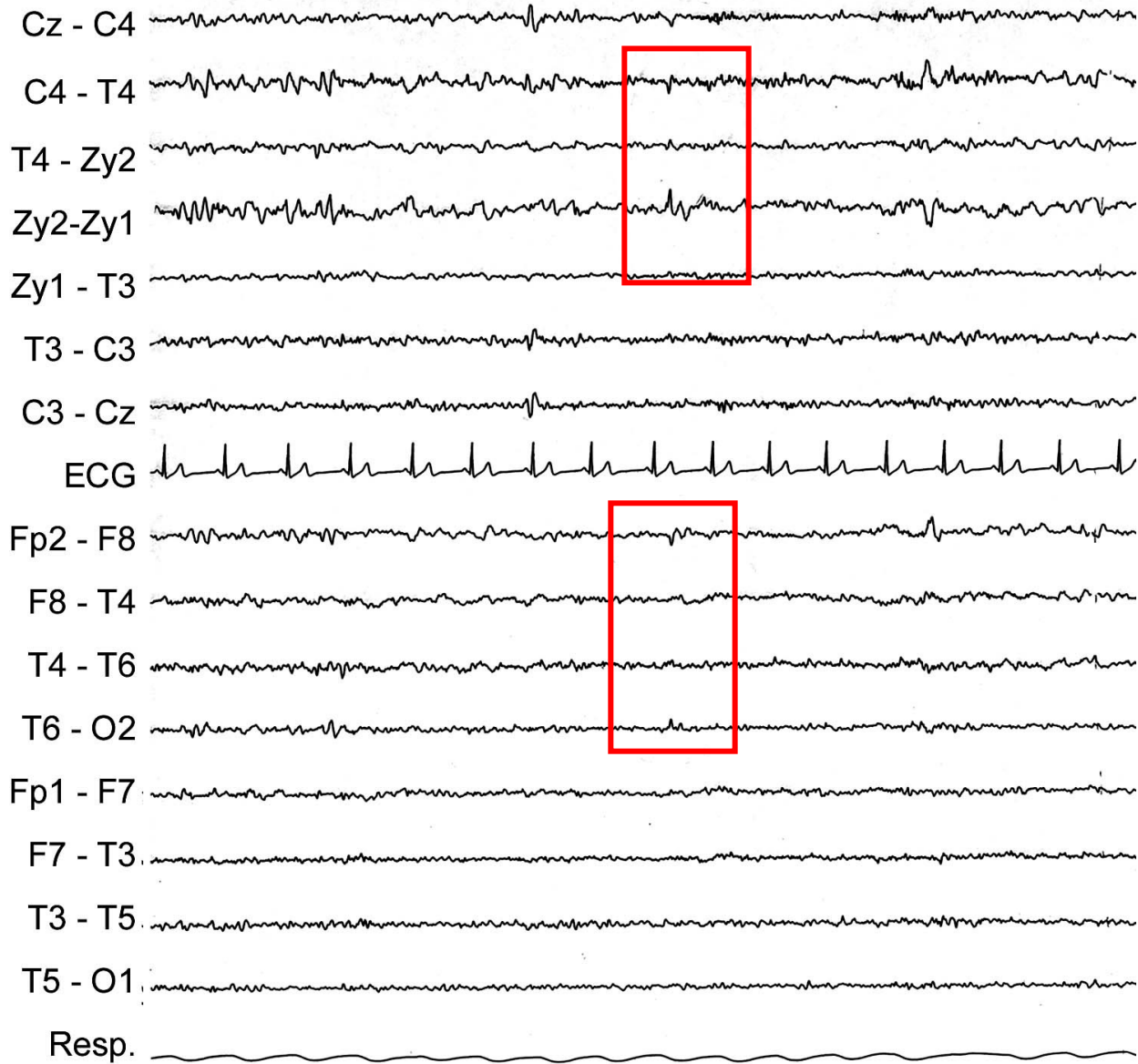
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*Benign Sporadic Sharp Spikes; **Benign Epileptiform Transient of Sleep



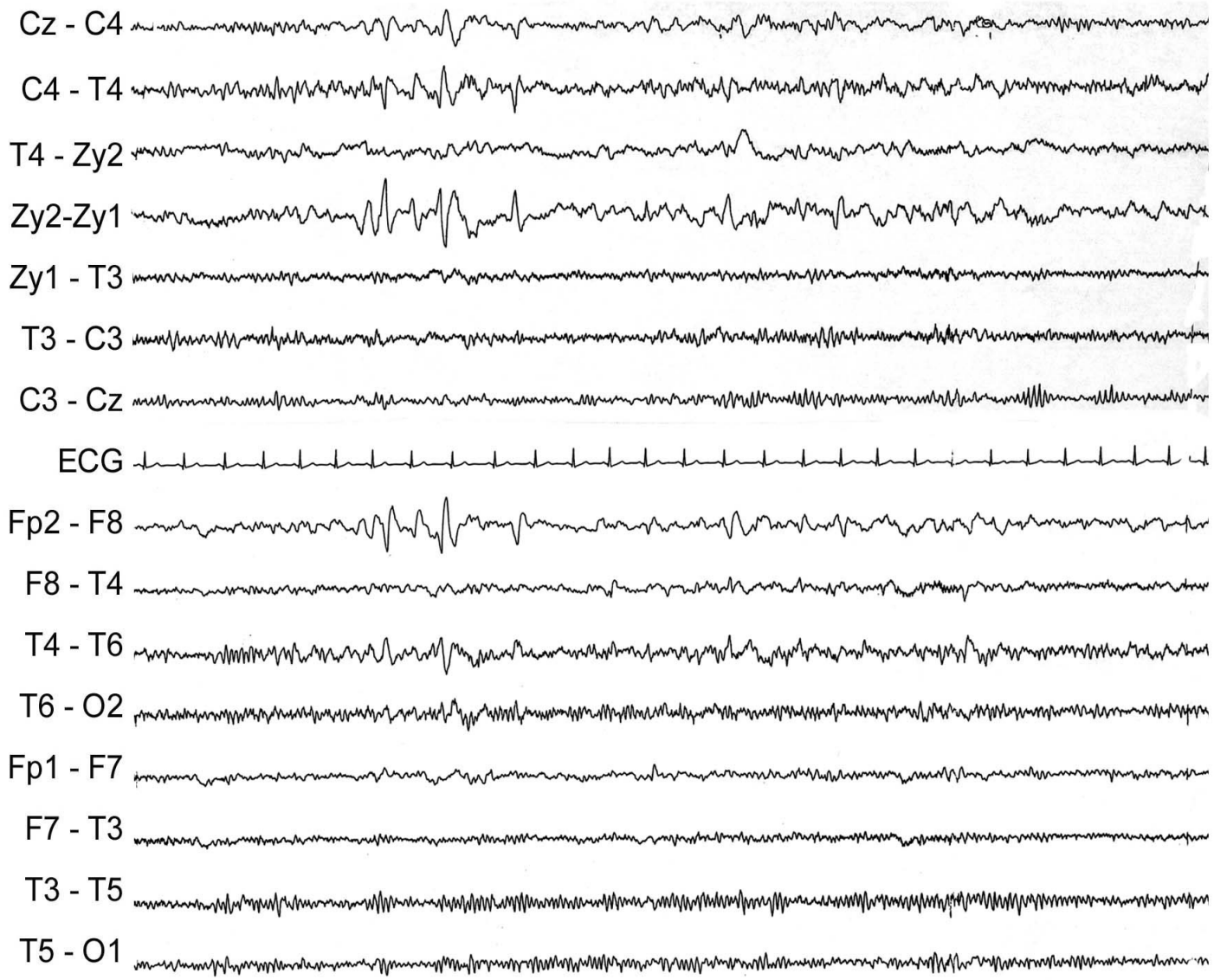
50 μ V \perp
1 sec.

P. M. 18.9.06 ♂



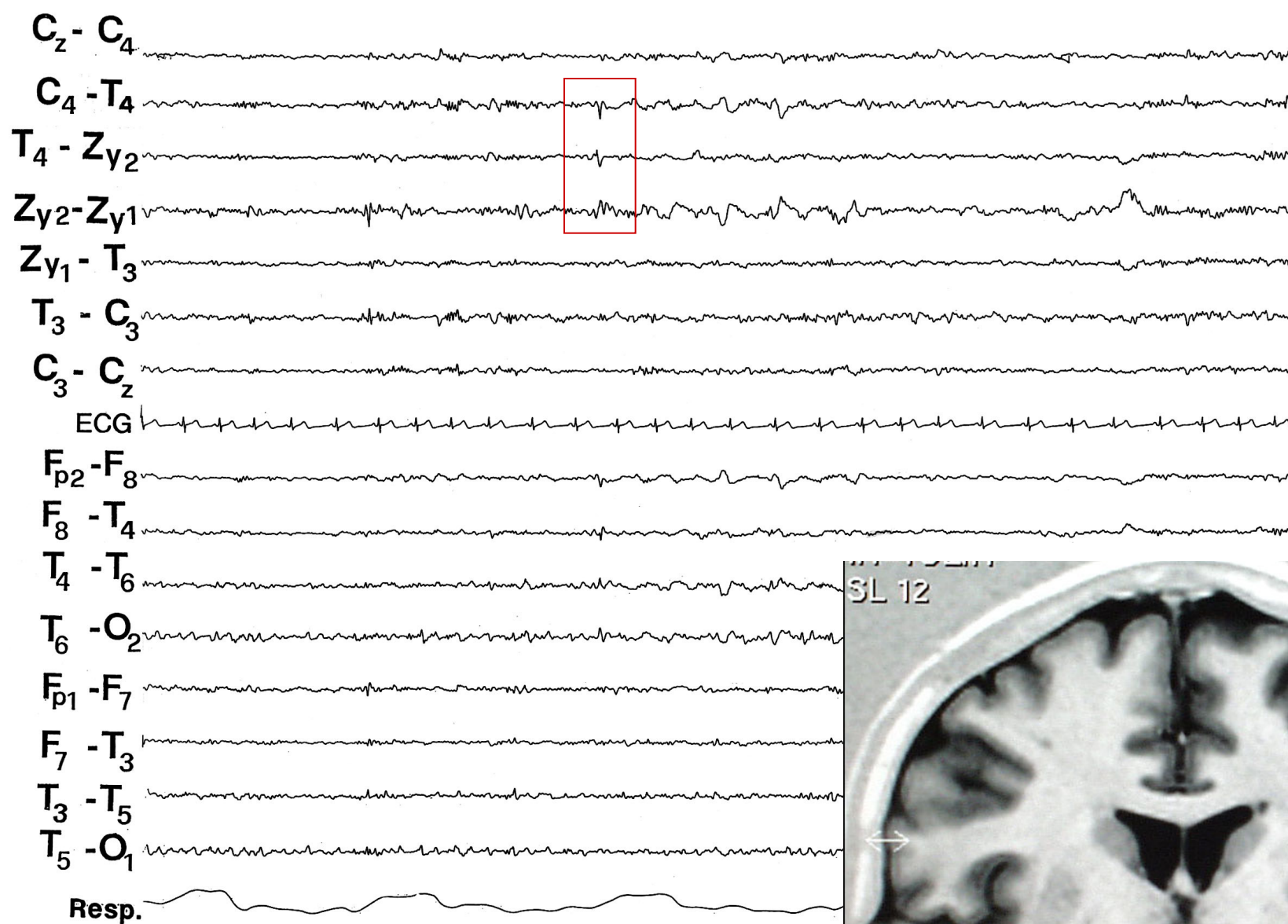
Dom.Car. ♀ 35 aa.

50 μ V
1 sec.

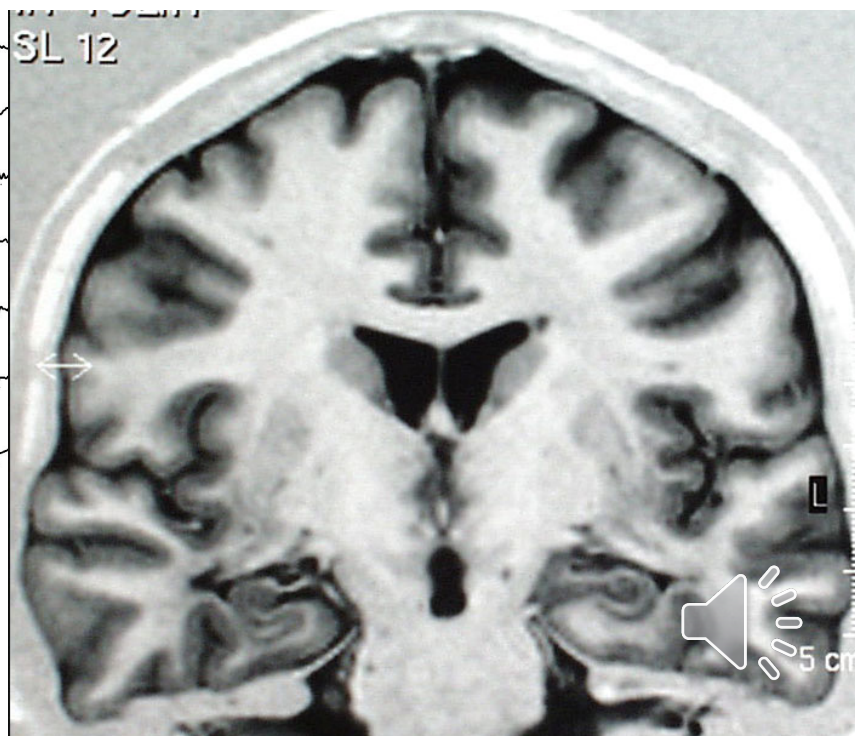


Dom.Car. ♀ 35 aa. 25 - 03 - 2005

50 μ V |
1 sec.



Mol. Dan. ♀ 41 yrs n° 36357



LE FIGURE PAROSSISTICHE EEG

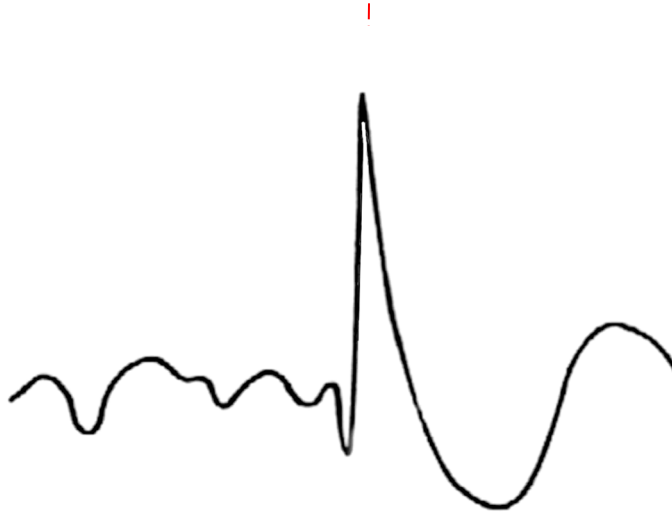
**quando
epilettiformi?**



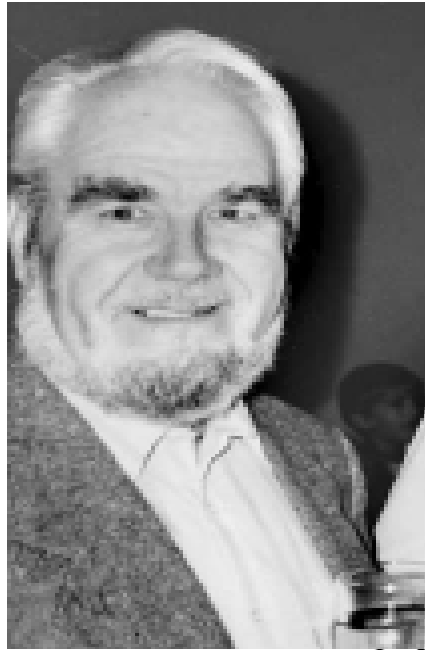
“Il Santo Graal dell’ epilessia” *Van Emde Boas 2010*

SPIKE - MORFOLOGIA

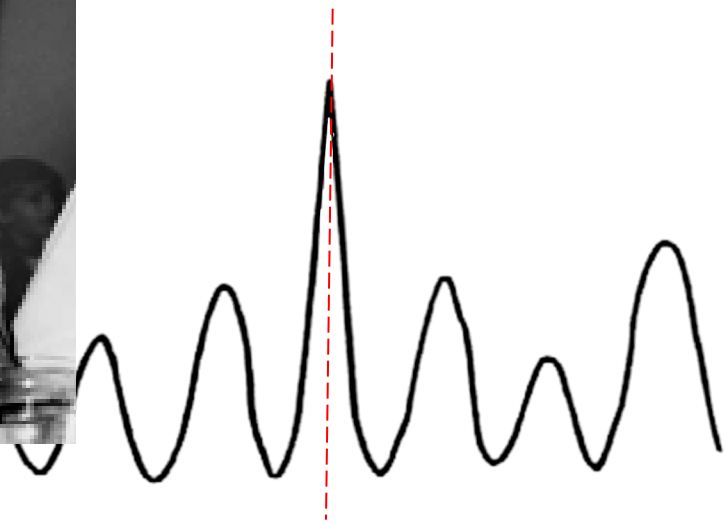
EPILETTIFORME



1. Asimmetrica
2. Di solito seguita da onda lenta
3. Bi o Trifasica
4. Durata differente del R. d. F.
5. Nasce da un R. d. F. irregolare



NON EPILETTIFORME



1. Simmetrica
2. Non seguita da onda lenta
3. Monofasica
4. Durata uguale al R. d. F.
5. Nasce da un R. d. F. normale

5 mesi → CF

24 anni → Due episodi di perdita di coscienza con irrigidimento e caduta a terra. Non preavvertiti.

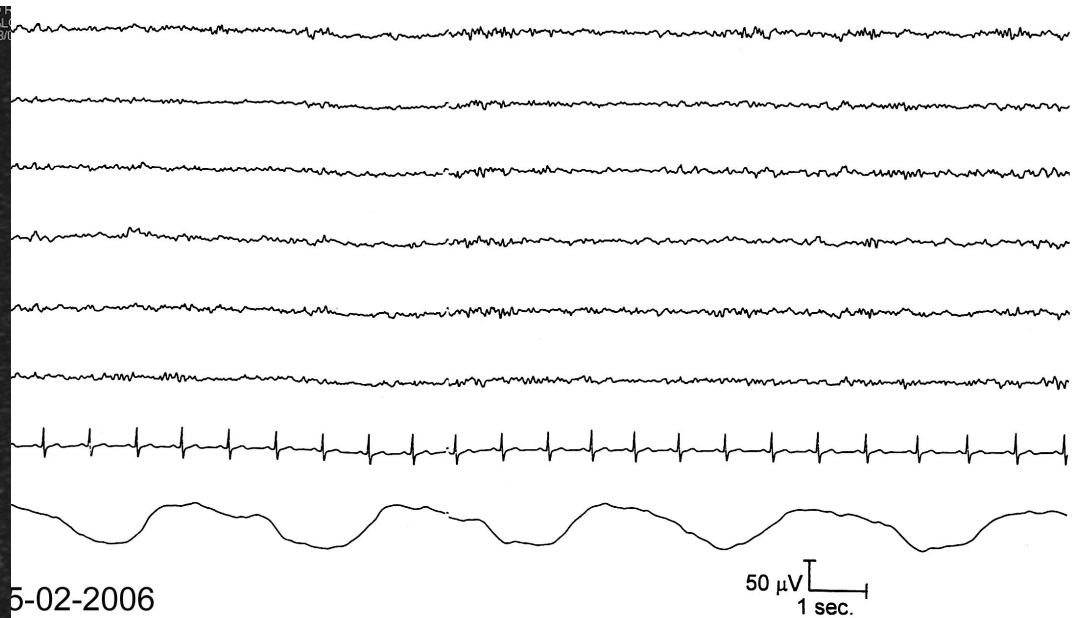
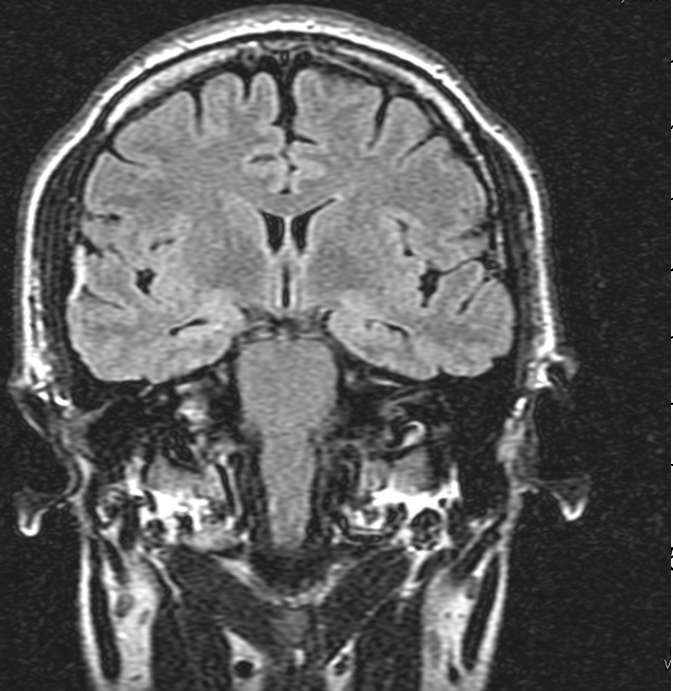
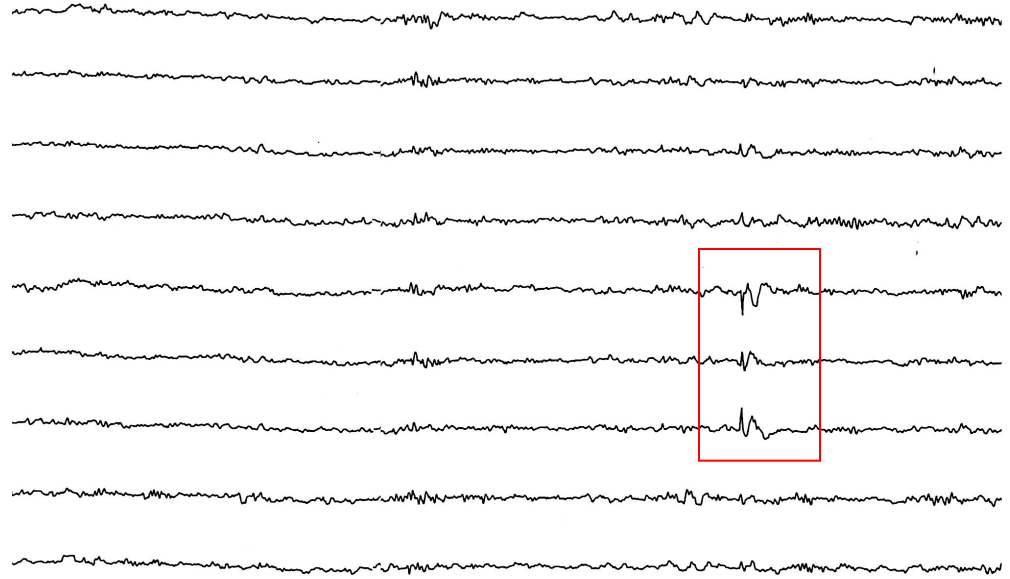
Breve durata e rapido recupero

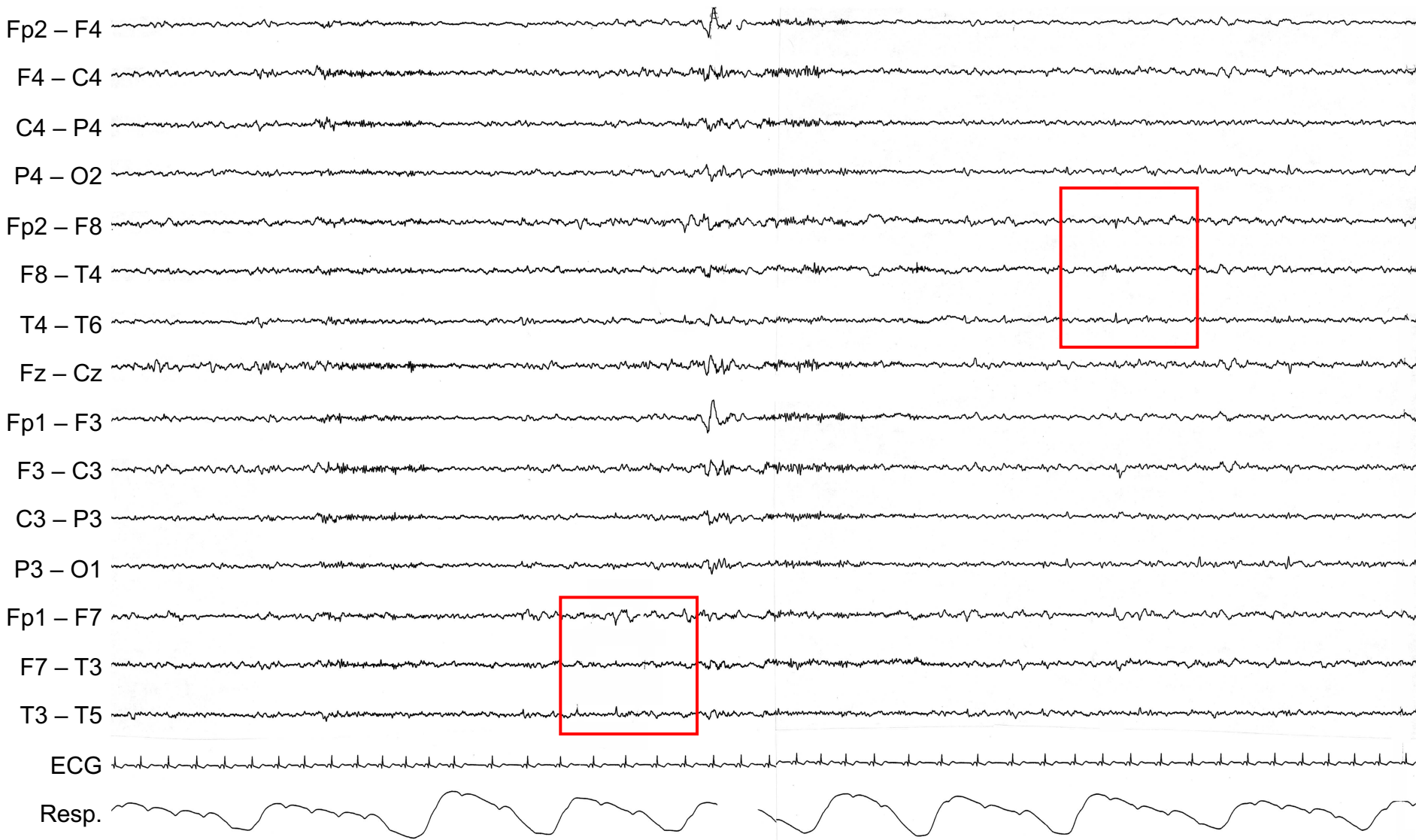
24 ai 41 anni → sensazione di calore epigastrico addominale, talvolta ascendente fino alla gola associato a déjà-vù. E' in grado di parlare → perdita di contatto, pallore, fissità dello sguardo, automatismi oralimentari, movimenti di manipolazione, irrigidimento AS sn. Al termine confuso ma parla bene. Non SG. Frequenza: grappoli pluriannuali

Dai **41 anni**: Spesso non avverte più la crisi: pdc, pallore, fissità dello sguardo, automatismi oralimentari, movimenti di manipolazione, irrigidimento Assn

↑ Frequenza: grappoli plurimensili

Farmacoresistente: CBZ, OXC, TPM, LEV



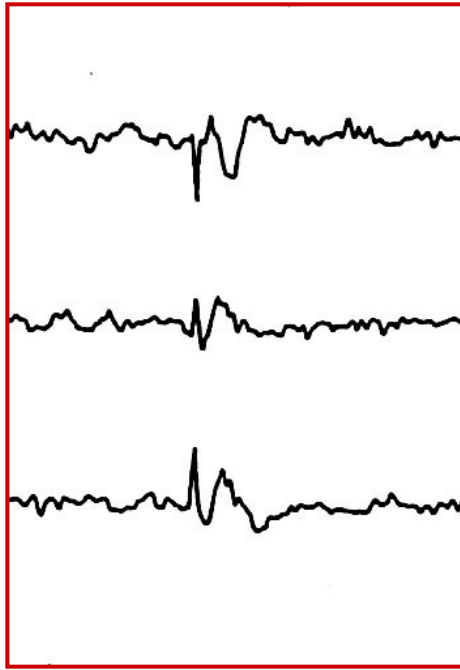


50 μ V \perp
1 sec.

P. M. 18.9.06 ♂

REGOLE di GLOOR

PO Tdx



1. Asimmetrica
2. Di solito seguita da onda lenta
3. Bi o Trifasica
4. Durata differente del R. d. F.
5. Nasce da un R. d. F. irregolare

SSS



1. Simmetrica
2. Non seguita da onda lenta
3. Monofasica
4. Durata uguale al R. d. F.
5. Nasce da un R. d. F. normale

GRAZIE!

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