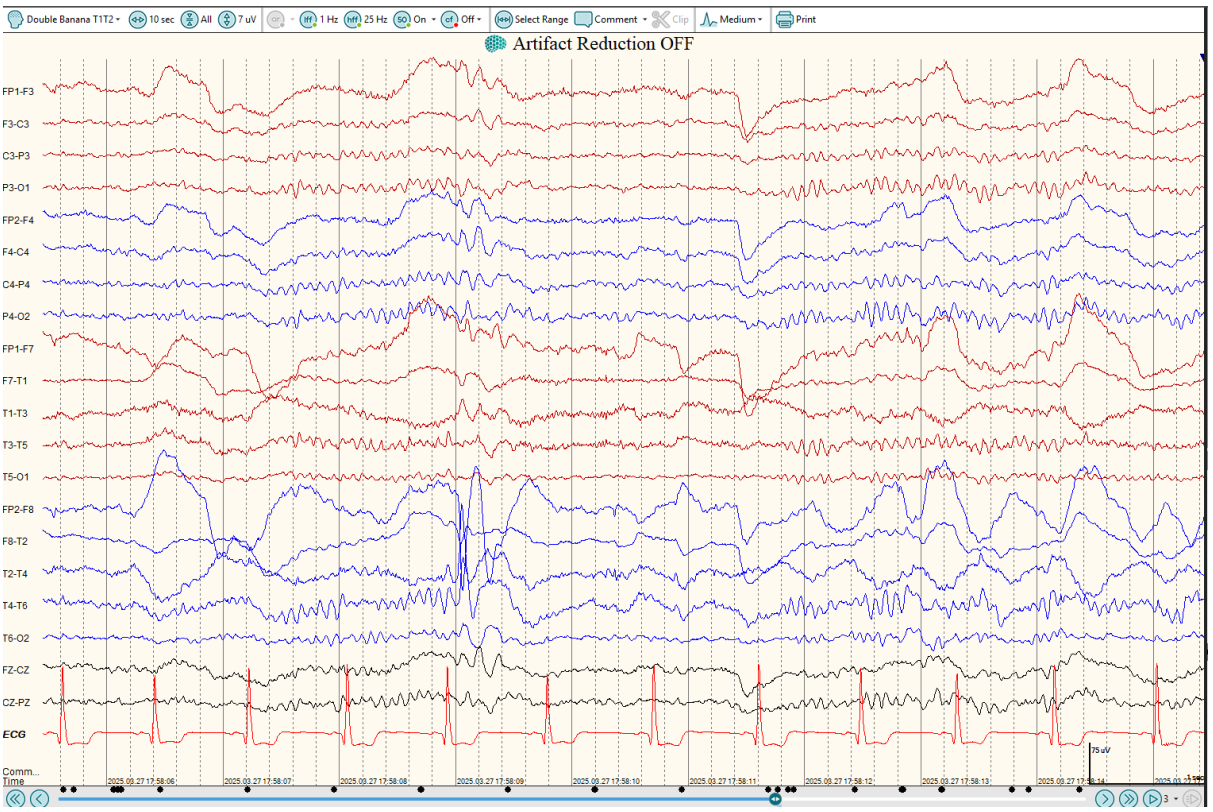
Symptomatic Localization-Related Epilepsy of Right Temporal Neocortical Origin: Localizing Focal Seizures via Extended Video-EEG Monitoring

Patient History

The 27 year old male patient had a seizure at 6 months of age - fever with encephalitis and took AED for 5 years. Seizure recurrence since 2019. Aura - perioral movement and later GTCS. Last - 10 - 15 minutes. Post ictal drowsiness - 30 minutes. Frequency 8-10 episodes per year. Last attack - 2 months ago. No family history, No head trauma. Current medicine - Oxetol, Licotar, Levetricetam. MRI - Normal, EEG - Awake record - Normal, EEG - Right focal persistent spike and slow wave. Mocxa long term Video EEG was done in a hospital. Mocxa's capability for extended monitoring periods enabled accurate capture.

Procedure Details

Location	In-patient
Duration	27 Hours
EEG Type	Ambulatory, 24 channels, With ECG, With Video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T5-O1
FP2-F8
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T6-O2
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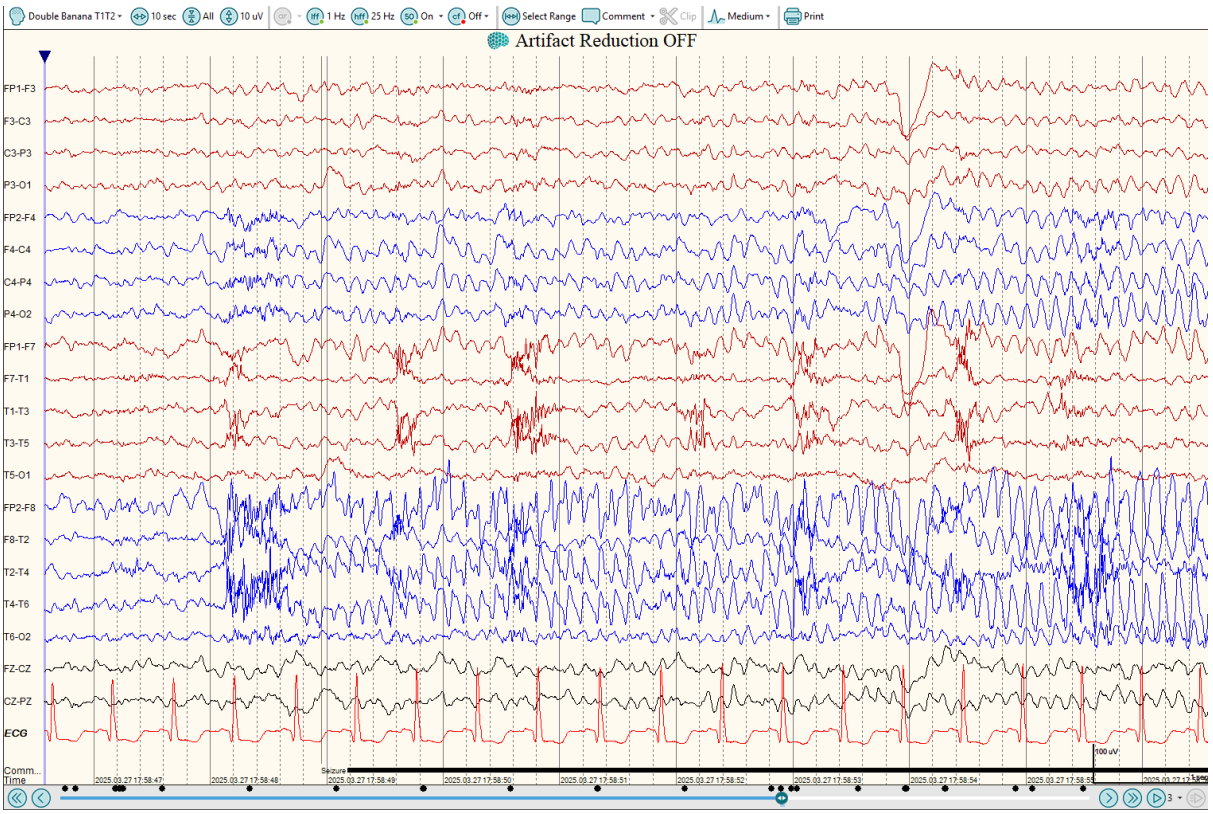
ECG
Comm...
Time
75 uV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T1-T3
T3-T5
T5-O1
FP2-F8
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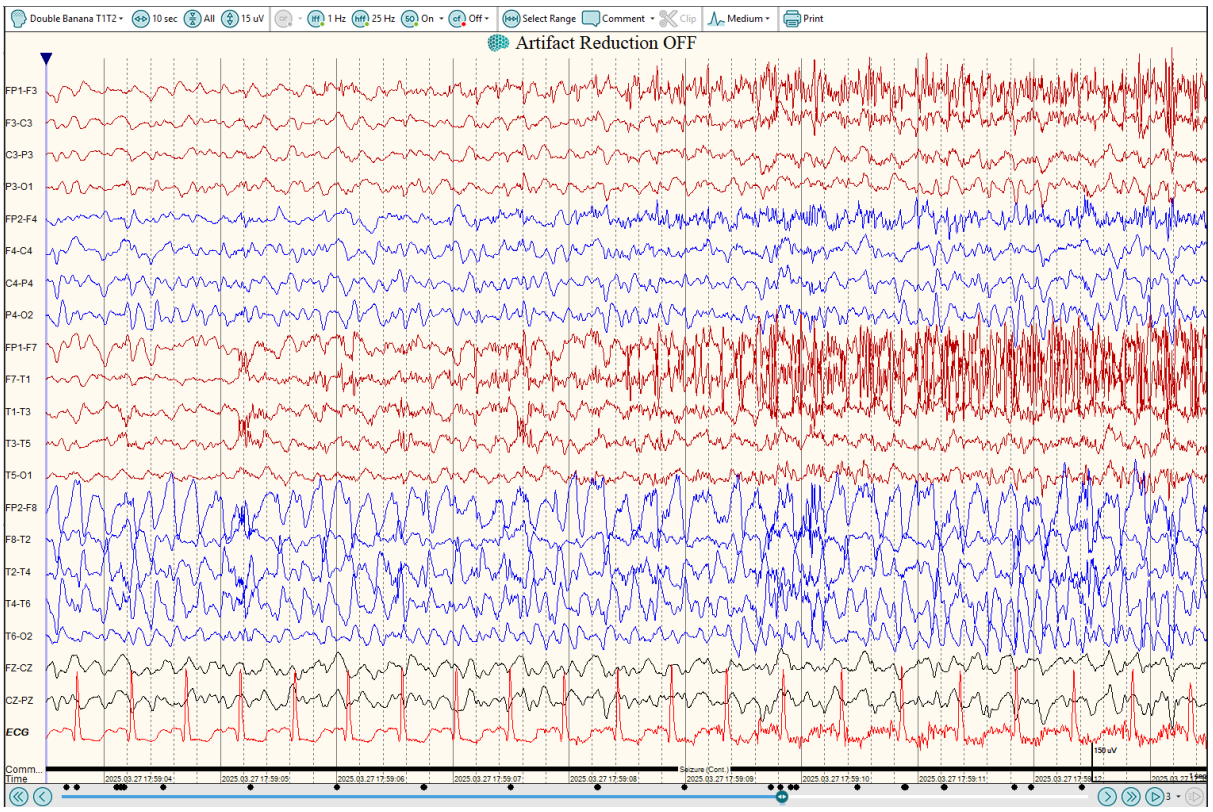
FZ-CZ
CZ-PZ
ECG
Comm...
Time
100 uV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FP2-F4
F4-C4
C4-P4
P4-O2
FP1-F7
F7-T1
T1-T3
T3-T5
T5-O1
FP2-F8
F8-T2
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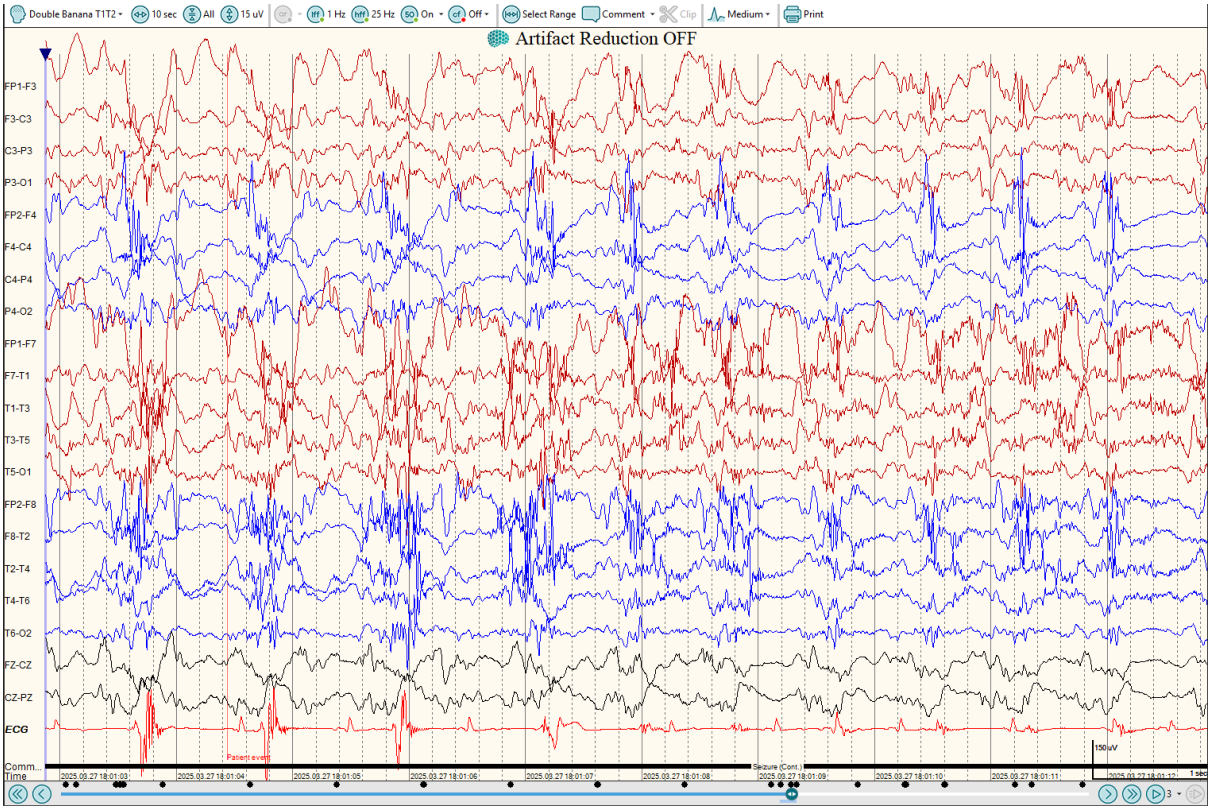
T4-T6
T6-O2
FZ-CZ
CZ-PZ
ECG
Comm...
Time
150 uV
1 sec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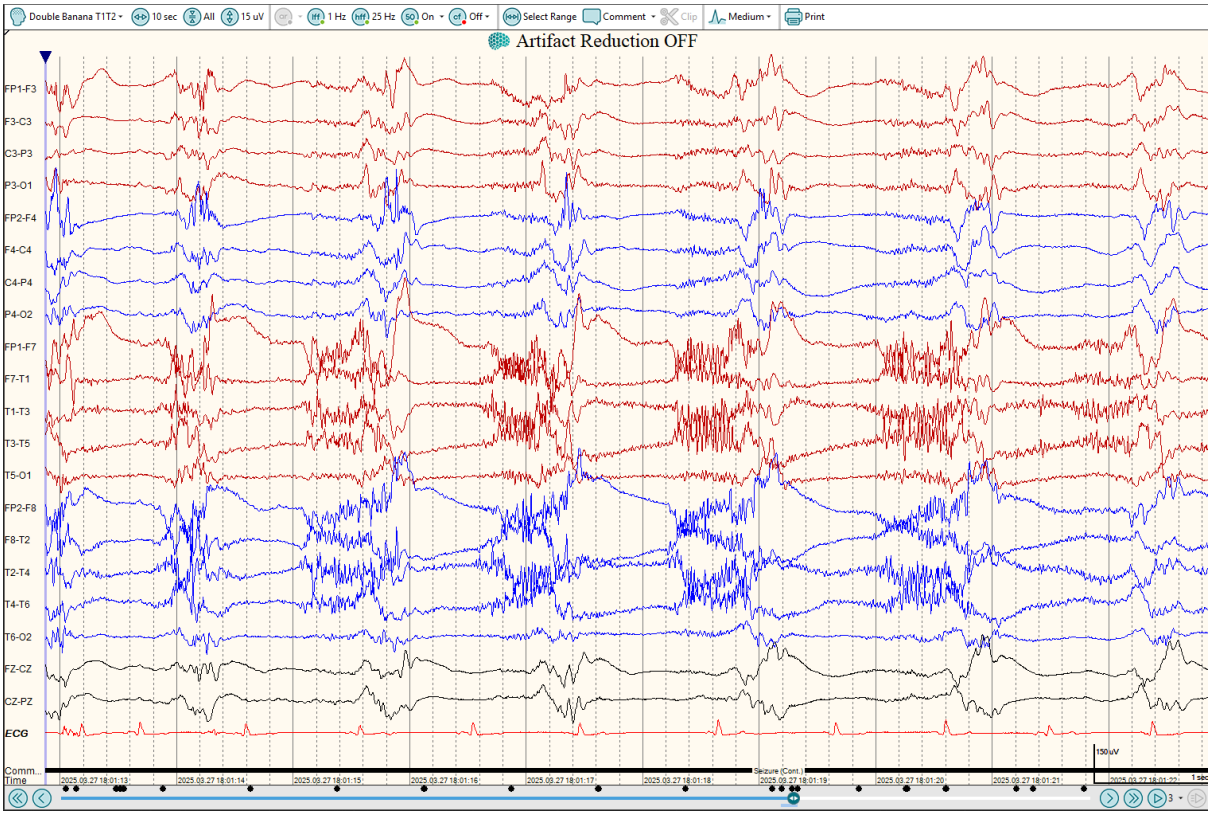
C3-P3
P3-O1
FP2-F4
F4-C4
C4-P4
P4-O2
FP1-F7
F7-T1
T1-T3
T3-T5
T5-O1
FP2-F8
F8-T2
T2-T4
T4-T6
T6-O2
FZ-CZ
CZ-PZ
ECG
Comm...
Time
150 uV
1 sec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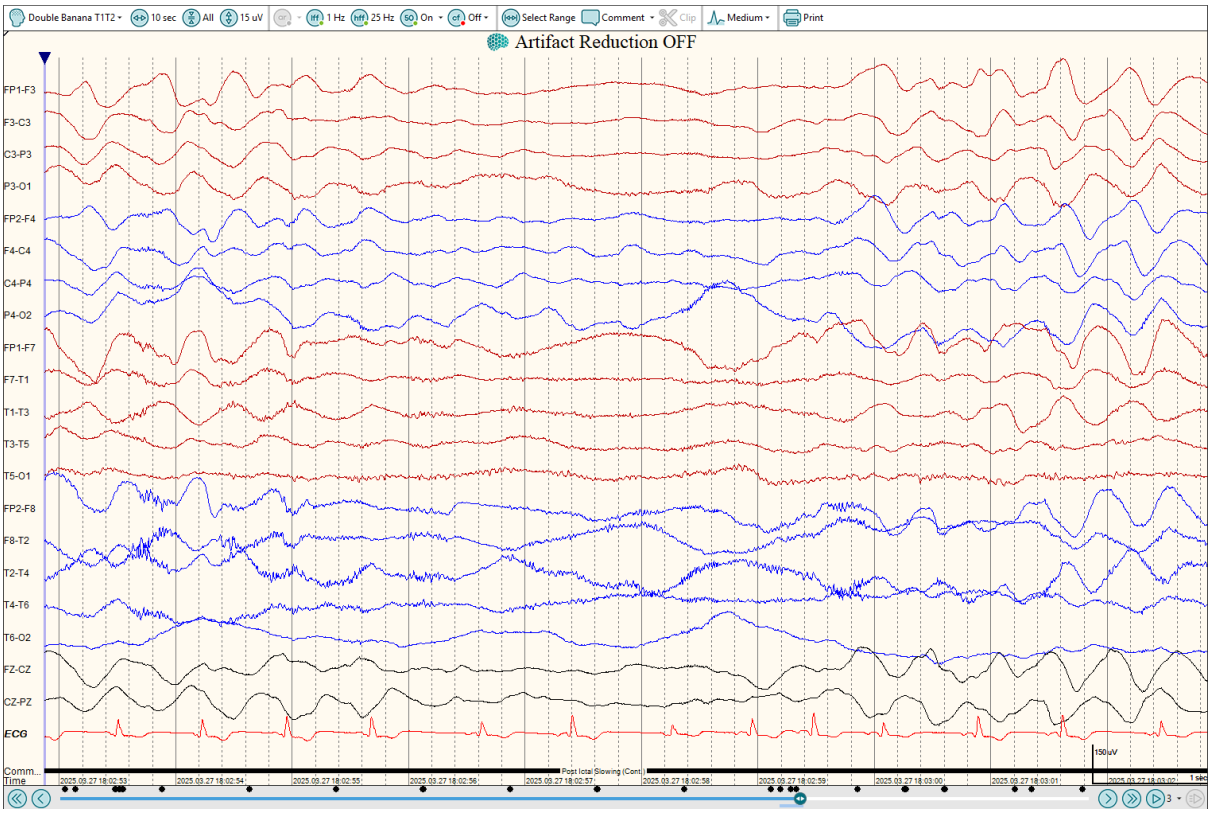
FP2-F4
F4-C4
C4-P4
P4-O2
FP1-F7
F7-T1
T1-T3
T3-T5
T5-O1
FP2-F8
F8-T2
T2-T4
T4-T6
T6-O2
FZ-CZ
CZ-PZ
ECG
Comm...
Time
Seizure (Cont.)
150uV
1 sec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15 uV
1 Hz
25 Hz
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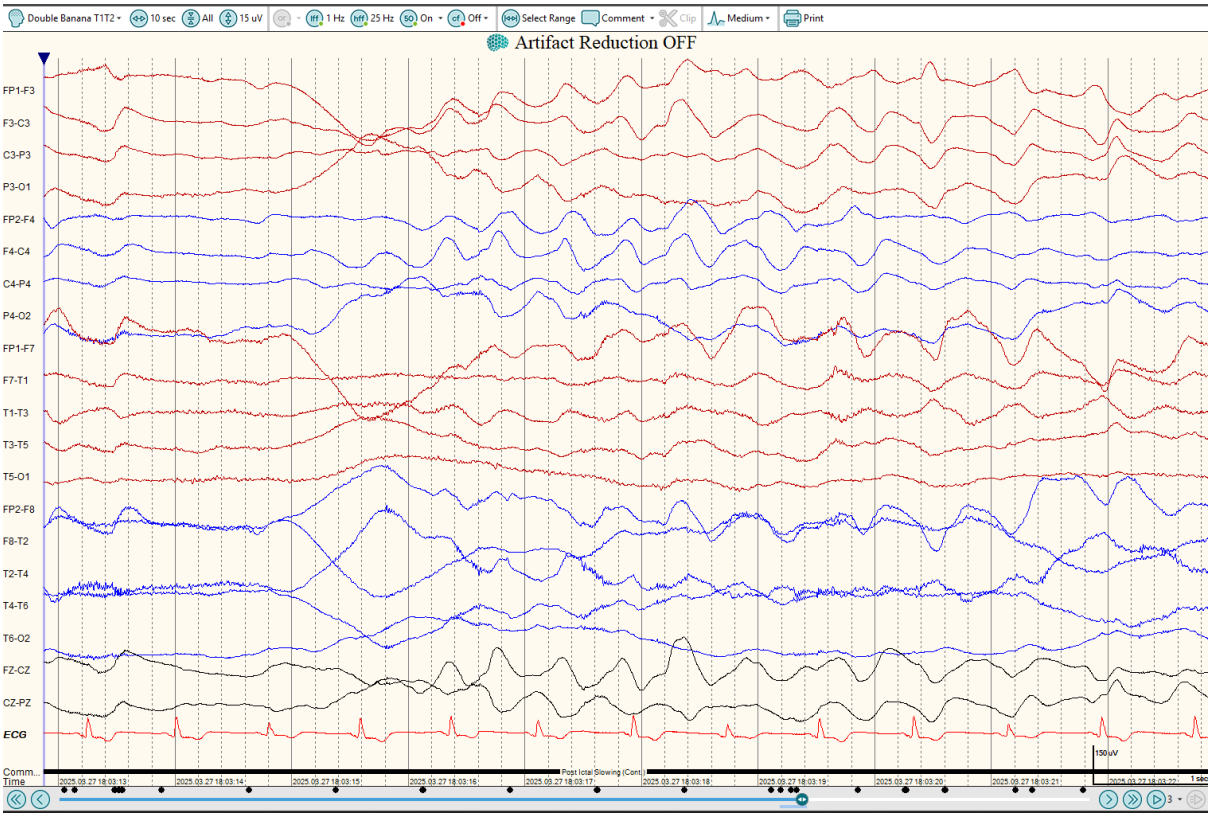
C3-P3
P3-O1
FP2-F4
F4-C4
C4-P4
P4-O2
FP1-F7
F7-T1
T1-T3
T3-T5
T5-O1
FP2-F8
F8-T2
T2-T4
T4-T6
T6-O2
FZ-CZ
CZ-PZ
ECG
Comm...
Time
Post Ictal Slowing (Cont.)
150uV
1 sec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15 uV
1 Hz
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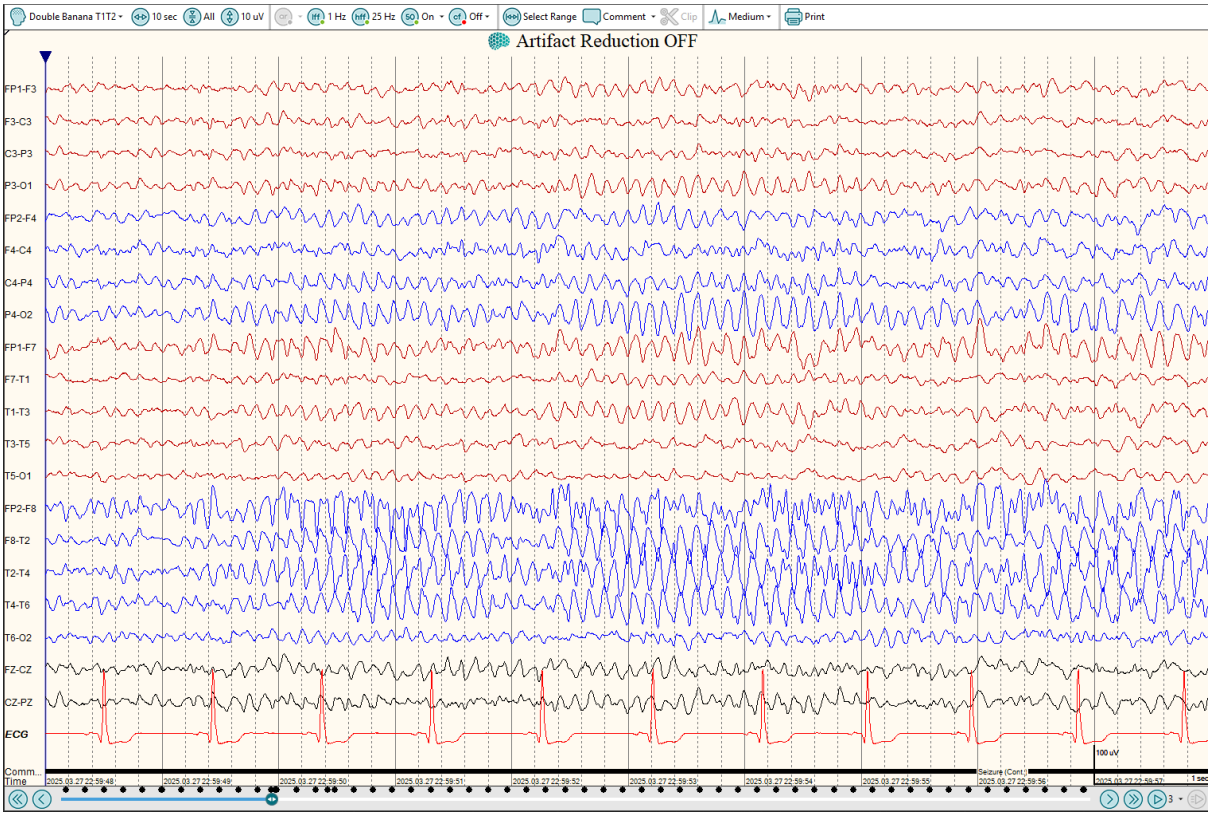
F3-C3
C3-P3
P3-O1
FP2-F4
F4-C4
C4-P4
P4-O2
FP1-F7
F7-T1
T1-T3
T3-T5
T5-O1
FP2-F8
F8-T2
T2-T4
T4-T6
T6-O2
FZ-CZ
CZ-PZ
ECG
Comm...
Time
Post Ictal Slowing (Cont.)
150 uV
1 sec

Seizure 2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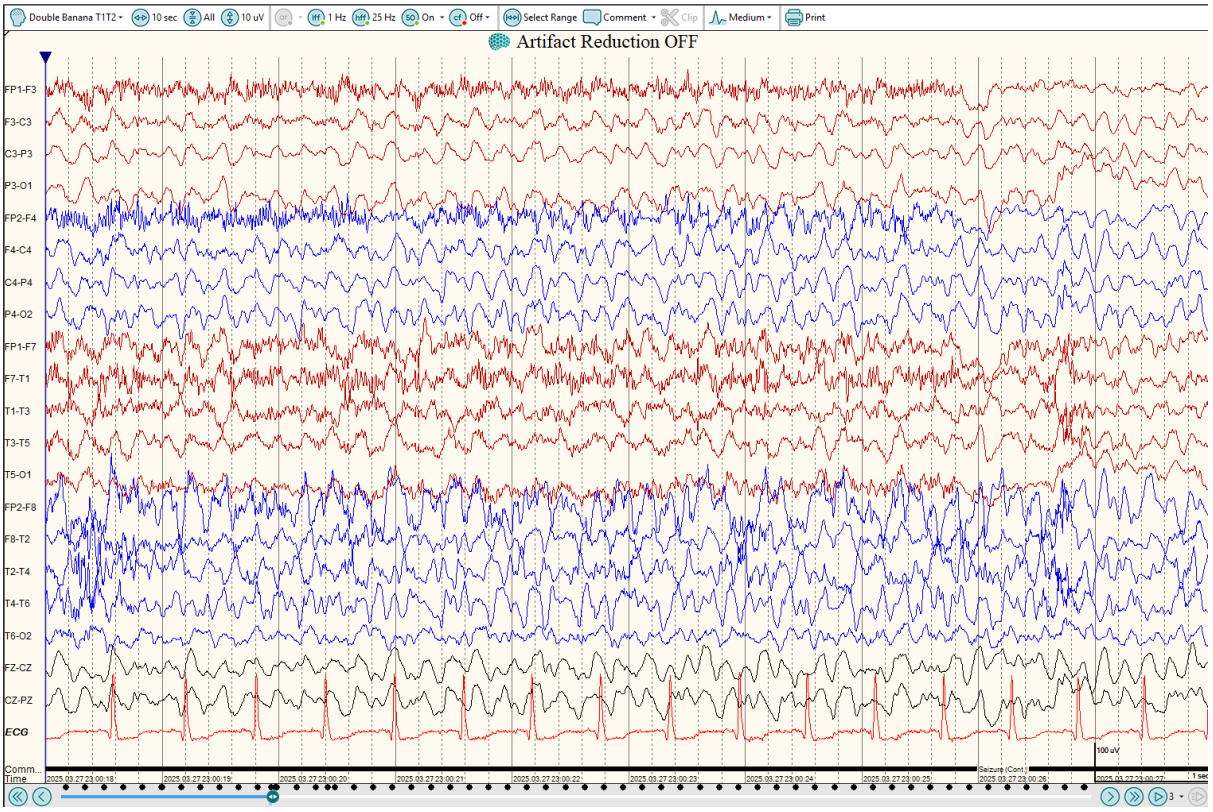
F7-T1
T1-T3
T3-T5
T5-O1
FP2-F8
F8-T2
T2-T4
T4-T6
T6-O2
FZ-CZ
CZ-PZ
ECG
Comm...
Time
Seizure (Cont.)
100 uV
1 sec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FP2-F4
F4-C4
C4-P4
P4-O2
FP1-F7
F7-T1
T1-T3
T3-T5
T5-O1
FP2-F8
F8-T2
T2-T4
T4-T6
T6-O2
FZ-CZ
CZ-PZ
ECG
100 uV
Comm...
Time
Seizure (Cont.)


Double Banana T1T2
10 sec
All
10 uV
1 Hz
25 Hz
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FP1-F3
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F7-T1
T1-T3
T3-T5
T5-O1
FP2-F8
F8-T2
T2-T4
T4-T6
T6-O2
FZ-CZ
CZ-PZ
ECG
100 uV
Comm...
Time
Post Ictal Slowing

MOCXA

Report

Background activity: Awake record showed posterior dominant rhythm of 8-9hz over the bilateral posterior head regions, well reactive to eye-opening and mental alerting. Sleep record consists of a mix of theta and delta waves, with occasional bursts of higher frequency 12-14hz activity sleep spindles. Symmetric sleep spindles, vertex waves and K-complexes were noted. Focal intermittent theta-delta slowing was noted over the right frontotemporal region.

IEDs: Epileptiform abnormalities in the form of spike and sharp wave discharges were noted over the right frontotemporal region during wakefulness, with increased activation in sleep.

Seizures: Recorded 2 stereotyped seizures

Semiology: Behavior arrest, vacant stare, confusion, chewing automatisms, forced head deviation to left, left ATLP and secondary generalisation, last clonic jerk was noted in the right upper limb.

EEG: right frontotemporal polymorphic theta, spiky theta, right frontotemporal followed by right hemispheric evolution of fast spike and wave discharges, secondary bilateral synchrony.

Impression: This EEG record showed focal epileptiform abnormalities over the right fronto-temporal region, in addition to focal intermittent non-specific electrophysiological dysfunction over the same region. Recorded 2 events of right anterior temporal ictal onset. Overall data is suggestive of symptomatic LRE of right temporal neocortical origin.