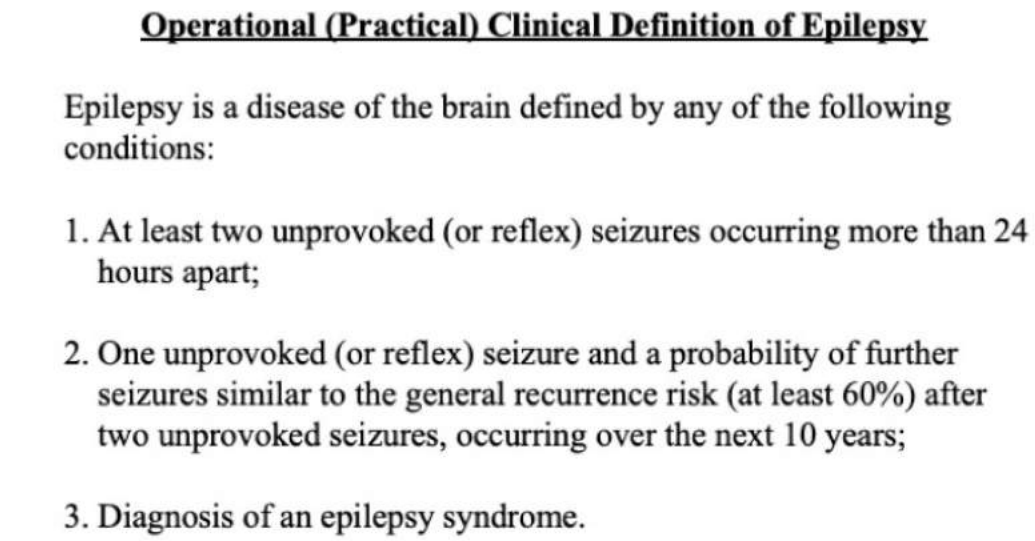
Monkey 2 - Phase 1 (2023)

Introduction

Thank you greatly for participating in our project. With your help, we hope to better understand whether a sub-optimally increased expert interrater variability on EEG interpretation impacts how we care for patients with seizures/epilepsy. In other words, we are trying to investigate whether being an EEG "over-caller" or "under-caller" influences the overall impression of a case and subsequent management. To address this question, we present a series of 50 clinical vignettes.

These vignettes are real cases; however, not all details of the original history and testing are included. In each case, we provide one epoch of EEG (bipolar and common average references), which you should take as representative of what you would find if you reviewed the entire EEG.

Your task is to decide - based on the data provided - whether the patient meets the ILAE operational definition of epilepsy (as per figure below).



Operational (Practical) Clinical Definition of Epilepsy

Epilepsy is a disease of the brain defined by any of the following conditions:

1. At least two unprovoked (or reflex) seizures occurring more than 24 hours apart;

2. One unprovoked (or reflex) seizure and a probability of further seizures similar to the general recurrence risk (at least 60%) after two unprovoked seizures, occurring over the next 10 years;

3. Diagnosis of an epilepsy syndrome.

* 1. What is your name?

* 2. What is your email address?

* 3. How many years have you been reading EEGs (including during clinical neurophysiology and/or epilepsy fellowship training, if applicable?)

Monkey 2 - Phase 1 (2023)

Case 1 - Clinical History

An 88-year-old male with a history of coronary artery disease, peripheral vascular disease, chronic obstructive pulmonary disease, a prior lacunar stroke, and mild cognitive impairment had a spell described below.

During a hospitalization for a myocardial infarction, the patient's nurse came in to do a routine vital sign check. She was unable to wake him and he was unresponsive to sternal rub. He was urgently taken for a head CT. While being taken to the CT scanner, he opened his eyes and began to follow commands. He returned to baseline within 15 minutes after first being found unresponsive.

Two months prior, he fell and hit his head while in the bathtub. He was not seriously injured at that time. He reported full recall of the event. It was not witnessed by others.

Eight months prior, he was at dinner with his family and had a witnessed five-minute episode of staring and drooling.

* 4. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 1 - Neuroimaging & EEG

An 88-year-old male with a history of coronary artery disease, peripheral vascular disease, chronic obstructive pulmonary disease, a prior lacunar stroke, and mild cognitive impairment had a spell described below.

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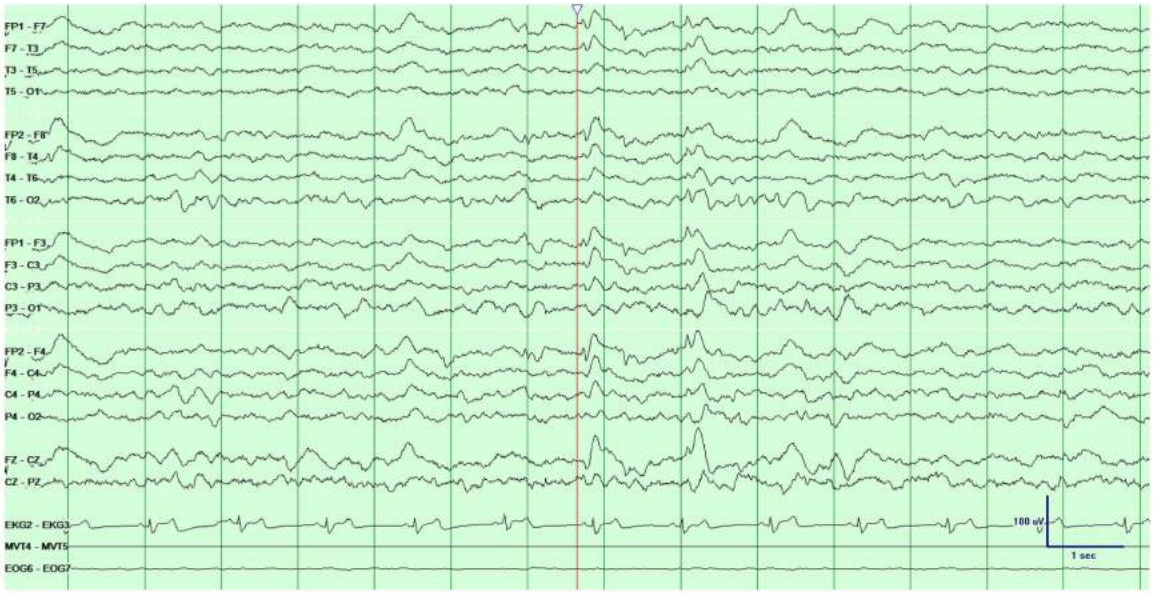
Two months prior, he fell and hit his head while in the bathtub. He was not seriously injured at that time. He reported full recall of the event. It was not witnessed by others.

Eight months prior, he was at dinner with his family and had a witnessed five-minute episode of staring and drooling.

A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 5. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 1 - Level of difficulty

* 6. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 2 - Clinical history

A 71-year-old male with a history of diabetes mellitus, hypothyroidism, alcohol use disorder (complicated by chronic encephalopathy), and throat cancer (status post tracheostomy) presented for evaluation of spells.

His spells were described as spacing out with his eyes rolled back and hand trembling. He would point to his throat at the end of each episode. He never had incontinence or tongue biting. He had multiple of these episodes over the last several months. They always self-resolved. The history was provided by his daughter.

Per the patient's family, he is confused at baseline, and responds yes to every question. He typically does not give any other responses to questions. His family often finds him wandering in the streets after drinking alcohol. He drinks about half a bottle of rum per day. His daughter mentioned that his wife is interested in placing him in a nursing home as she is having difficulties caring for him.

He had a head injury 10 years prior when he fell down stairs while intoxicated.

His exam was notable for increased tone on the right side, but he never truly relaxed, making tone assessment difficult. Reflexes were brisk throughout, except in the ankles, where they were decreased. Toes were bilaterally up-going.

* 7. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 2 - Neuroimaging & EEG

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Per the patient's family, he is confused at baseline, and responds yes to every question. He typically does not give any other responses to questions.

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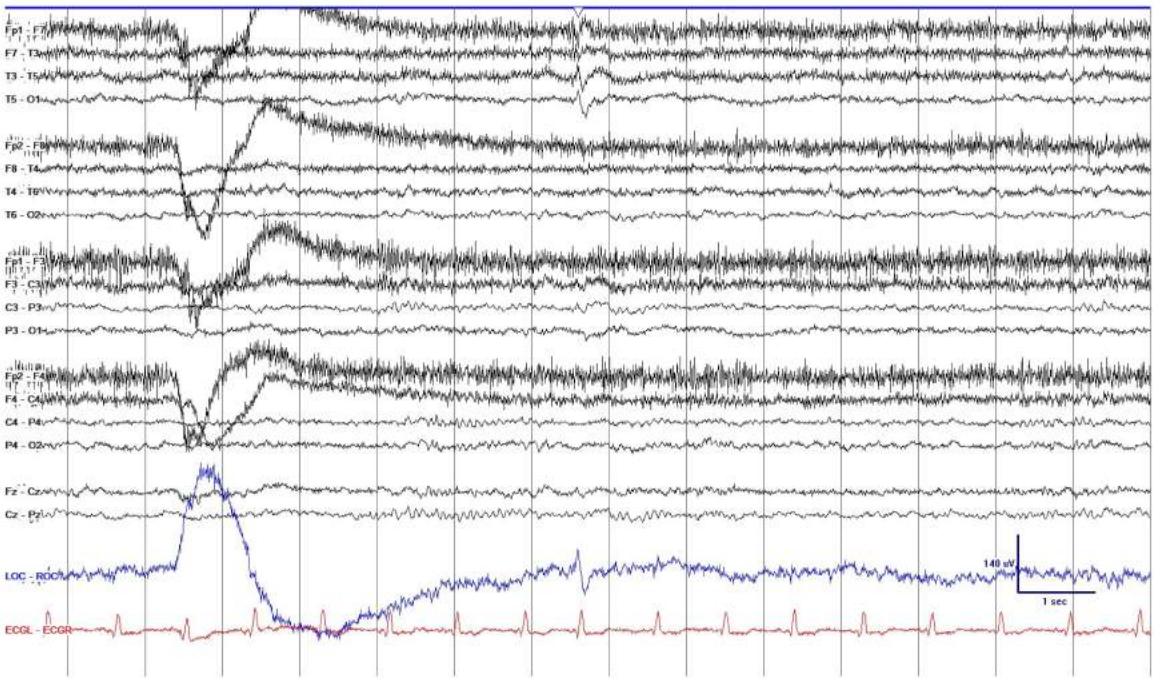
He had a head injury 10 years prior when he fell down stairs while intoxicated.

His exam was notable for increased tone on the right side, but he never truly relaxed, making tone assessment difficult. Reflexes were brisk throughout, except in the ankles, where they were decreased. Toes were bilaterally up-going.

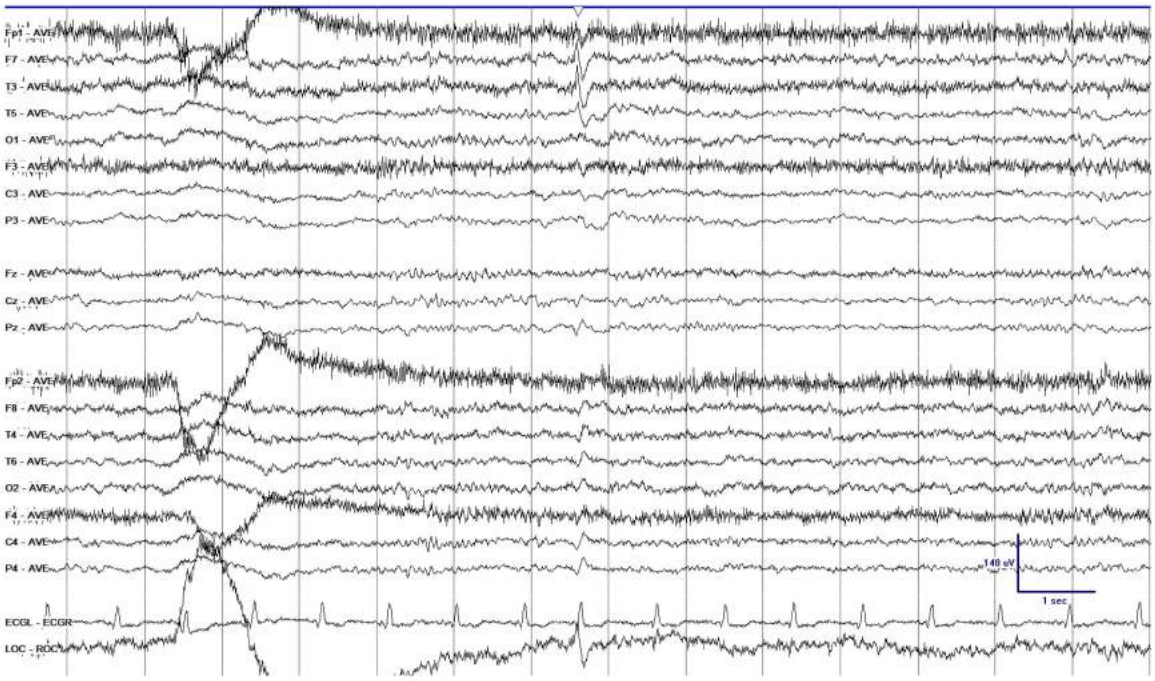
A brain MRI showed encephalomalacia on the left parietal/posterior head region.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 8. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 2 - Level of difficulty

* 9. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 3 - Clinical history

A 3-year-old girl with a history of autism spectrum disorder (diagnosed at the age of 20 months), decreased muscle tone, and mild developmental delay underwent an EEG for three 30-second episodes of vomiting followed by apparent atonia.

She never had a convulsion. She has no history of central nervous system infection or head trauma. With respect to birth history, she was conceived with assistance of in vitro fertilization. Her mother's pregnancy was complicated by bleeding until 22 weeks gestation and polyhydramnios. She was delivered via cesarean section without complications.

* 10. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 3 - Neuroimaging & EEG

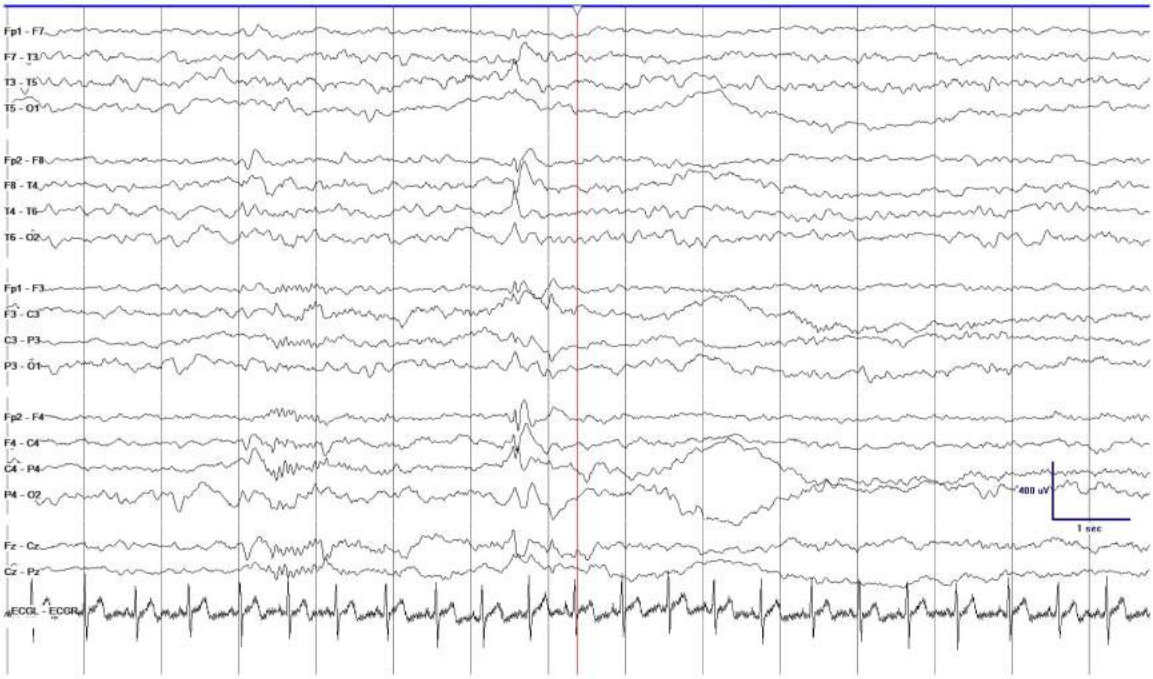
A 3-year-old girl with a history of autism spectrum disorder (diagnosed at the age of 20 months), decreased muscle tone, and mild developmental delay underwent an EEG for three 30-second episodes of vomiting followed by apparent atonia.

She never had a convulsion. She has no history of central nervous system infection or head trauma. With respect to birth history, she was conceived with assistance of in vitro fertilization. Her mother's pregnancy was complicated by bleeding until 22 weeks gestation and polyhydramnios. She was delivered via cesarean section without complications.

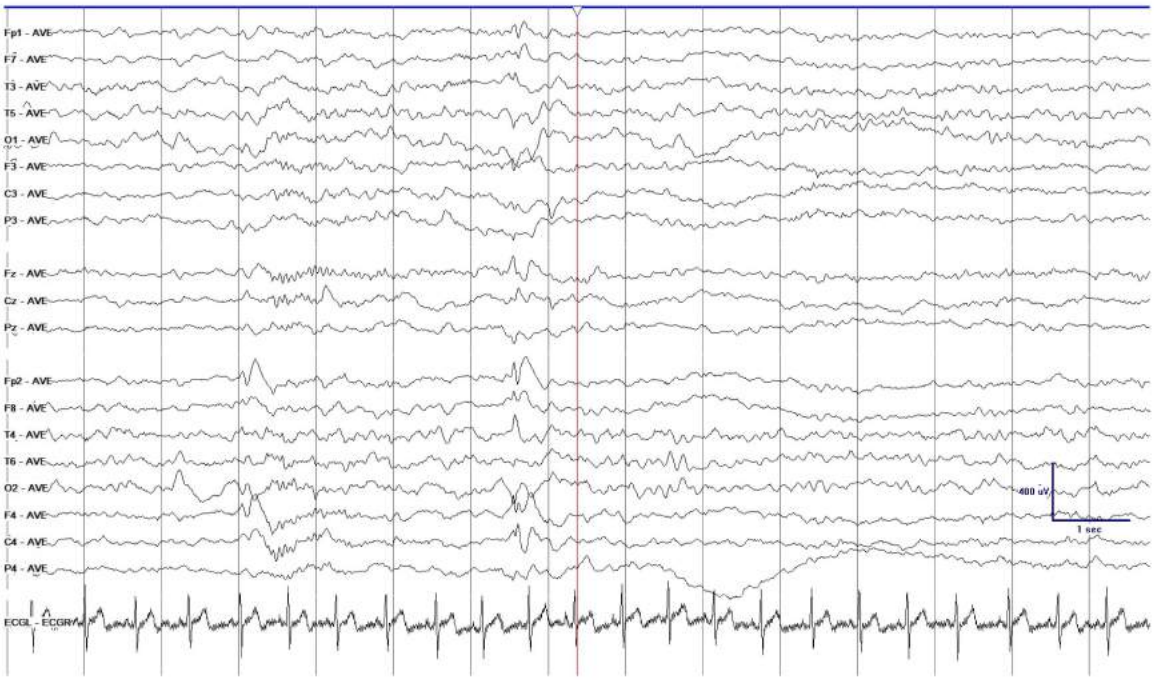
Neuroimaging was not obtained.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 11. Based on the clinical data and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 3 - Level of difficulty

* 12. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 4 - Clinical history

A 24-year-old female with no significant past medical history presented with progressive neurological symptoms that began one year prior, characterized by headaches and chronic urinary retention requiring self-catheterization.

Two months prior to presentation, she began having involuntary facial movements, stuttering, and high-frequency tremor (shaking) of the whole body.

Two weeks prior to presentation, these episodes became more frequent, with accompanied staring and unresponsiveness for 1-2 minutes. After the episodes, she would return to baseline within ~5 minutes.

Her exam was notable for unintelligible speech due to stuttering.

* 13. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 4 - Neuroimaging & EEG

A 24-year-old female with no significant past medical history presented with progressive neurological symptoms that began one year prior, characterized by headaches and chronic urinary retention requiring self-catheterization.

Two months prior to presentation, she began having involuntary facial movements, stuttering, and high-frequency tremor (shaking) of the whole body.

Two weeks prior to presentation, these episodes became more frequent, with accompanied staring and unresponsiveness for 1-2 minutes. After the episodes, she would return to baseline within ~5 minutes.

Her exam was notable for unintelligible speech due to stuttering.

A brain MRI was normal.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 14. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 4 - Level of difficulty

* 15. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 5 - Clinical history

A 37-year-old male with a history of depression presented with multiple spells over the prior 1.5 years. The spells were characterized as wandering, "appearing blank," and whistling, and were followed by falls. There was no tongue biting or incontinence. The duration of each spell was ~2 minutes.

In the past, he had other spells characterized by left eye twitching, fogginess, déjà vu sensation, and convulsions.

He had a traumatic brain injury secondary to a motor vehicle accident but no history of central nervous system infection, febrile seizures, or family history of seizures.

His exam was notable for bilateral upper extremity tremors.

* 16. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 5 - Neuroimaging & EEG

A 37-year-old male with a history of depression presented with multiple spells over the prior 1.5 years. The spells were characterized as wandering, "appearing blank," and whistling, and were followed by falls. There was no tongue biting or incontinence. The duration of each spell was ~2 minutes.

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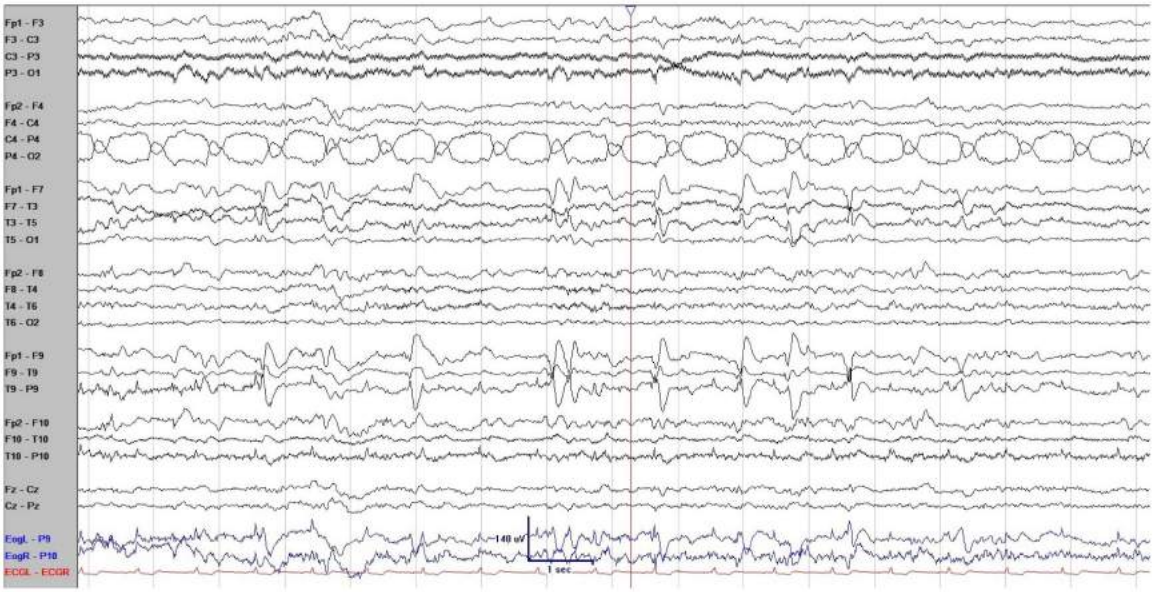
He had a traumatic brain injury secondary to a motor vehicle accident but no history of central nervous system infection, febrile seizures, or family history of seizures.

His exam was notable for bilateral upper extremity tremors.

A brain MRI showed a left temporal arachnoid cyst.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 17. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 5 - Level of difficulty

* 18. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 6 - Clinical history

A 36-year-old right-handed female with a history of anxiety presented with spells characterized by a “weird feeling” involving her whole body. At times, this was accompanied by seeing a “figure”. She could not recall what happened after she experienced these symptoms. Per her mother, she would stare, drool, and become unresponsive. Occasionally, her right hand would shake.

After these spells, she would be confused for a few hours. The episodes started 6 years prior to her presentation, and they occurred every 1-2 months, on average. She never had a convulsion.

She had no history of central nervous system infection, traumatic brain injury, or febrile seizures. She had a negative family history of seizures.

Her exam was normal.

* 19. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 6 - Neuroimaging & EEG

A 36-year-old right-handed female with a history of anxiety presented with spells characterized by a “weird feeling” involving her whole body. At times, this was accompanied by seeing a “figure”. She could not recall what happened after she experienced these symptoms. Per her mother, she would stare, drool, and become unresponsive. Occasionally, her right hand would shake.

After these spells, she would be confused for a few hours. The episodes started 6 years prior to her presentation, and they occurred every 1-2 months, on average. She never had a convulsion.

She had no history of central nervous system infection, traumatic brain injury, or febrile seizures. She had a negative family history of seizures.

Her exam was normal.

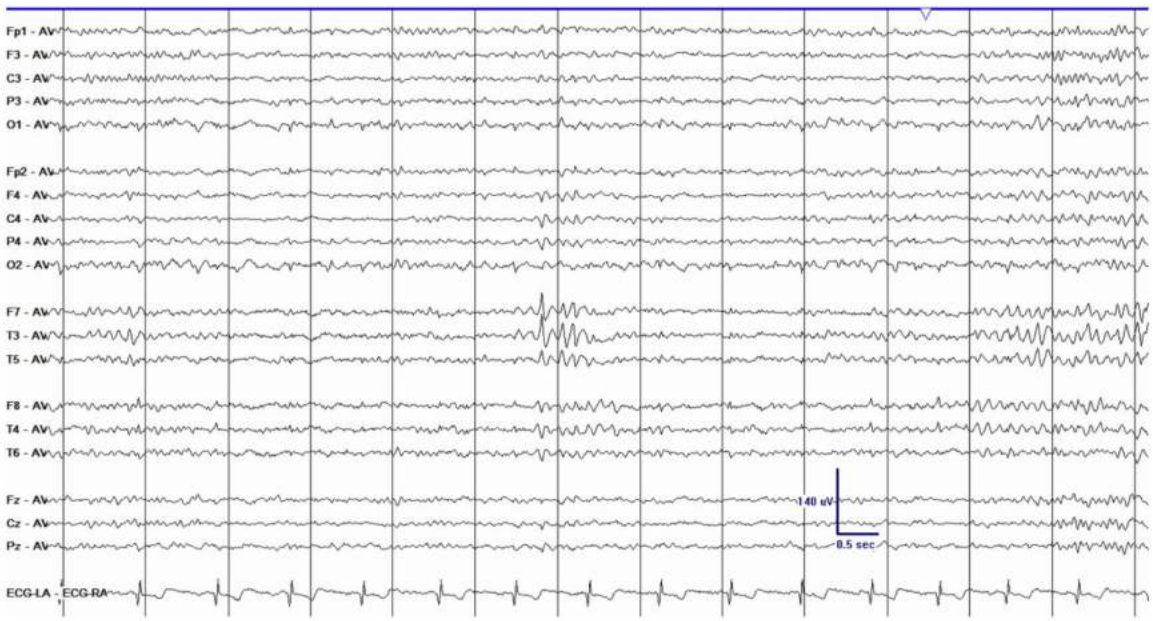
A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 20. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 6 - Level of difficulty

* 21. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 7 - Clinical history

A 48-year-old right-handed female software engineer with a history of hypertension, anxiety, and depression developed 10-second spells beginning a year prior characterized by an aura of an indescribable feeling that a seizure was about to happen (and, at times, a warmth in her face). This was followed by staring and bilateral manual automatisms, with occasional hyperventilation. She had no postictal symptoms, and she was partly amnestic to the spells. She never had a convulsion.

She denied alcohol, tobacco, or recreational drug use. She had no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

* 22. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 7 - Neuroimaging & EEG

A 48-year-old right-handed female software engineer with a history of hypertension, anxiety, and depression developed 10-second spells beginning a year prior characterized by an aura of an indescribable feeling that a seizure was about to happen (and, at times, a warmth in her face). This was followed by staring and bilateral manual automatisms, with occasional hyperventilation. She had no postictal symptoms, and she was partly amnestic to the spells. She never had a convulsion.

She denied alcohol, tobacco, or recreational drug use. She had no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

A brain MRI showed symmetrical hippocampi but slight increase in T2 signal within the left hippocampus.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 23. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 7 - Level of difficulty

* 24. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 8 - Clinical history

A 46-year-old right-handed male construction worker with a history of hypertension and heart failure presented after an episode characterized by slumping on his bed with arms flexed followed by whole body shaking. During the episode, his eyes were open and he was unresponsive. There was no tongue biting or incontinence. The spell lasted for 3 minutes, and it was not preceded by an aura. He was amnestic to the event. He was taken to an emergency facility where he was found to be hypertensive (SBP/DBP up to 200s/110s), with a urine drug test positive only for marijuana.

He drank alcohol socially, smoked marijuana daily, and did not use tobacco or other recreational drugs. He had no history of febrile seizures, central nervous system infection, or family history of seizures. He sustained multiple head injuries as a child while playing baseball, some of which were associated with brief loss of consciousness. He did not seek medical attention at those times. He had a normal birth and developmental history.

His exam was normal.

* 25. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 8 - Neuroimaging & EEG

A 46-year-old right-handed male construction worker with a history of hypertension and heart failure presented after an episode characterized by slumping on his bed with arms flexed followed by whole body shaking. During the episode, his eyes were open and he was unresponsive. There was no tongue biting or incontinence. The spell lasted for 3 minutes, and it was not preceded by an aura. He was amnestic to the event. He was taken to an emergency facility where he was found to be hypertensive (SBP/DBP up to 200s/110s), with a urine drug test positive only for marijuana.

He drank alcohol socially, smoked marijuana daily, and did not use tobacco or other recreational drugs. He had no history of febrile seizures, central nervous system infection, or family history of seizures. He sustained multiple head injuries as a child while playing baseball, some of which were associated with brief loss of consciousness. He did not seek medical attention at those times. He had a normal birth and developmental history.

His exam was normal.

A brain MRI showed white matter disease, but no other findings to explain his seizures.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 26. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 8- Level of difficulty

* 27. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 9 - Clinical history

A 2-year-old girl with a history of autism spectrum disorder, developmental delay, sensorineural hearing loss, and hypotonia presented after an episode characterized by limpness after vomiting.

Her exam was notable for delayed language and hypotonia.

* 28. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 9 - Neuroimaging & EEG

A 2-year-old girl with a history of autism spectrum disorder, developmental delay, sensorineural hearing loss, and hypotonia presented after an episode characterized by limpness after vomiting.

Her exam was notable for delayed language and hypotonia.

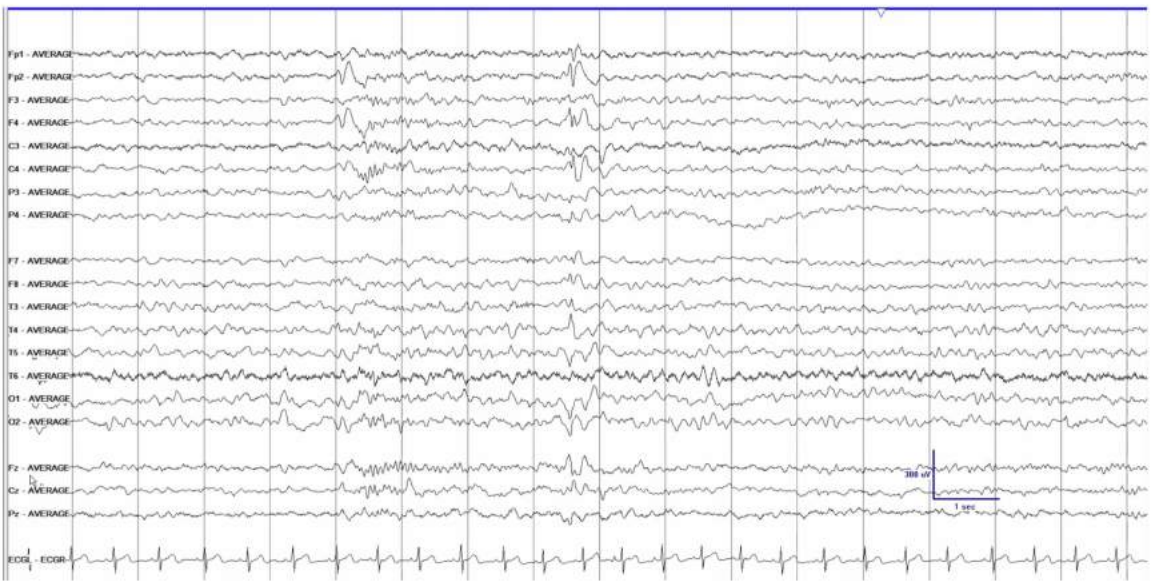
A temporal bone MRI showed a few small foci of T2 signal abnormality in the left frontal lobe.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 29. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 9 - Level of difficulty

* 30. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 10 - Clinical history

A 43-year-old left-handed male presented with spells characterized by whole body locking up and impaired awareness. These were preceded by a feeling that the nerves on his face were "jumping".

The patient was amnestic to the spells; however, at times, he recalled his right hand locking up during the events. Per collateral information, his lower extremities typically locked up most prominently before he developed whole body shaking with occasional vomiting. The spells lasted up to 15 minutes and were followed by fatigue and staring for several minutes.

His grandmother had seizures. There was no history of febrile seizures, central nervous system infection, or traumatic brain injury.

His exam was normal.

* 31. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 10 - Neuroimaging & EEG

A 43-year-old left-handed male presented with spells characterized by whole body locking up and impaired awareness. These were preceded by a feeling that the nerves on his face were "jumping".

The patient was amnestic to the spells; however, at times, he recalled his right hand locking up during the events. Per collateral information, his lower extremities typically locked up most prominently before he developed whole body shaking with occasional vomiting. The spells lasted up to 15 minutes and were followed by fatigue and staring for several minutes.

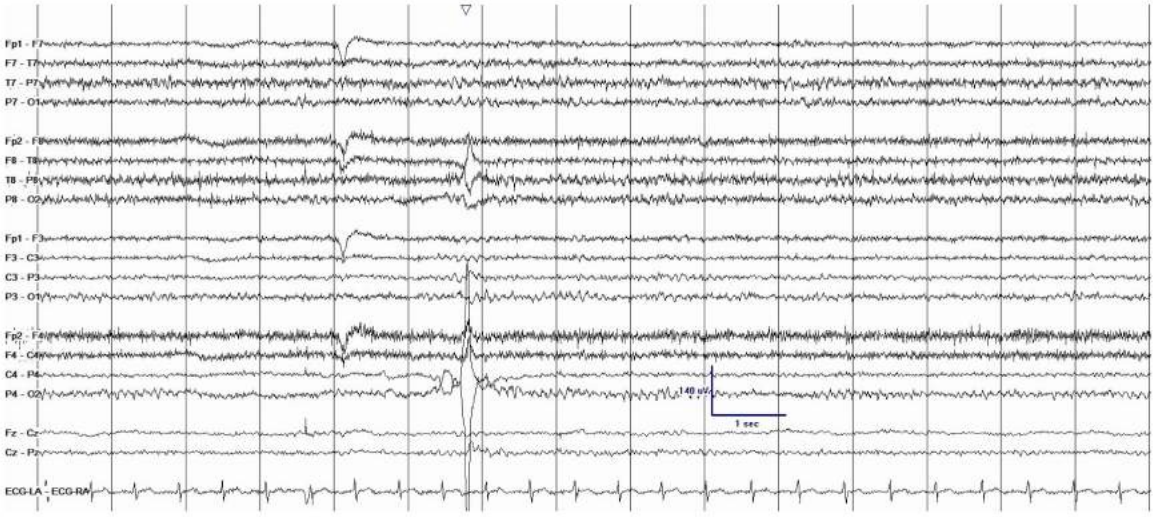
His grandmother had seizures. There was no history of febrile seizures, central nervous system infection, or traumatic brain injury.

His exam was normal.

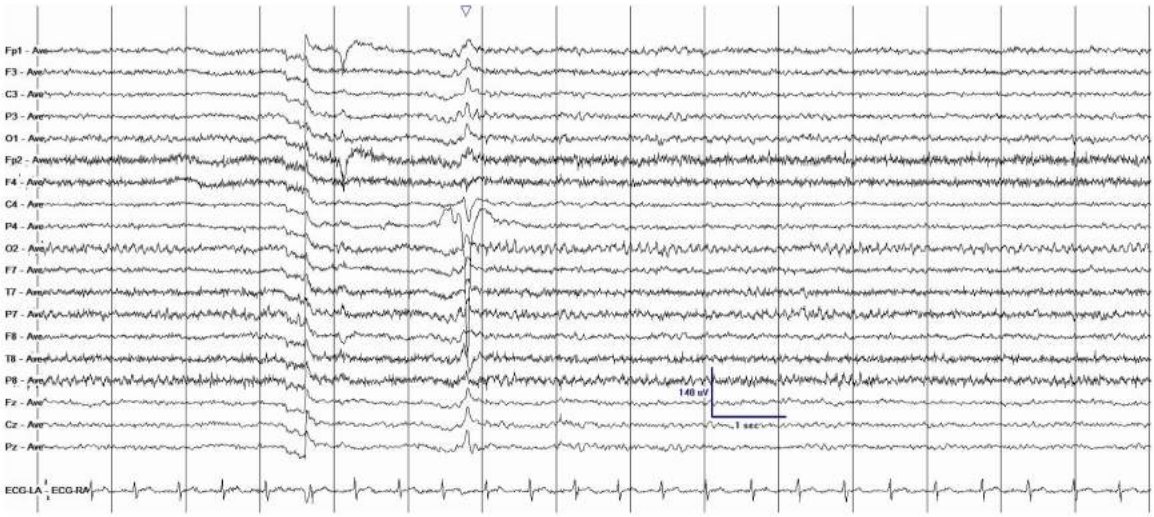
A brain MRI was negative.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 32. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 10 - Level of difficulty

* 33. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 11 - Clinical history

A 25-year-old right-handed female with a history of diabetes mellitus type 1, hypoglycemic seizures as a teenager, and asthma was found in bed with decreased level of alertness in the setting of bladder incontinence. She had gone out with friends the night prior with moderate alcohol consumption and no known recreational drug use. Upon arrival to an emergency facility, she was agitated and encephalopathic.

She continued to be encephalopathic for several days after admission. The remainder of her exam was unremarkable.

* 34. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 11 - Neuroimaging & EEG

A 25-year-old right-handed female with a history of diabetes mellitus type 1, hypoglycemic seizures as a teenager, and asthma was found in bed with decreased level of alertness in the setting of bladder incontinence. She had gone out with friends the night prior with moderate alcohol consumption and no known recreational drug use. Upon arrival to an emergency facility, she was agitated and encephalopathic.

She continued to be encephalopathic for several days after admission. The remainder of her exam was unremarkable.

A brain MRI showed restricted diffusion in the bilateral hippocampi, splenium of the corpus callosum "which can be seen in severe hypoglycemia-induced seizures." The cerebral cortex was spared.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 35. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 11 - Level of difficulty

* 36. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 12 - Clinical history

A 38-year-old right-handed female with a history of migraines without aura and mitral valve prolapse presented with new-onset homicidal thoughts and command auditory hallucinations that began five days prior. These voices told her to hurt her young daughter.

Her neurological exam was unremarkable.

* 37. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 12 - Neuroimaging & EEG

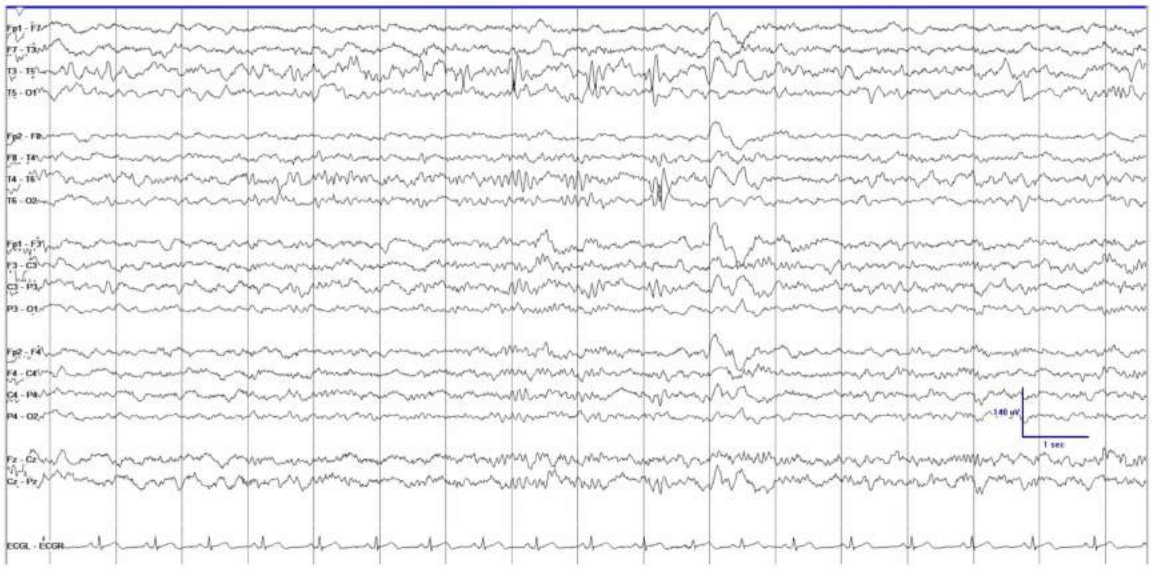
A 38-year-old right-handed female with a history of migraines without aura and mitral valve prolapse presented with new-onset homicidal thoughts and command auditory hallucinations that began five days prior. These voices told her to hurt her young daughter.

Her neurological exam was unremarkable.

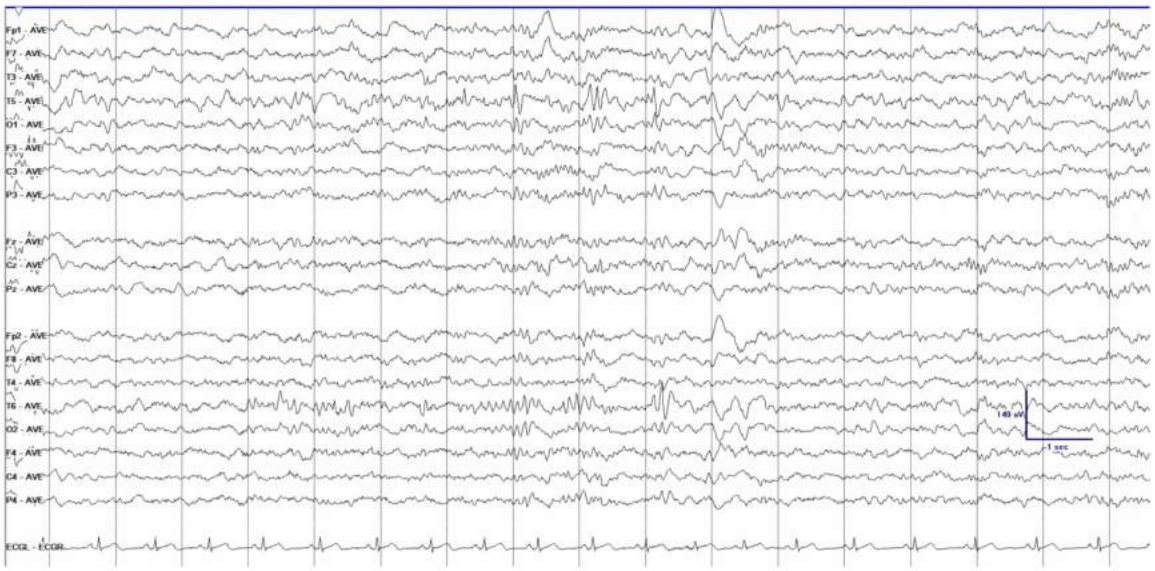
A brain MRI showed scattered parenchymal calcifications with susceptibility artifact consistent with neurocysticercosis.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 38. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 12 - Level of difficulty

* 39. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 13 - Clinical history

A 36-year-old female with a history of schizoaffective disorder and bipolar disorder, who previously underwent electroconvulsive therapy, presented with catatonia and several episodes of collapse with whole body twitching. She was on multiple psychiatric medications including clozapine.

On exam, she was tangential, ruminative, and hyperverbal, but redirectable. She was otherwise fully alert and oriented. Her general exam was notable for deconditioning.

* 40. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 13 - Neuroimaging & EEG

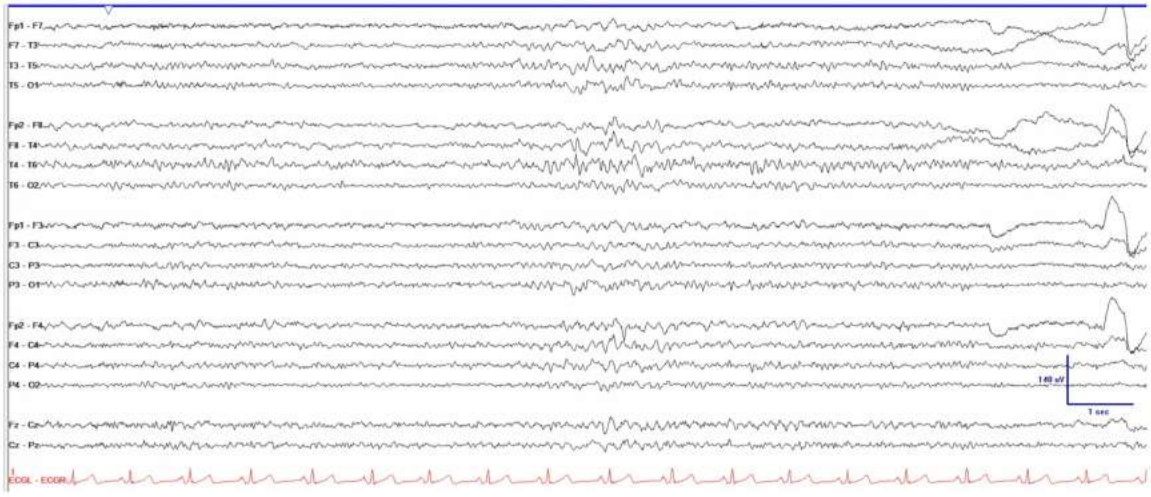
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On exam, she was tangential, ruminative, and hyperverbal, but redirectable. She was otherwise fully alert and oriented. Her general exam was notable for deconditioning.

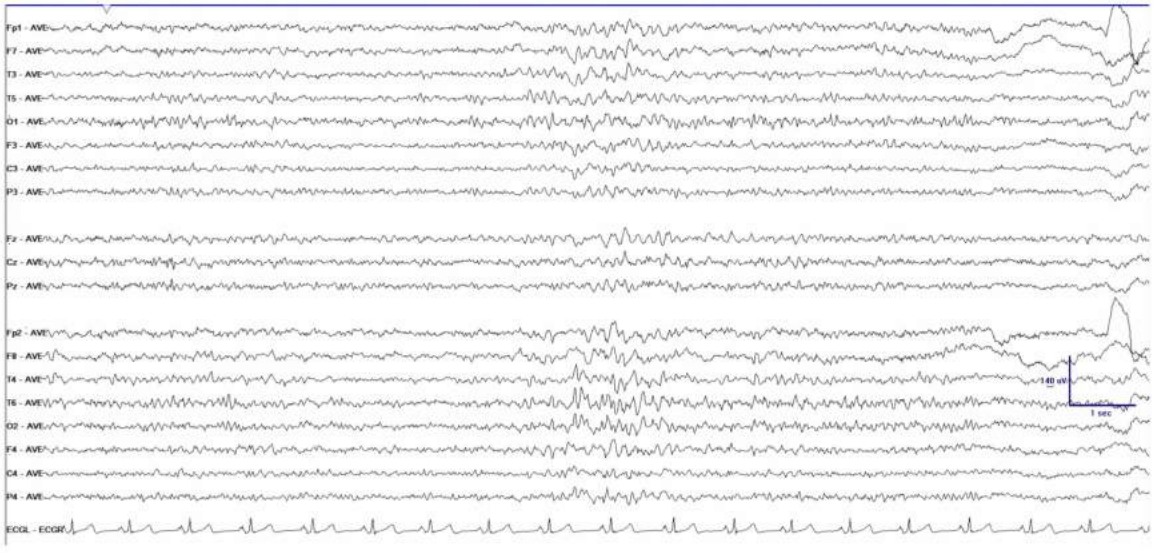
A brain MRI was normal.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 41. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 13 - Level of difficulty

* 42. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 14 - Clinical history

An 11-year-old right-handed female with a history of autism spectrum disorder and attention deficit hyperactivity disorder presented with 5 spells over the last 7 months. The spells were characterized by whole body stiffening and eyes rolling up. During the spells, she often fell backwards or to either side. The spells lasted 2-5 seconds, and there was no associated shaking, tongue biting, or bowel or bladder incontinence. After the spells, she immediately returned to baseline.

There was no history of febrile seizures, family history of seizures/epilepsy, central nervous system infection, or traumatic brain injury.

Her exam was unremarkable.

* 43. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 14 - Neuroimaging & EEG

An 11-year-old right-handed female with a history of autism spectrum disorder and attention deficit hyperactivity disorder presented with 5 spells over the last 7 months. The spells were characterized by whole body stiffening and eyes rolling up. During the spells, she often fell backwards or to either side. The spells lasted 2-5 seconds, and there was no associated shaking, tongue biting, or bowel or bladder incontinence. After the spells, she immediately returned to baseline.

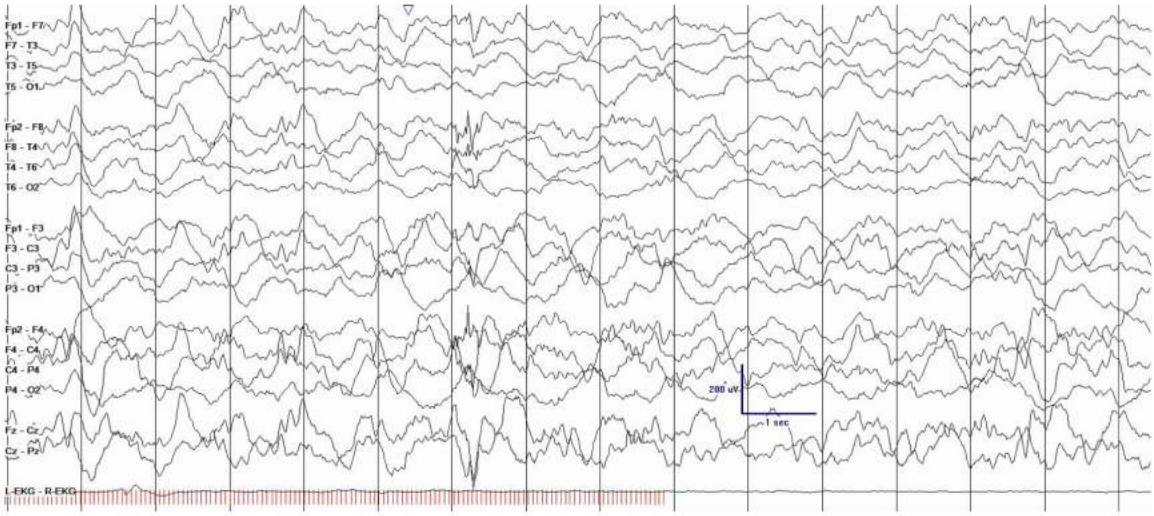
There was no history of febrile seizures, family history of seizures/epilepsy, central nervous system infection, or traumatic brain injury.

Her exam was unremarkable.

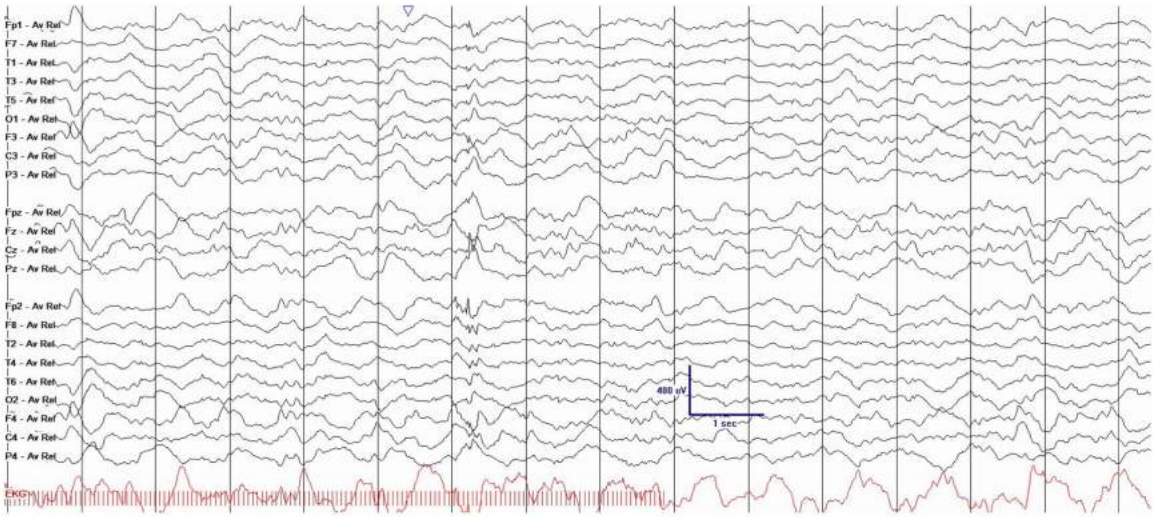
She did not undergo neuroimaging.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 44. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 14 - Level of difficulty

* 45. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 15 - Clinical history

A 56-year-old ambidextrous male with a history of depression and viral encephalitis with seizures as a child presented with new spells.

The episodes were characterized by a feeling of anxiety ("impending doom") followed by staring ("going into a daze") and unresponsiveness with lip smacking. The spells lasted for 1-2 minutes and he was very tired afterwards. There was no history of postictal agitation or aggression. On average, he had 1-2 spells per month. At times, these events progressed to whole body shaking with tongue biting and bladder incontinence.

He was only briefly on antiseizure medication for the encephalitis and remained seizure-free off medication for many years. He was subsequently placed back on medication for these new episodes.

He had no history of febrile seizures, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

* 46. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 15 - Neuroimaging & EEG

A 56-year-old ambidextrous male with a history of depression and viral encephalitis with seizures as a child presented with new spells.

The episodes were characterized by a feeling of anxiety ("impending doom") followed by staring ("going into a daze") and unresponsiveness with lip smacking. The spells lasted for 1-2 minutes and he was very tired afterwards. There was no history of postictal agitation or aggression. On average, he had 1-2 spells per month. At times, these events progressed to whole body shaking with tongue biting and bladder incontinence.

He was only briefly on antiseizure medication for the encephalitis and remained seizure-free off medication for many years. He was subsequently placed back on medication for these new episodes.

He had no history of febrile seizures, traumatic brain injury, or family history of seizures.

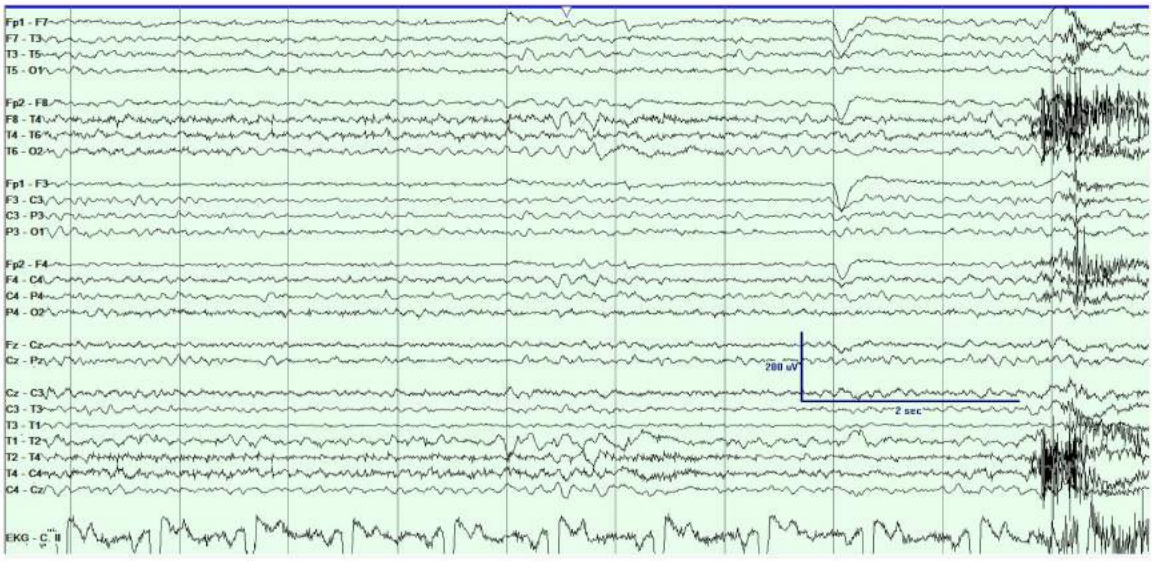
His exam was unremarkable.

A brain MRI showed decreased size and T2 FLAIR hyperintensity in the right hippocampus with poorly visualized internal architecture concerning for mesial temporal sclerosis.

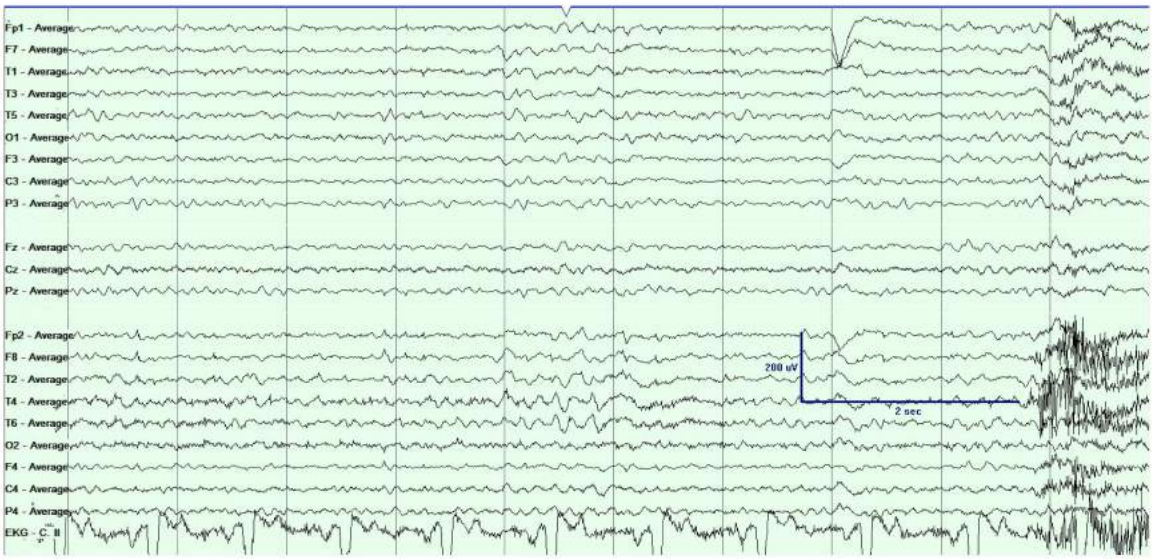
A brain PET showed hypometabolism in the right medial temporal lobe corresponding to the region of signal abnormality seen in the right hippocampus in keeping with mesial temporal sclerosis.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 47. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 15 - Level of difficulty

* 48. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 16 - Clinical history

A 23-year-old right-handed male with a history of anxiety and depression presented with spells that started at the age of 18 years. His spells were characterized by déjà vu, confusion, and gibberish speech. He had one lifetime convulsion.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

* 49. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 16 - Neuroimaging & EEG

A 23-year-old right-handed male with a history of anxiety and depression presented with spells that started at the age of 18 years. His spells were characterized by déjà vu, confusion, and gibberish speech. He had one lifetime convulsion.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 50. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 16 - Level of difficulty

* 51. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 17 - Clinical history

A 31-year-old right-handed female with a history of attention deficit disorder and anxiety presented with rare spells that began at the age of 16 years. The spells were described as an feeling of tingling/numbness in both arms and a sensation of isolation. She often felt as if she might fall down or lose awareness but never did.

Her maternal grandmother had epilepsy. She had no history of febrile seizures, central nervous system infection, or traumatic brain injury.

Her exam was unremarkable.

* 52. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 17 - Neuroimaging & EEG

A 31-year-old right-handed female with a history of attention deficit disorder and anxiety presented with rare spells that began at the age of 16 years. The spells were described as an feeling of tingling/numbness in both arms and a sensation of isolation. She often felt as if she might fall down or lose awareness but never did.

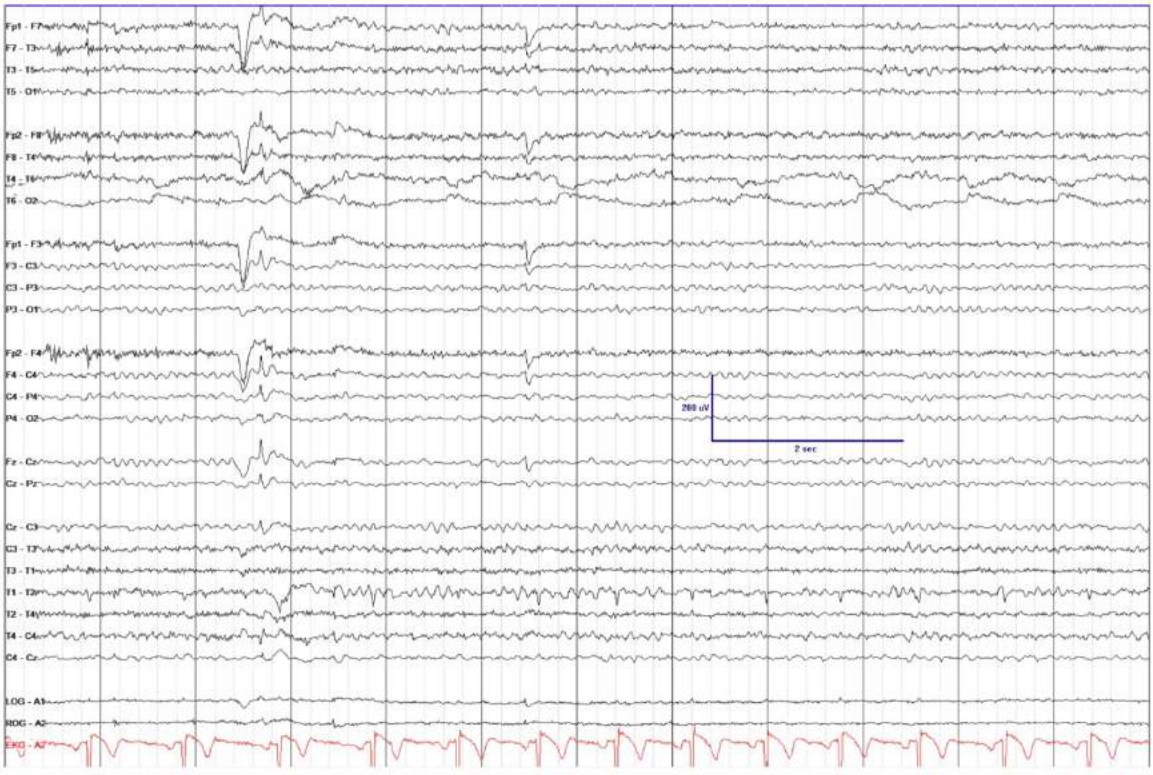
Her maternal grandmother had epilepsy. She had no history of febrile seizures, central nervous system infection, or traumatic brain injury.

Her exam was unremarkable.

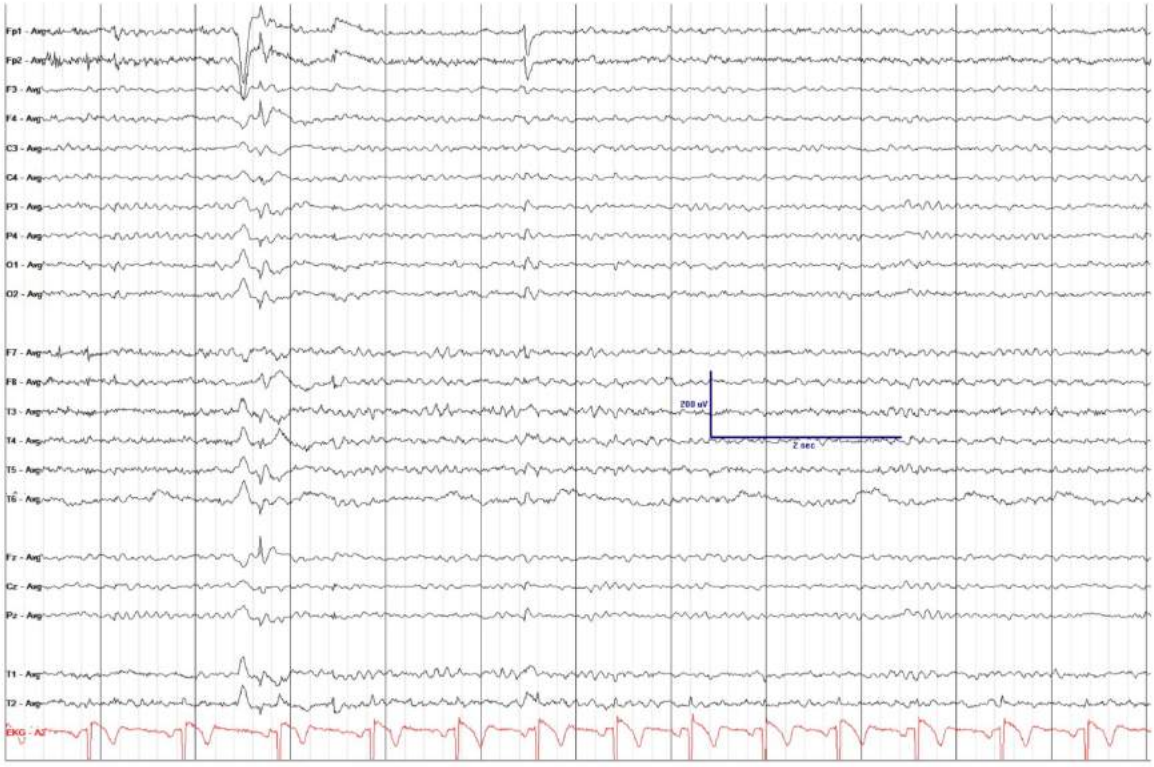
A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 53. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 17 - Level of difficulty

* 54. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 18 - Clinical history

A 53-year-old left-handed female with a history of anxiety, depression, and postural orthostatic tachycardia syndrome presented with spells that started at the age of 20 years. The spells were characterized by a central headache radiating toward the posterior base of the skull followed by loss of awareness and tremors/shaking. She returned to baseline after several days. Over the prior few months, spells worsened in severity warranting additional evaluation. There was no consistent warning. There was no incontinence or tongue biting.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

* 55. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 18 - Neuroimaging & EEG

A 53-year-old left-handed female with a history of anxiety, depression, and postural orthostatic tachycardia syndrome presented with spells that started at the age of 20 years. The spells were characterized by a central headache radiating toward the posterior base of the skull followed by loss of awareness and tremors/shaking. She returned to baseline after several days. Over the prior few months, spells worsened in severity warranting additional evaluation. There was no consistent warning. There was no incontinence or tongue biting.

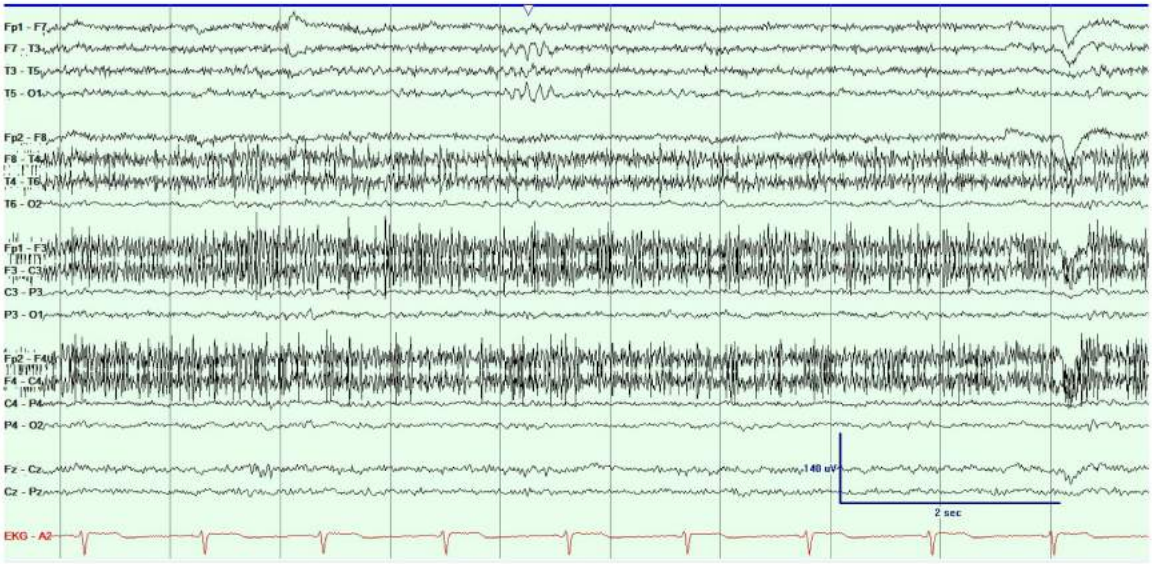
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

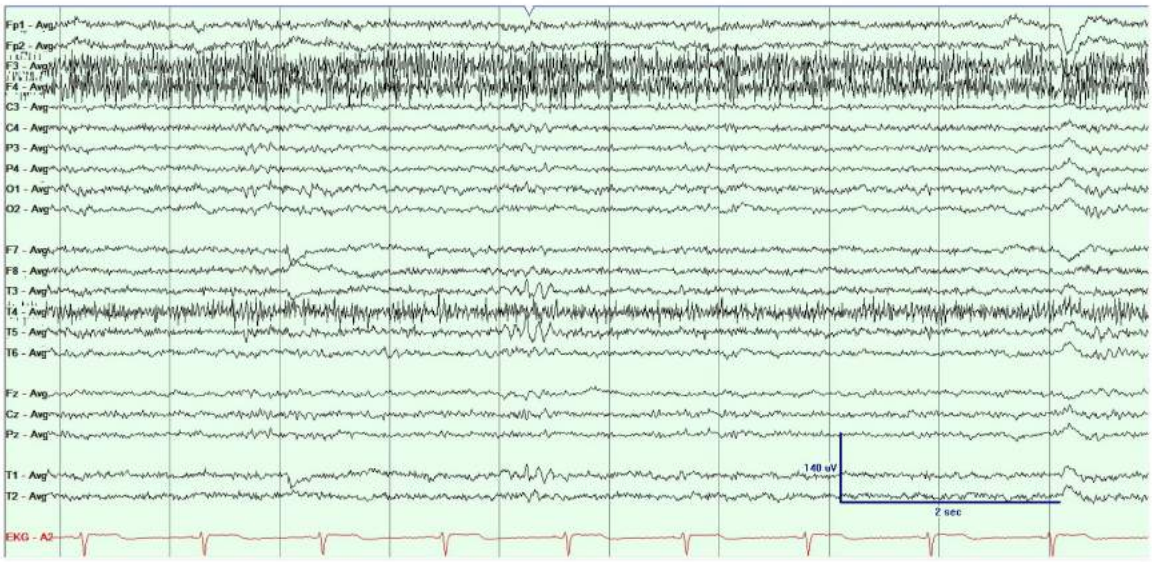
A brain MRI showed scattered T2 FLAIR hyperintensities in the cerebral white matter.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 56. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 18 - Level of difficulty

* 57. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 19 - Clinical history

A 34-year-old female with a history of migraine, anxiety, and depression presented with spells that started at the age of 24 years. The spells were characterized by a "sweet smell" followed by tachycardia and feeling "hot and tingly" all over her body. At times, there was associated blurry vision. She could not recall what happened thereafter. Per her mom's report, these would often progress to whole body shaking, at times starting on the left but overall inconsistent. The frequency of these spells was approximately weekly.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

* 58. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 19 - Neuroimaging & EEG

A 34-year-old female with a history of migraine, anxiety, and depression presented with spells that started at the age of 24 years. The spells were characterized by a "sweet smell" followed by tachycardia and feeling "hot and tingly" all over her body. At times, there was associated blurry vision. She could not recall what happened thereafter. Per her mom's report, these would often progress to whole body shaking, at times starting on the left but overall inconsistent. The frequency of these spells was approximately weekly.

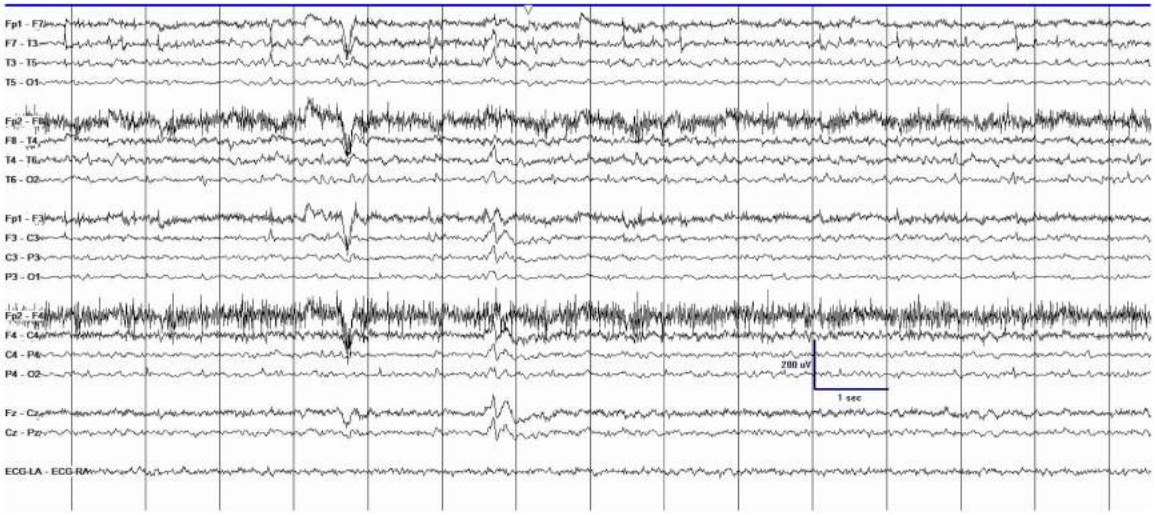
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

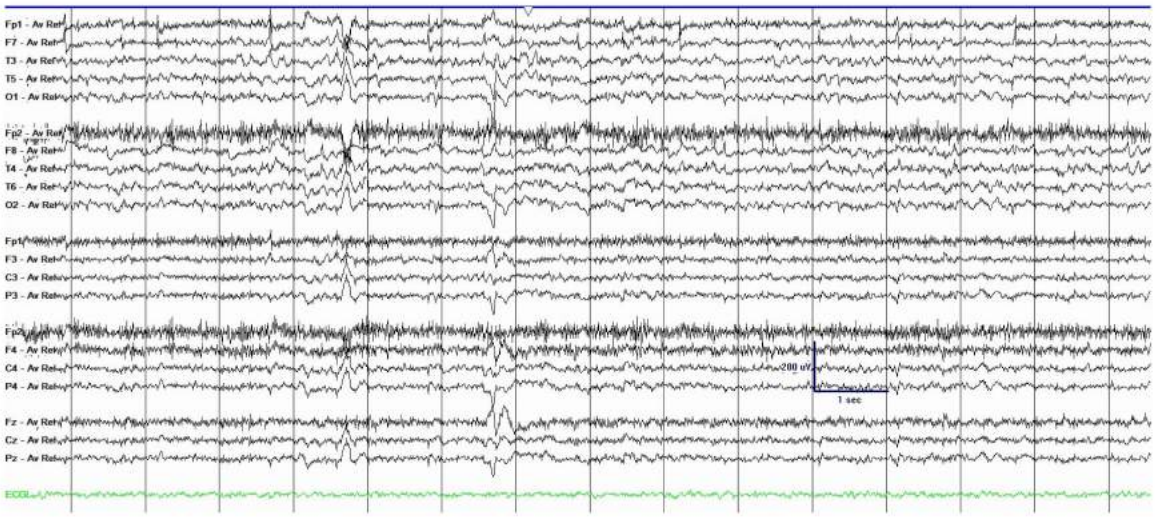
A brain MRI showed scattered T2 FLAIR hyperintensities in the bilateral centrum semiovale.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 59. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 19 - Level of difficulty

* 60. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 20 - Clinical history

A 52-year-old male with a history of anxiety and sleepwalking as a child presented with an episode of falling out of bed after a stressful day two years prior to presentation. The morning after the event, he woke up on the ground with a bump over his left forehead. A week after this event, while driving, he stopped his car at a traffic light, unbuckled his seatbelt and tried to get out of the vehicle. He did not respond to his sister at the time who was in the car with him. Subsequently, he had multiple events of jumping out of bed at night, and involuntary "skipping and hopping" in the daytime. These spells occurred daily, and lasted for seconds, often less than one minute. There was no tongue biting or incontinence. He vaguely recalled some of the nocturnal events and most of the diurnal spells.

There was no history of febrile seizures, traumatic brain injury, central nervous system infection, or family history of seizures.

His exam was unremarkable.

* 61. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 20 - Neuroimaging & EEG

A 52-year-old male with a history of anxiety and sleepwalking as a child presented with an episode of falling out of bed after a stressful day two years prior to presentation. The morning after the event, he woke up on the ground with a bump over his left forehead. A week after this event, while driving, he stopped his car at a traffic light, unbuckled his seatbelt and tried to get out of the vehicle. He did not respond to his sister at the time who was in the car with him. Subsequently, he had multiple events of jumping out of bed at night, and involuntary "skipping and hopping" in the daytime. These spells occurred daily, and lasted for seconds, often less than one minute. There was no tongue biting or incontinence. He vaguely recalled some of the nocturnal events and most of the diurnal spells.

There was no history of febrile seizures, traumatic brain injury, central nervous system infection, or family history of seizures.

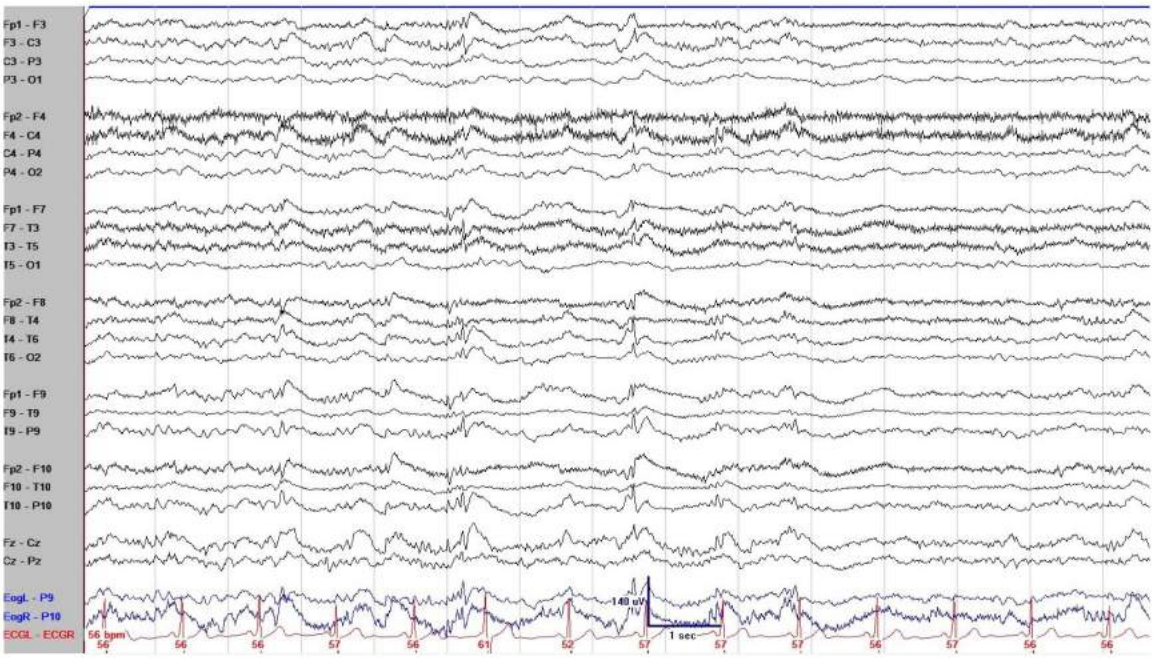
His exam was unremarkable.

His first brain MRI showed a left frontal subdural hematoma and left medial frontal intraparenchymal hemorrhage.

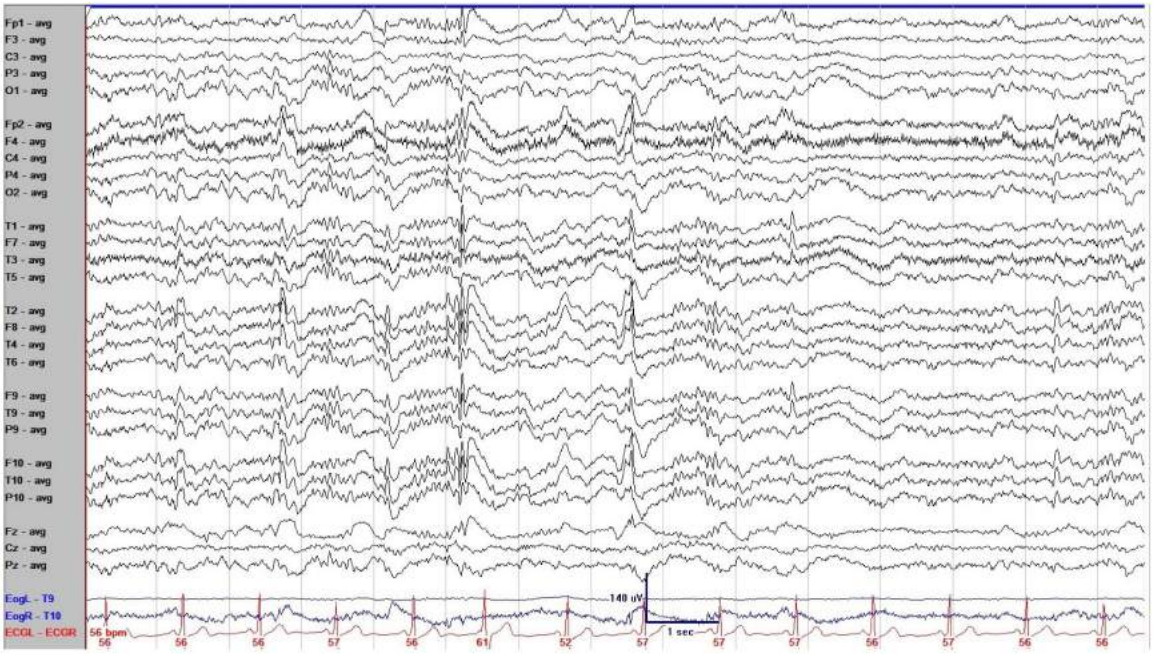
A repeat brain MRI showed a left frontal developmental venous anomaly and right frontal persistent FLAIR hyperintensity concerning for a malformation of cortical development.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 62. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 20 - Level of difficulty

* 63. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 21 - Clinical history

A 20-year-old left-handed male with no past medical history presented with spells that he developed 8 months prior to presentation. The spells were characterized by shaking and unresponsiveness, as reported by his family. There was no tongue biting or incontinence. He had a total of 3 spells, the first of which happened in the setting of sleep deprivation.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

* 64. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 21 - Neuroimaging & EEG

A 20-year-old left-handed male with no past medical history presented with spells that he developed 8 months prior to presentation. The spells were characterized by shaking and unresponsiveness, as reported by his family. There was no tongue biting or incontinence. He had a total of 3 spells, the first of which happened in the setting of sleep deprivation.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

A brain MRI with and without contrast showed a 0.8 x 0.8 x 0.6 cm right temporal lesion without diffusion restriction or contrast enhancement.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 65. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 21 - Level of difficulty

* 66. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 22 - Clinical history

A 28-year-old right-handed male with a history of attention deficit hyperactivity disorder and febrile seizures presented with spells that started one year prior. There were two total spells, each characterized by left arm raise followed by whole body stiffening and shaking. The spells lasted for approximately one minute and were followed by extreme fatigue.

There was no history of central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

* 67. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 22 - Neuroimaging & EEG

A 28-year-old right-handed male with a history of attention deficit hyperactivity disorder and febrile seizures presented with spells that started one year prior. There were two total spells, each characterized by left arm raise followed by whole body stiffening and shaking. The spells lasted for approximately one minute and were followed by extreme fatigue.

There was no history of central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

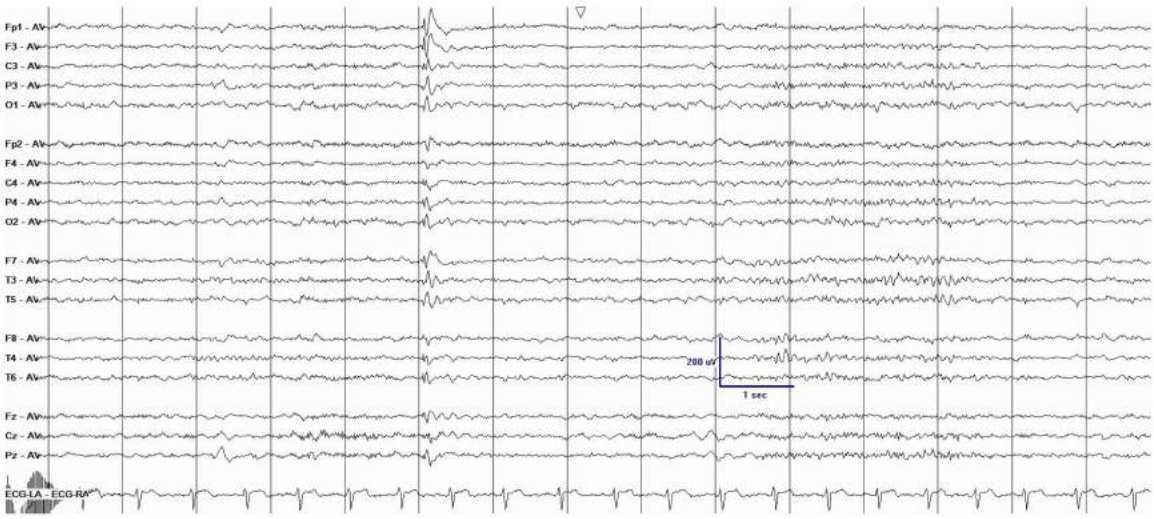
A brain MRI was normal.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 68. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 22 - Level of difficulty

* 69. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 23 - Clinical history

A 3-year-old boy with a history of autism spectrum disorder and a small atrial septal defect presented with spells that began 8 weeks prior. At the time of the first episode, he was eating yogurt and began shaking his right arm with loss of awareness for about 4 minutes. He was not ill at the time, and he did not have a fever. Two weeks later, he had another spell characterized by right hand shaking and right face twitching that progressed to whole body stiffening and shaking.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

* 70. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 23 - Neuroimaging & EEG

A 3-year-old boy with a history of autism spectrum disorder and a small atrial septal defect presented with spells that began 8 weeks prior. At the time of the first episode, he was eating yogurt and began shaking his right arm with loss of awareness for about 4 minutes. He was not ill at the time, and he did not have a fever. Two weeks later, he had another spell characterized by right hand shaking and right face twitching that progressed to whole body stiffening and shaking.

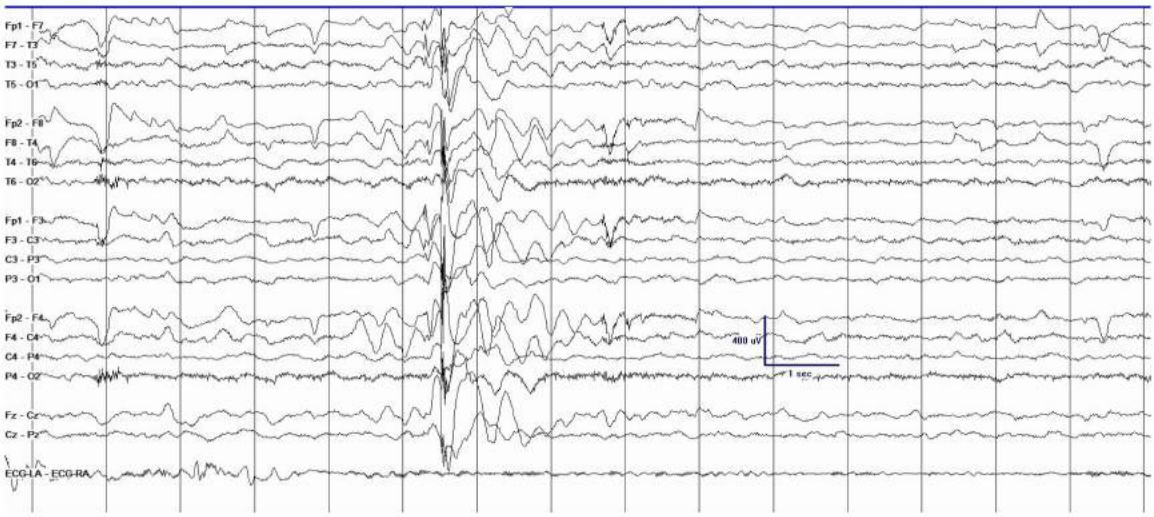
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

A CT head was normal.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 71. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 23 - Level of difficulty

* 72. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 24 - Clinical history

A 30-year-old right-handed female with a history of anxiety, depression, bipolar disorder, and borderline personality disorder presented with spells that began 9 years prior. The episodes began with a "weird" feeling. This sensation was followed by right head and eye deviation and right arm shaking. Each spell lasted for 2 minutes and was followed by confusion, lethargy, and amnesia. There was no tongue biting or incontinence. On average, the spells occurred ~15 times per month. Prior to the onset of these spells, she had had different events described as generalized convulsions.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

* 73. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 24 - Neuroimaging & EEG

A 30-year-old right-handed female with a history of anxiety, depression, bipolar disorder, and borderline personality disorder presented with spells that began 9 years prior. The episodes began with a "weird" feeling. This sensation was followed by right head and eye deviation and right arm shaking. Each spell lasted for 2 minutes and was followed by confusion, lethargy, and amnesia. There was no tongue biting or incontinence. On average, the spells occurred ~15 times per month. Prior to the onset of these spells, she had had different events described as generalized convulsions.

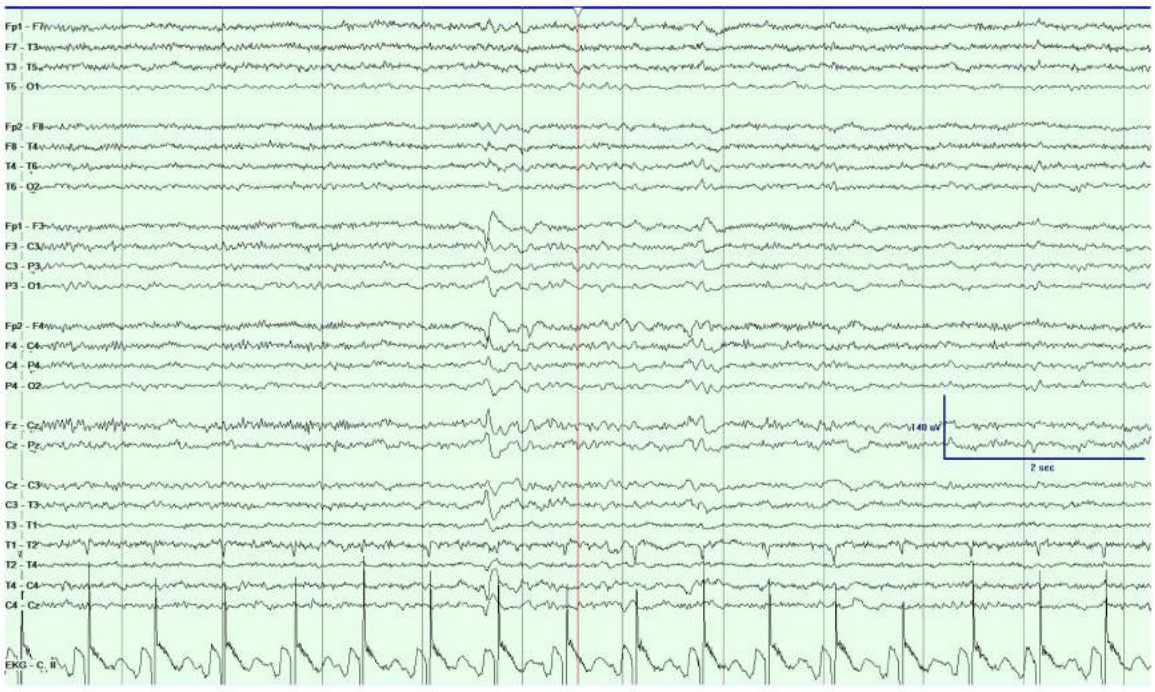
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 74. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 24 - Level of difficulty

* 75. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 25 - Clinical history

A 50-year-old right-handed female with a history of anxiety, depression, hyperthyroidism, and untreated obstructive sleep apnea who presented with spells over the last 3 years characterized by arousals from sleep during early hours in the morning with eyes rolled back and convulsions. There was rare tongue biting on the right side of her tongue, and spells lasted a few minutes with return to baseline after several days. In the immediate postictal period, she reported being able to hear and understand others but was unable to speak properly.

There was no history of febrile seizures, family history of seizures/epilepsy, central nervous system infection, or traumatic brain injury.

Exam was non-focal.

* 76. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 25 - Neuroimaging & EEG

A 50-year-old right-handed female with a history of anxiety, depression, hyperthyroidism, and untreated obstructive sleep apnea presented with spells that began 3 years prior. The episodes were characterized by early morning arousal from sleep with eyes rolled back and convulsions. There was rare tongue biting on the right side of her tongue. The spells lasted a few minutes with return to baseline after several days. In the immediate period after an event, she said she was able to hear and understand others but was unable to speak properly.

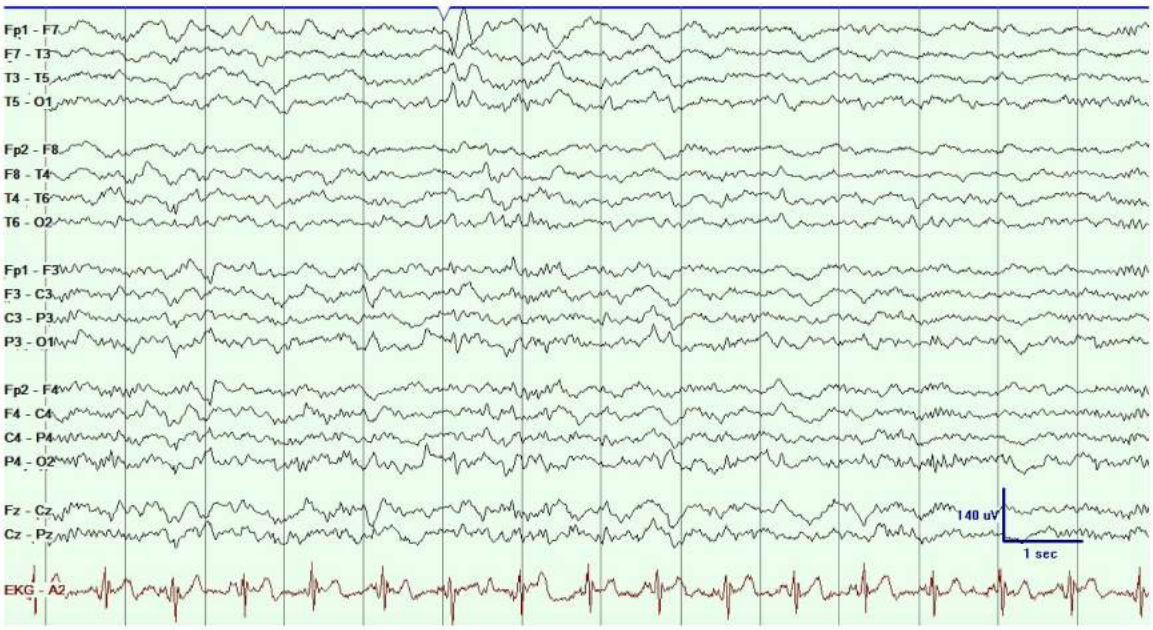
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

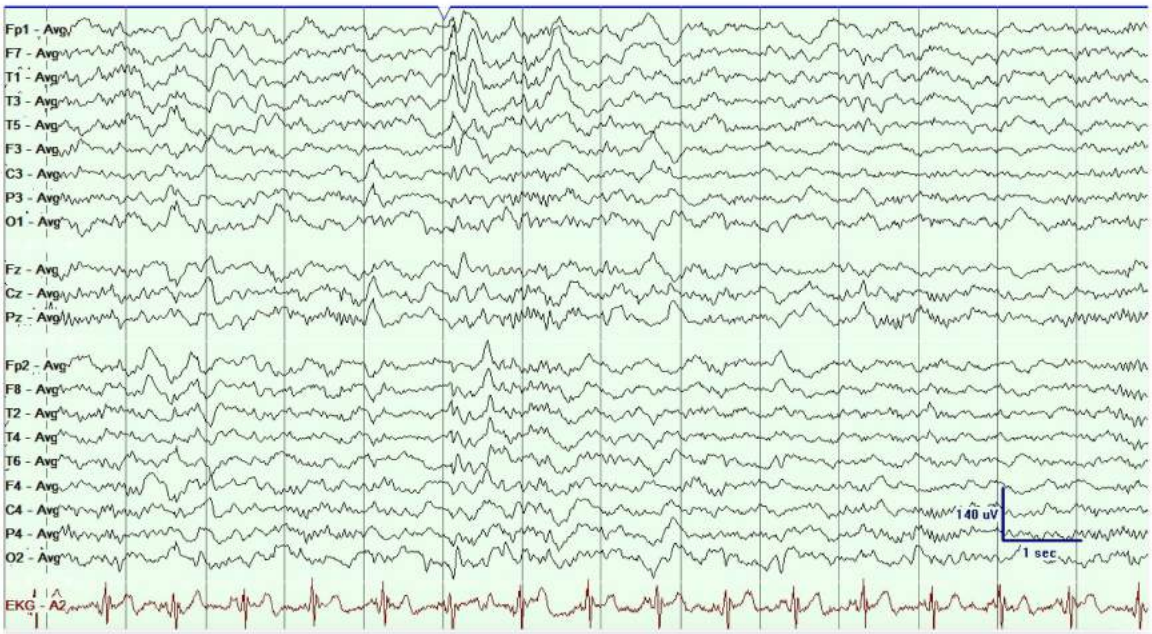
A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 77. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 25 - Level of difficulty

* 78. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 26 - Clinical history

A 9-year-old right-handed male with a history of tuberous sclerosis complex and learning difficulties presented with episodes of freezing and breath holding that began six years prior.

His father had tuberous sclerosis complex and seizures as a child. There was no history of febrile seizures, traumatic injury, or central nervous system infection.

His exam was unremarkable.

* 79. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 26 - Neuroimaging & EEG

A 9-year-old right-handed male with a history of tuberous sclerosis complex and learning difficulties presented with episodes of freezing and breath holding that began six years prior.

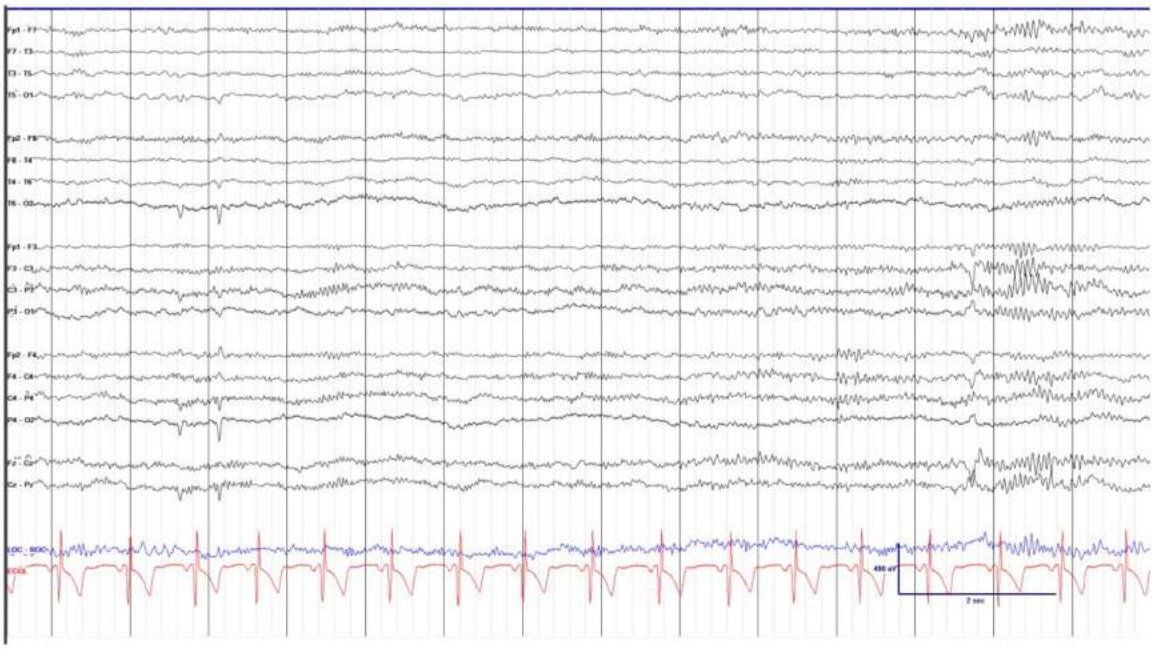
His father had tuberous sclerosis complex and seizures as a child. There was no history of febrile seizures, traumatic injury, or central nervous system infection.

His exam was unremarkable.

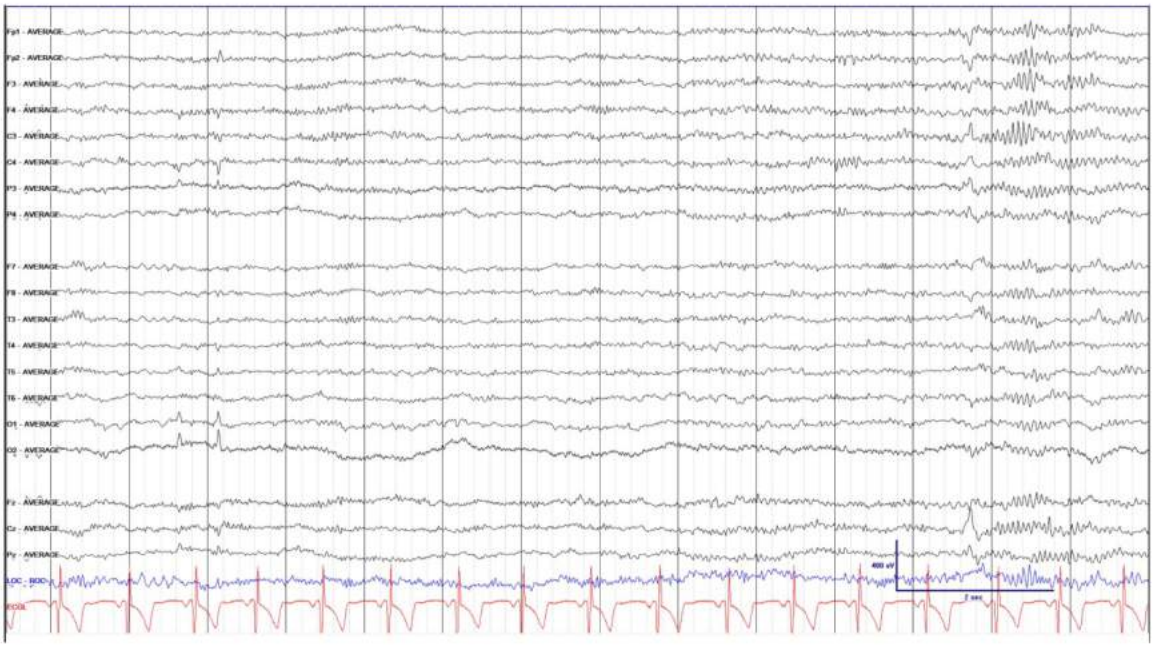
A brain MRI showed multiple cortical and subcortical T2 FLAIR signal abnormalities in both cerebral hemispheres compatible with tubers and radial glial bands.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 80. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 26 - Level of difficulty

* 81. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 27 - Clinical history

A 5-year-old right-handed female with a history of asthma and one febrile seizure at the age of 3 years presented with spells characterized by staring and tonic posturing in brief clusters. She also reported an indescribable auditory aura preceding these spells.

Her maternal grandmother had epilepsy. There was no history of central nervous system infection or traumatic brain injury.

Her exam was normal.

* 82. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 27 - Neuroimaging & EEG

A 5-year-old right-handed female with a history of asthma and one febrile seizure at the age of 3 years presented with spells characterized by staring and tonic posturing in brief clusters. She also reported an indescribable auditory aura preceding these spells.

Her maternal grandmother had epilepsy. There was no history of central nervous system infection or traumatic brain injury.

Her exam was normal.

A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 83. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 27 - Level of difficulty

* 84. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 28 - Clinical history

A 16-year-old right-handed female with history of developmental delay and prematurity, born at 32 weeks and 5 days gestation via cesarean section due to maternal HELLP syndrome, presented after a single spell. While in the passenger seat of a car, laughing with her friend, she suddenly gasped for air, tensed her whole body, fell over to one side, and began shaking her whole body.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

* 85. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 28 - Neuroimaging & EEG

A 16-year-old right-handed female with history of developmental delay and prematurity, born at 32 weeks and 5 days gestation via cesarean section due to maternal HELLP syndrome, presented after a single spell. While in the passenger seat of a car, laughing with her friend, she suddenly gasped for air, tensed her whole body, fell over to one side, and began shaking her whole body.

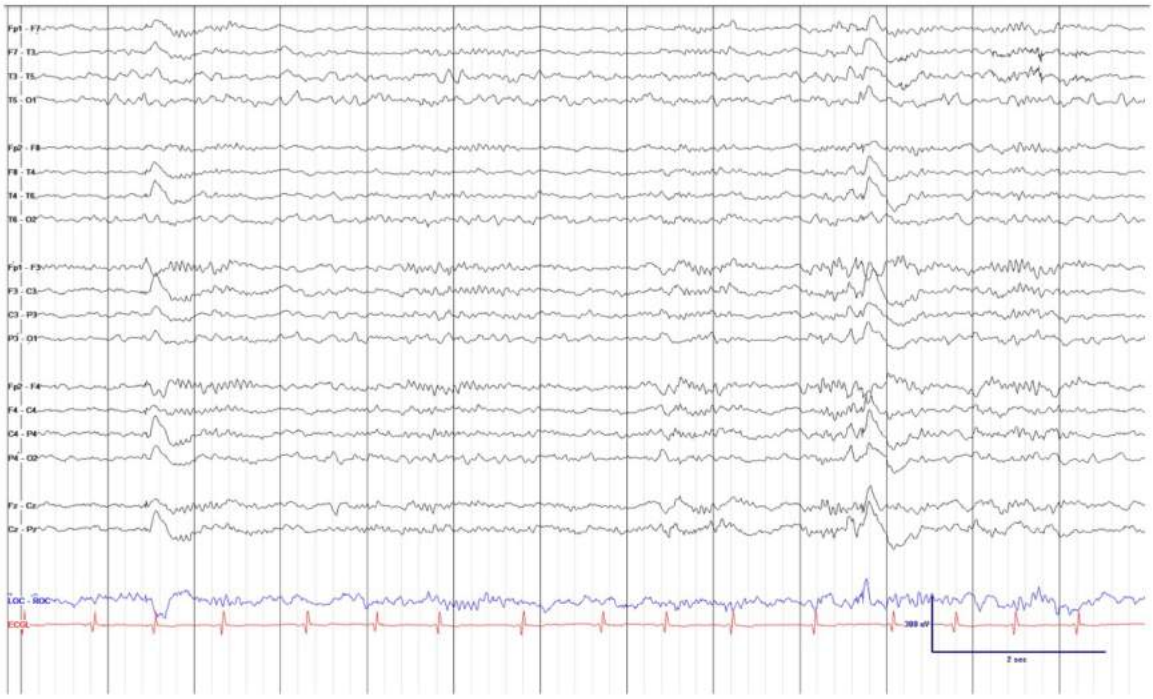
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

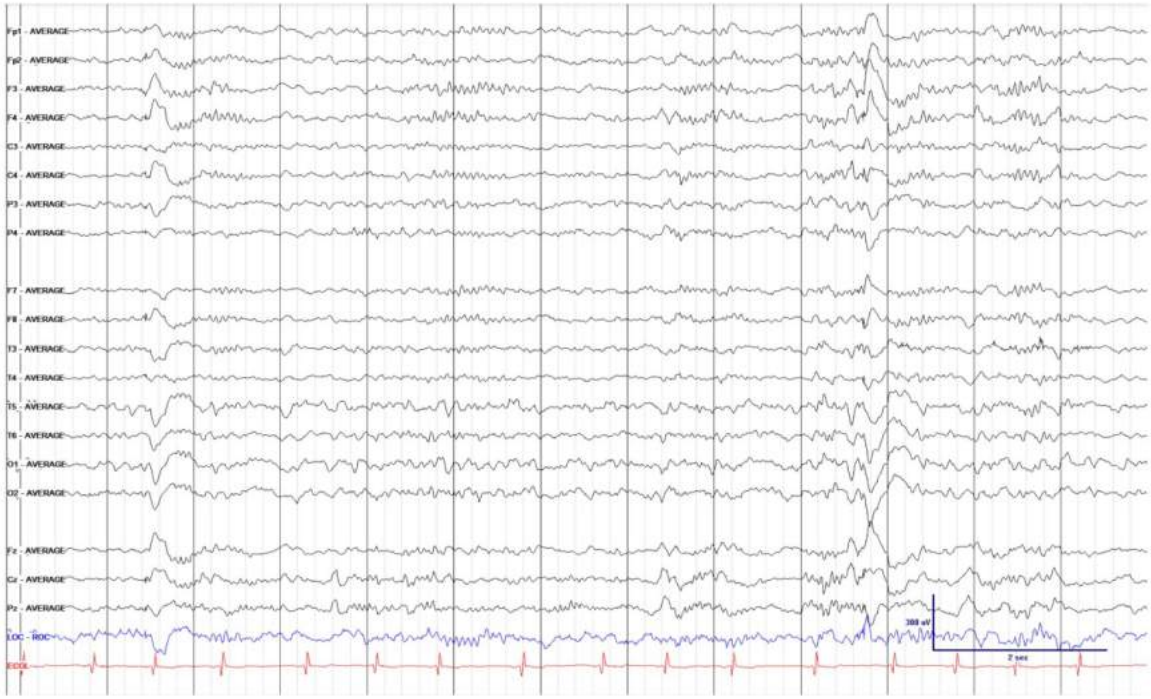
A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 86. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 28 - Level of difficulty

* 87. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 29 - Clinical history

A 7-year-old right-handed female with a history of headaches and learning difficulties presented with staring spells that began one year prior. The episodes occurred at least once per day. There was no tongue biting or incontinence.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

* 88. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 29 - Neuroimaging & EEG

A 7-year-old right-handed female with a history of headaches and learning difficulties presented with staring spells that began one year prior. The episodes occurred at least once per day. There was no tongue biting or incontinence.

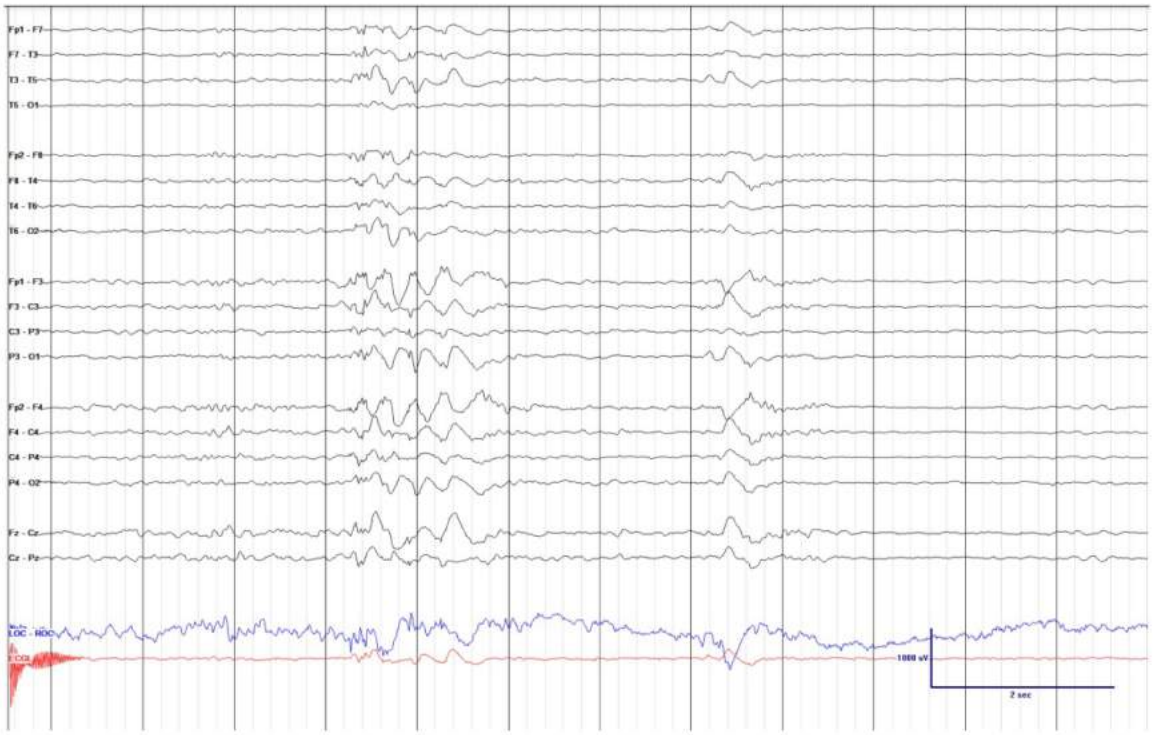
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

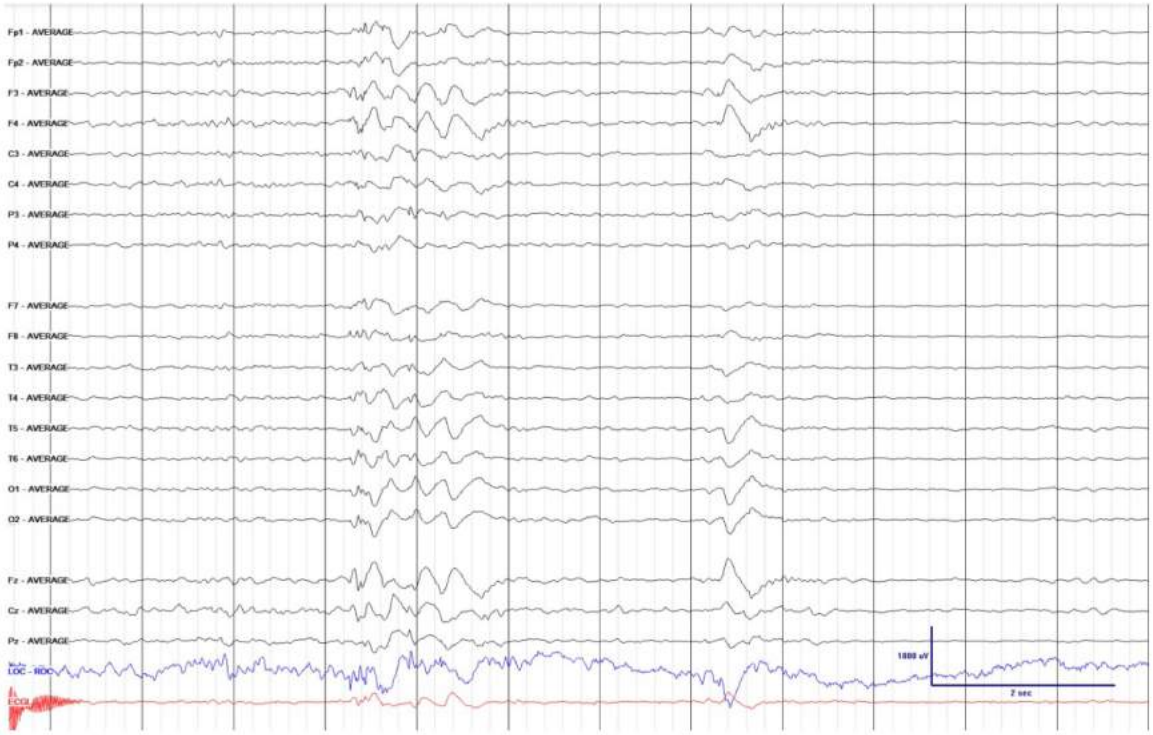
A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 89. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 29 - Level of difficulty

* 90. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 30 - Clinical history

An 8-year-old right-handed male with a history of developmental delay, autism spectrum disorder, headaches, and inattention issues presented due to concerns about his inattention and inability to sit still since the age of 3 years.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

* 91. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 30 - Neuroimaging & EEG

An 8-year-old right-handed male with a history of developmental delay, autism spectrum disorder, headaches, and inattention issues presented due to concerns about his inattention and inability to sit still since the age of 3 years.

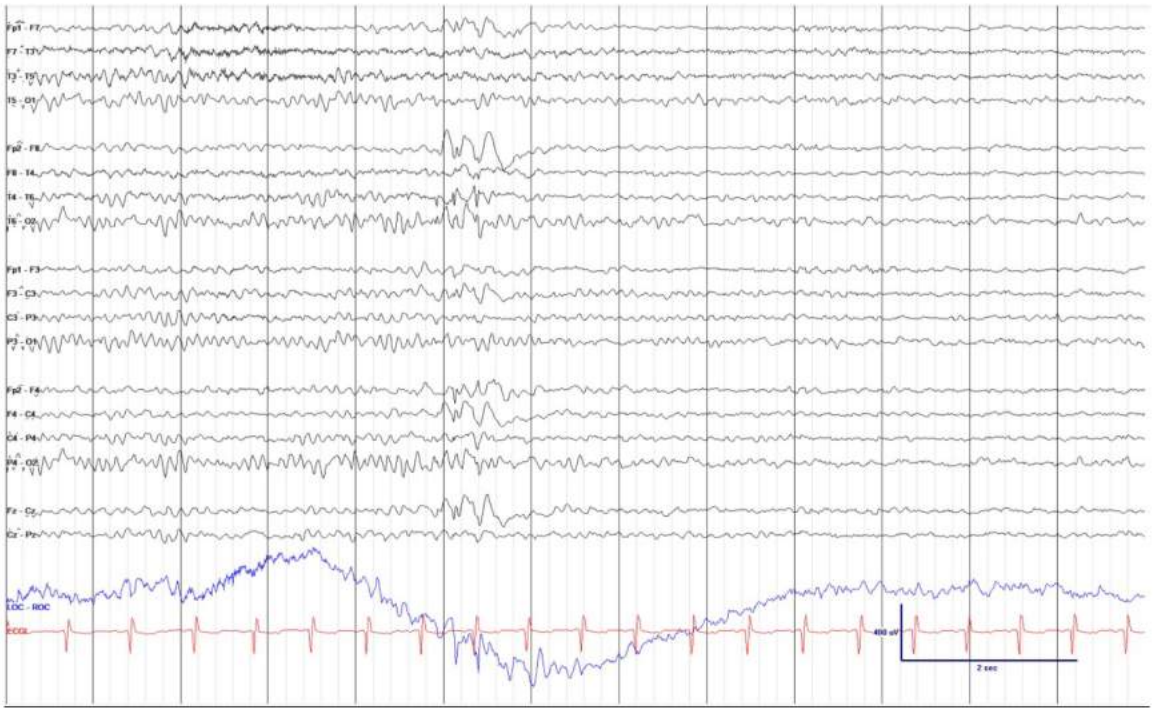
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

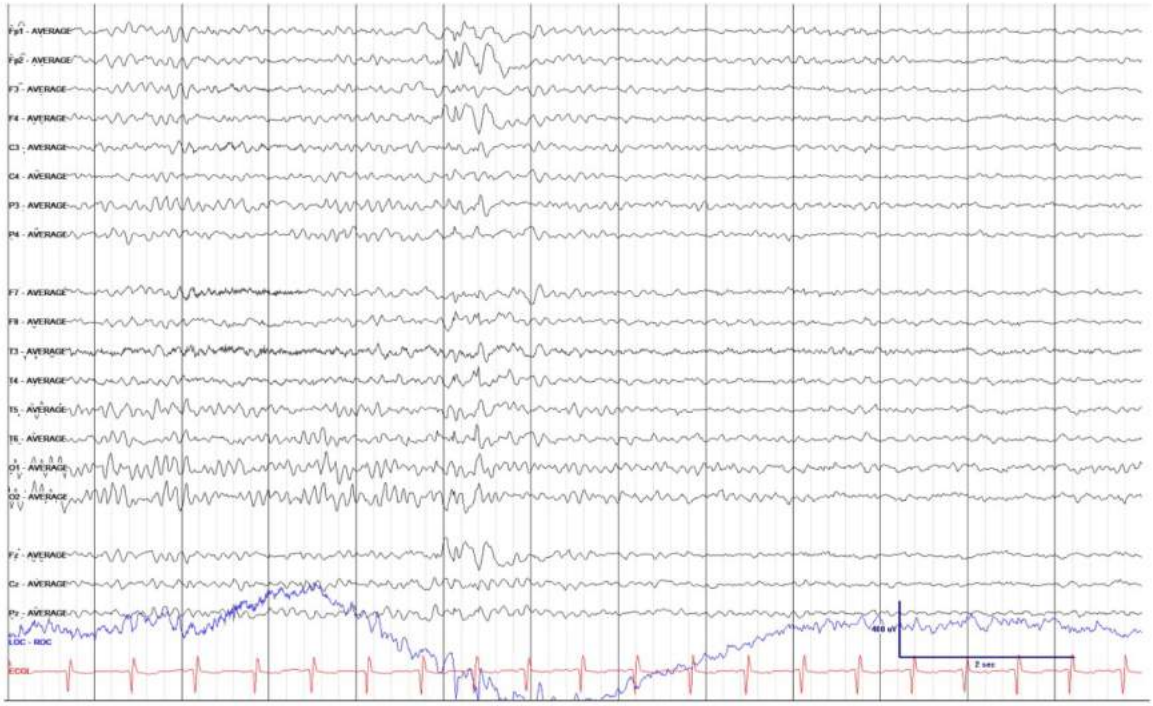
A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 92. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 30 - Level of difficulty

* 93. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 31 - Clinical history

A 5-month-old girl, born premature at 23 weeks and 2 days gestation, with a history of bronchopulmonary dysplasia on home supplemental oxygen, congenital hypothyroidism, and grade 4 germinal matrix hemorrhage complicated by hydrocephalus (status post right ventricular peritoneal shunt) presented with new spells. The episodes were characterized by oxygen desaturation, left head turning, and lip smacking without any significant limb movements or stiffening.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was remarkable for 10 beats of bilateral ankle clonus.

* 94. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 31 - Neuroimaging & EEG

A 5-month-old girl, born premature at 23 weeks and 2 days gestation, with a history of bronchopulmonary dysplasia on home supplemental oxygen, congenital hypothyroidism, and grade 4 germinal matrix hemorrhage complicated by hydrocephalus (status post right ventricular peritoneal shunt) presented with new spells. The episodes were characterized by oxygen desaturation, left head turning, and lip smacking without any significant limb movements or stiffening.

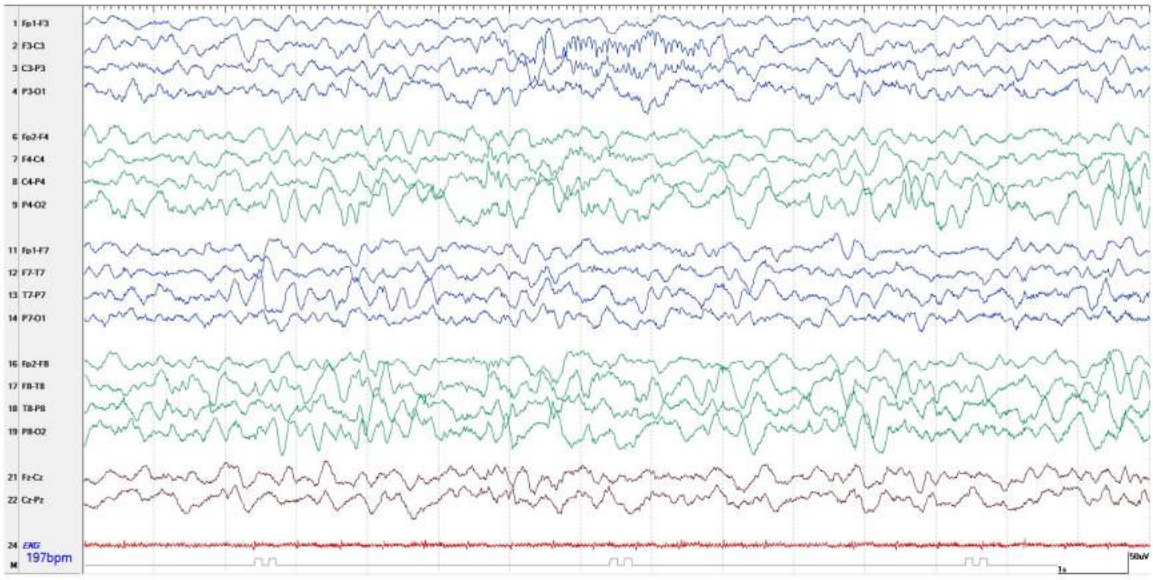
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was remarkable for 10 beats of bilateral ankle clonus.

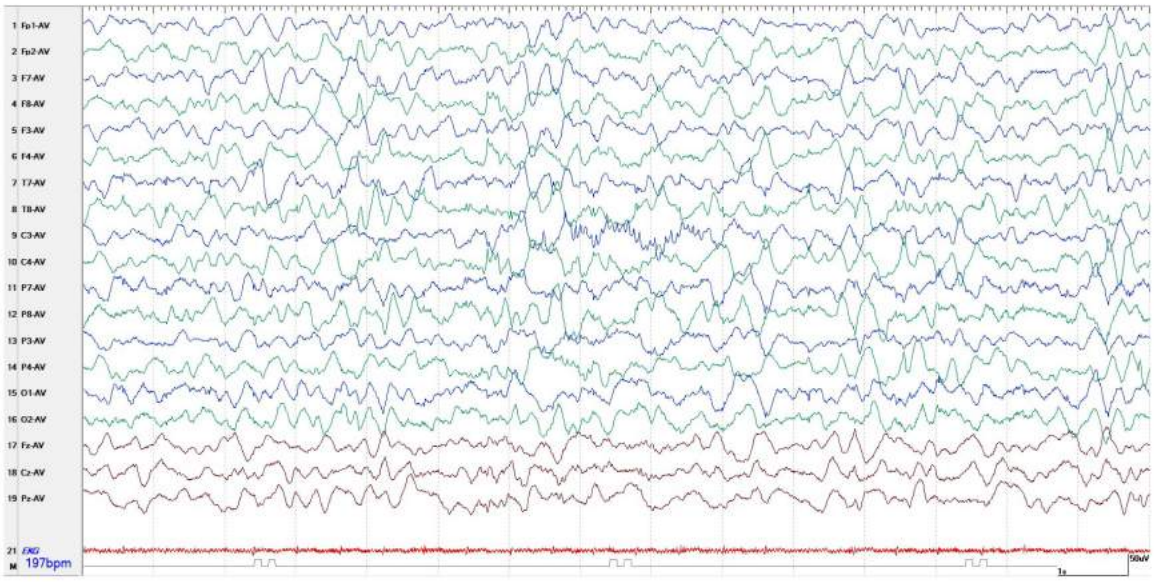
A brain MRI showed left parietal and right frontal ventricular shunt catheters with slightly increased caliber of the lateral ventricles, and unchanged sequelae of known grade 4 germinal matrix hemorrhage with persistent intraventricular blood products most notably within the third ventricle and cerebral aqueduct.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 95. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 31 - Level of difficulty

* 96. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 32 - Clinical history

A 54-year-old right-handed male with a history of a right orbitofrontal meningioma (status post resection) and thyroid cancer (status post thyroidectomy) presented with spells that began 15 years prior. The episodes started with an initial warm feeling up his back followed by chewing, lip smacking, manual automatisms, loss of awareness and hand shaking that progressed to whole body shaking. Each event lasted less than 3 minutes. Afterward, he experienced confusion, fatigue, and lethargy that lasted up to 20 minutes. There was no tongue biting or incontinence. The spells occurred at a frequency of 2-4 per month.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

* 97. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 32 - Neuroimaging & EEG

A 54-year-old right-handed male with a history of a right orbitofrontal meningioma (status post resection) and thyroid cancer (status post thyroidectomy) presented with spells that began 15 years prior. The episodes started with an initial warm feeling up his back followed by chewing, lip smacking, manual automatisms, loss of awareness and hand shaking that progressed to whole body shaking. Each event lasted less than 3 minutes. Afterward, he experienced confusion, fatigue, and lethargy that lasted up to 20 minutes. There was no tongue biting or incontinence. The spells occurred at a frequency of 2-4 per month.

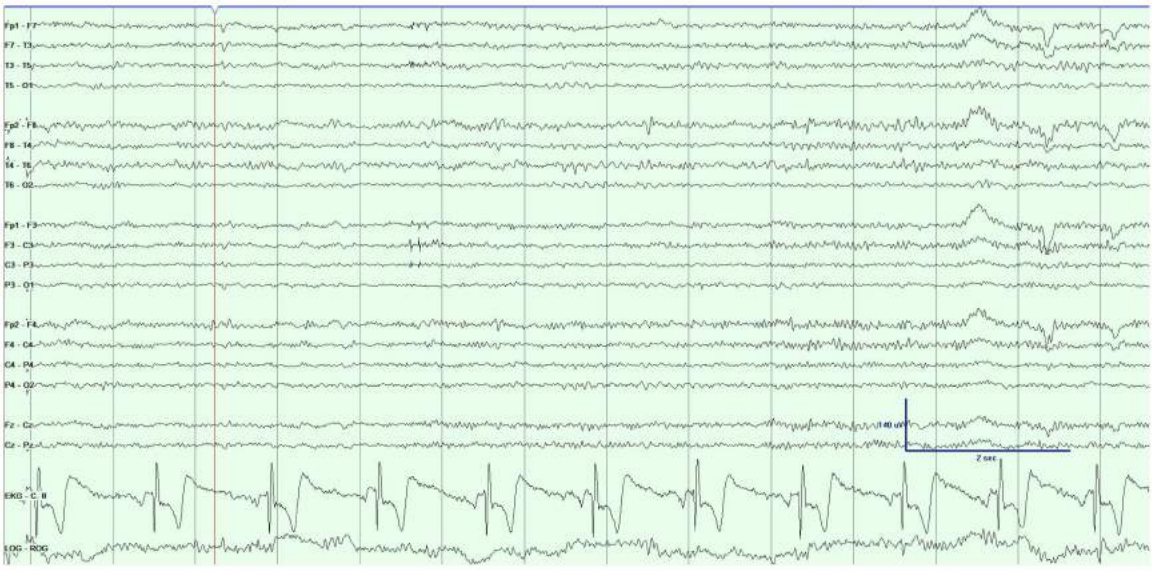
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

His exam was unremarkable.

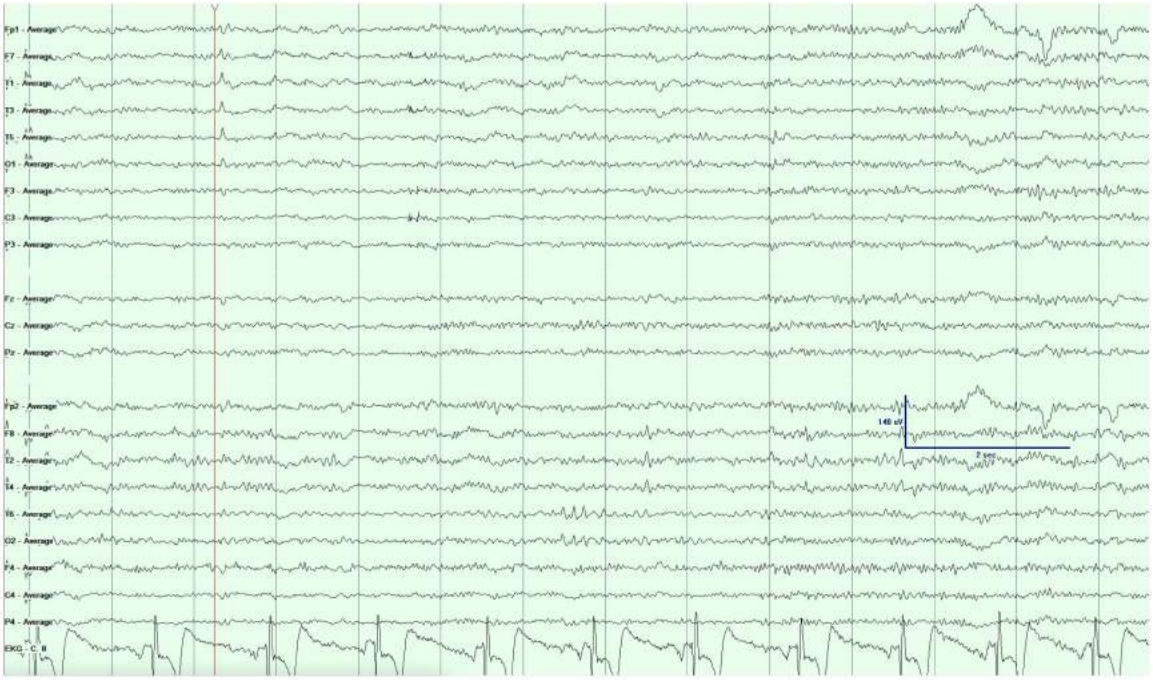
A brain MRI showed stable post-surgical findings related to resection of a right orbitofrontal meningioma. There were no findings to suggest tumor recurrence. There were stable post-surgical blood products adjacent to the craniotomy site and along the margins of the surgical cavity. There was T2 FLAIR hyperintensity surrounding the surgical cavity.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 98. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 32 - Level of difficulty

* 99. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 33 - Clinical history

A 23-year-old left-handed female with a history of anxiety and depression presented with recent episode of dizziness and collapse in addition to staring spells that began at the age of 14 years.

The staring events occurred at least once per week. There was no tongue biting or incontinence with the episode of collapse.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures/epilepsy.

Her exam was unremarkable.

* 100. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 33 - Neuroimaging & EEG

A 23-year-old left-handed female with a history of anxiety and depression presented with recent episode of dizziness and collapse in addition to staring spells that began at the age of 14 years.

The staring events occurred at least once per week. There was no tongue biting or incontinence with the episode of collapse.

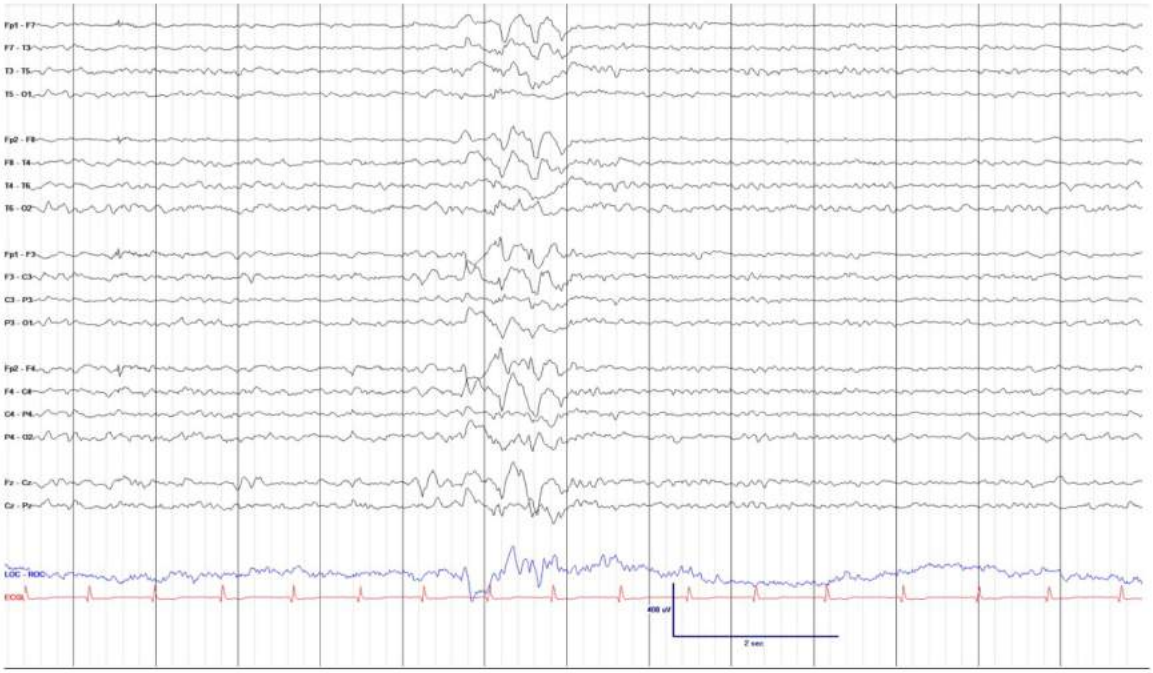
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures/epilepsy.

Her exam was unremarkable.

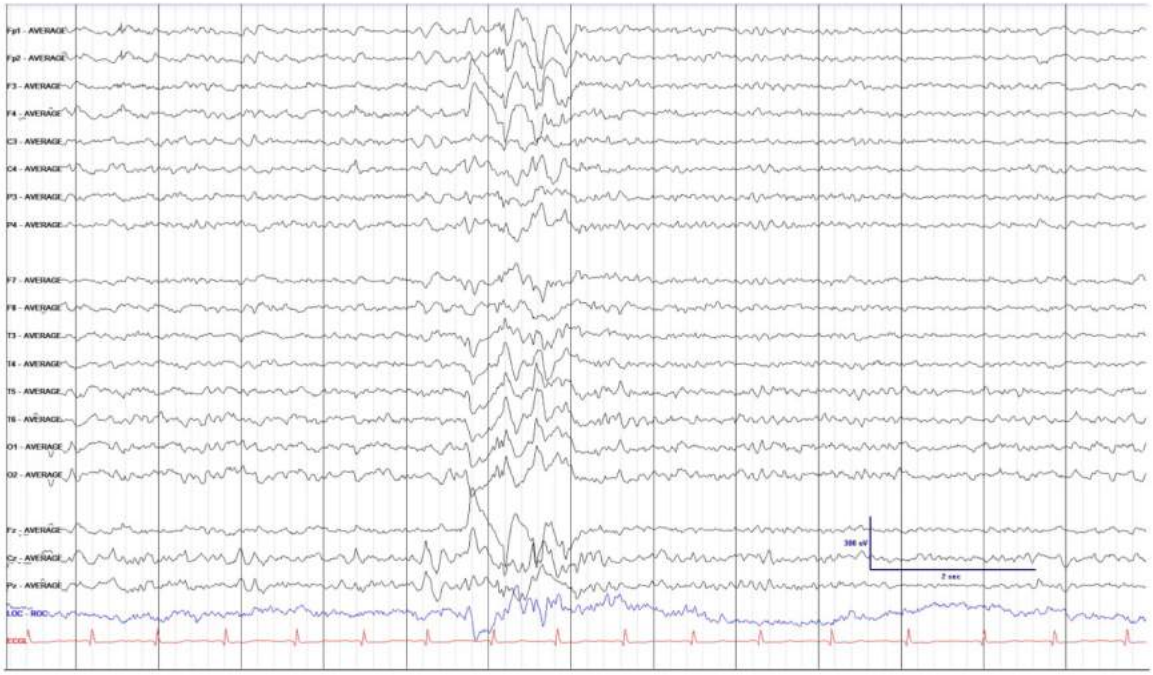
A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 101. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 33 - Level of difficulty

* 102. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 34 - Clinical history

A 47-year-old right-handed female with a history of Russell-Silver syndrome and intra-uterine growth restriction presented with spells that began in her teenage years. The episodes were characterized by limb shaking (either unilateral or bilateral), occasionally with tonic up-gaze and falls. She was able to respond during some of the spells. There was no tongue biting or incontinence. The events lasted for a few minutes, and their frequency was unknown.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

* 103. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 34 - Neuroimaging & EEG

A 47-year-old right-handed female with a history of Russell-Silver syndrome and intra-uterine growth restriction presented with spells that began in her teenage years. The episodes were characterized by limb shaking (either unilateral or bilateral), occasionally with tonic up-gaze and falls. She was able to respond during some of the spells. There was no tongue biting or incontinence. The events lasted for a few minutes, and their frequency was unknown.

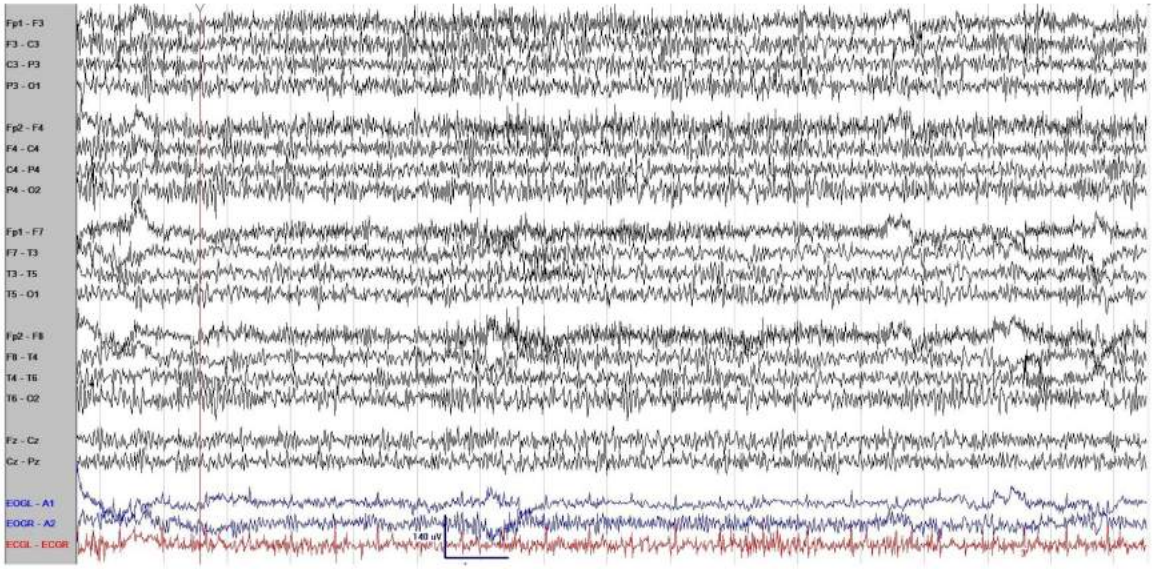
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

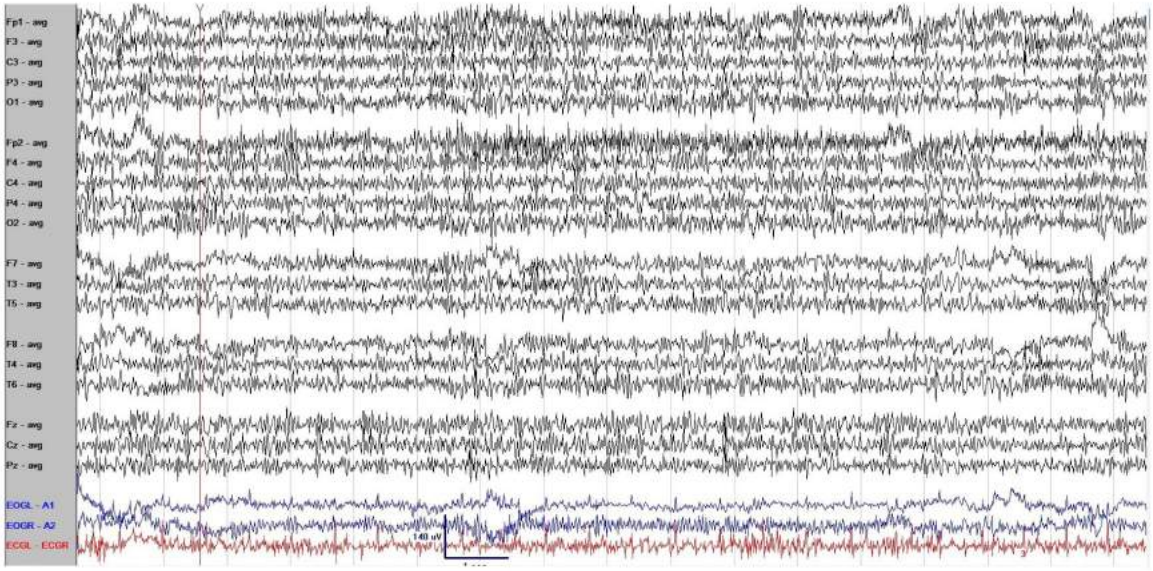
A brain MRI was normal.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 104. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 34 - Level of difficulty

* 105. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 35 - Clinical history

A 67-year-old right-handed male with a history of a transient ischemic attack (characterized by confusion and word finding difficulties) 5 years prior to presentation, hypertension, hyperlipidemia, pre-diabetes, and prior traumatic brain injury during a sledding accident at the age of five years presented with a spell characterized by confusion and word finding difficulties.

He lost consciousness and was concussed after the sledding accident, but he did not receive medical attention. There was no history of febrile seizures, central nervous system infection, or family history of seizures.

His exam was notable for hypertension but was otherwise unremarkable.

* 106. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 35 - Neuroimaging & EEG

A 67-year-old right-handed male with a history of a transient ischemic attack (characterized by confusion and word finding difficulties) 5 years prior to presentation, hypertension, hyperlipidemia, pre-diabetes, and prior traumatic brain injury during a sledding accident at the age of five years presented with a spell characterized by confusion and word finding difficulties.

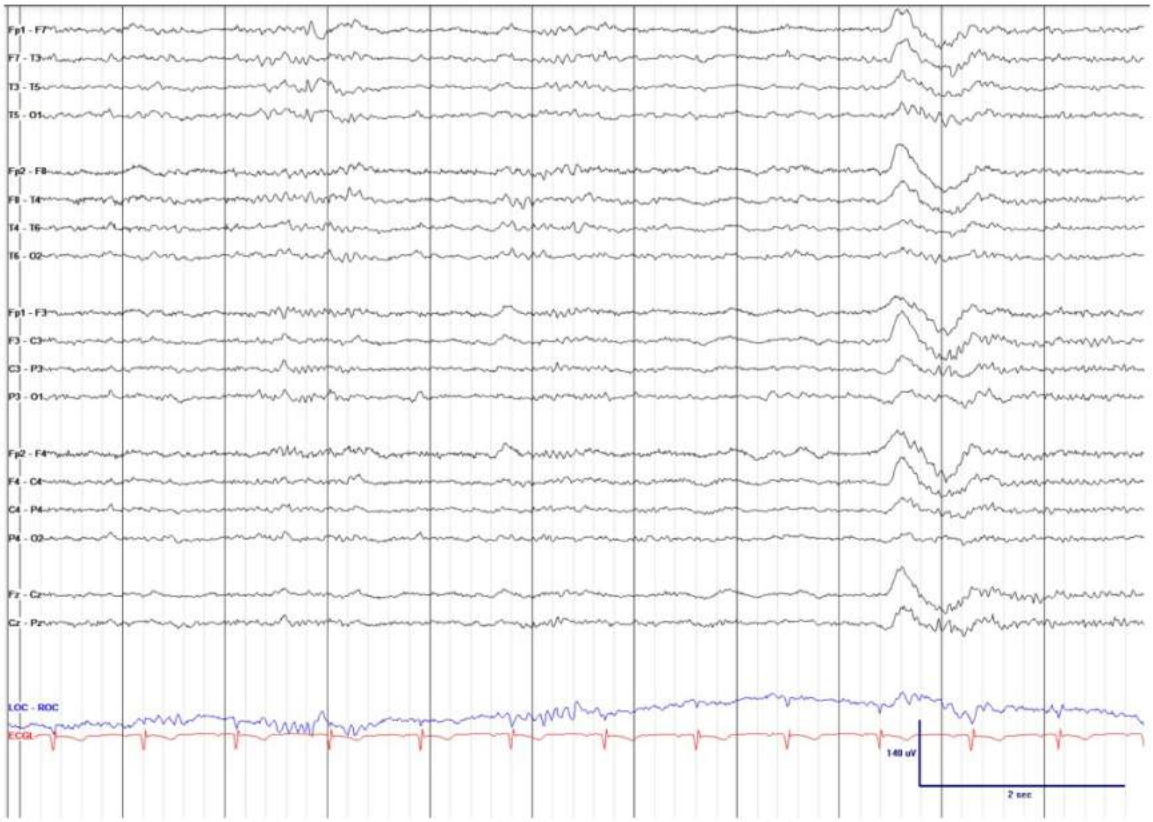
He lost consciousness and was concussed after the sledding accident, but he did not receive medical attention. There was no history of febrile seizures, central nervous system infection, or family history of seizures.

His exam was notable for hypertension but was otherwise unremarkable.

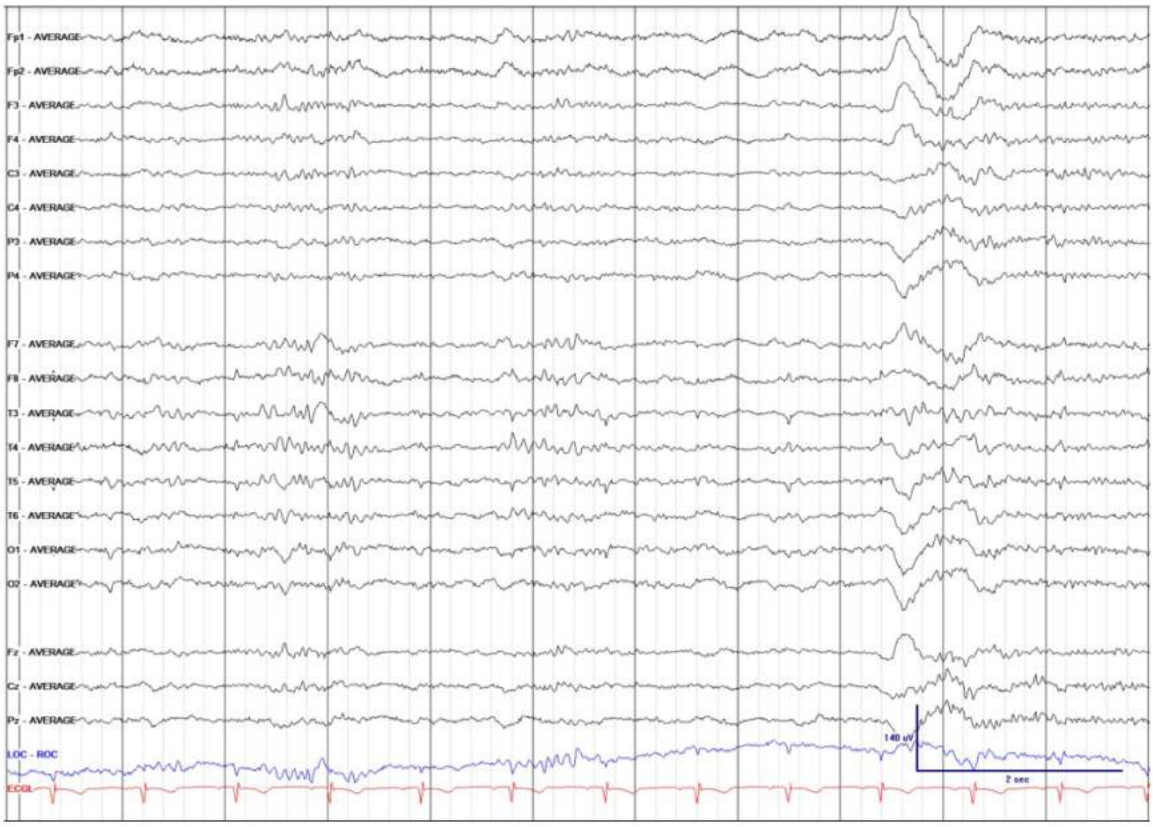
A brain MRI, CT head, and CT head angiography were unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 107. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 35 - Level of difficulty

* 108. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 36 - Clinical history

A 66-year-old right-handed female with a history of hypertension, anxiety, depression, progressive gait instability, spells over the last 10 months, and a recent hospitalization 2 months prior presented to the office for post-discharge follow-up. Her spells were characterized by severe right-sided headache, speech arrest, right-sided weakness and tremors. These symptoms lasted about 5 minutes, and her headache persisted thereafter. There was no impairment or loss of awareness, tongue biting, or bowel/bladder incontinence.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

Her exam was unremarkable.

* 109. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 36 - Neuroimaging & EEG

A 66-year-old right-handed female with a history of hypertension, anxiety, depression, progressive gait instability, spells over the last 10 months, and a recent hospitalization 2 months prior presented to the office for post-discharge follow-up. Her spells were characterized by severe right-sided headache, speech arrest, right-sided weakness and tremors. These symptoms lasted about 5 minutes, and her headache persisted thereafter. There was no impairment or loss of awareness, tongue biting, or bowel/bladder incontinence.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures.

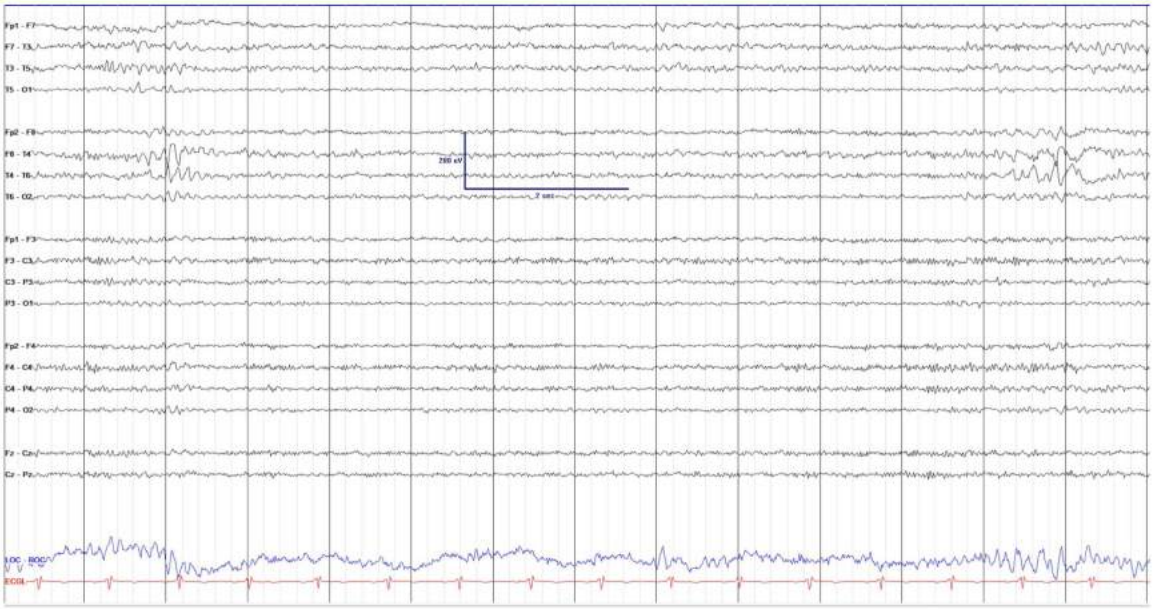
Her exam was unremarkable.

A brain MRI was unremarkable.

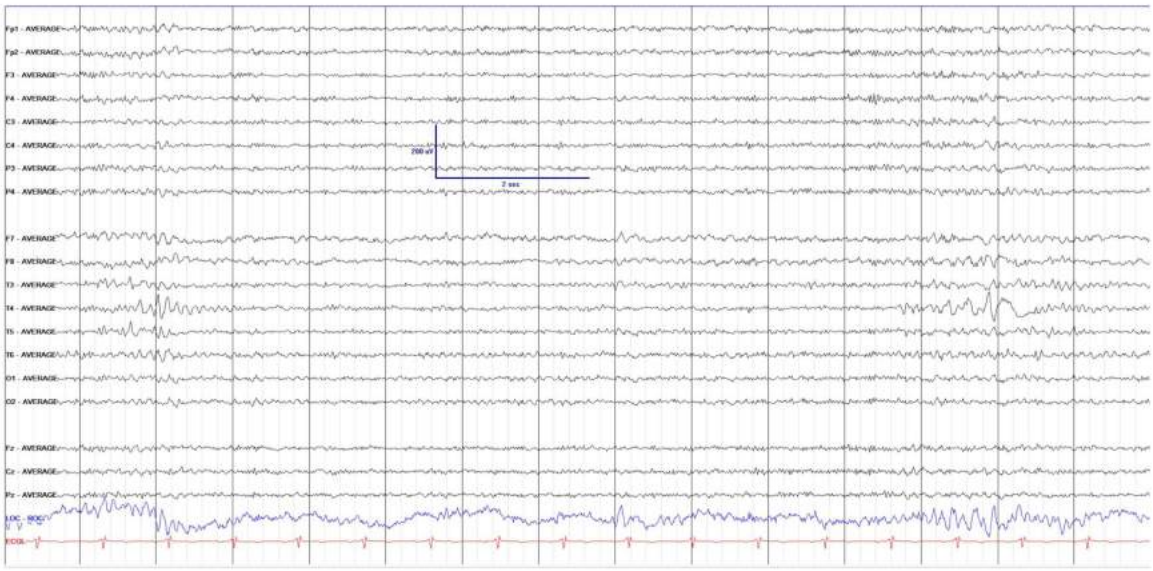
Head and neck CT angiography were unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 110. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 36 - Level of difficulty

* 111. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 37 - Clinical history

A 57-year-old right-handed male with a history of cleft palate (status post repair), coronary artery disease, congestive heart failure, and syncope (likely medication/hypotension-related) presented after a spell.

The episode was described as a warm feeling with diaphoresis followed by loss of awareness as he was walking from the bathroom to his bed at night. This progressed to whole body shaking. He received rescue medication from emergency medical services en route to the emergency department. He was intubated and admitted to the intensive care unit. He tested positive for COVID-19 despite being asymptomatic.

He had no history of febrile seizures, central nervous system infection, or family history of seizures. He had multiple head injuries due to falls without loss of awareness. He also had a gunshot wound to his head, although the bullet did not enter his skull. He drank 12 beers per week and smoked marijuana.

He required a cane to ambulate, his gait was slow, and his base was slightly increased. His exam was otherwise unremarkable.

* 112. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 37 - Neuroimaging & EEG

A 57-year-old right-handed male with a history of cleft palate (status post repair), coronary artery disease, congestive heart failure, and syncope (likely medication/hypotension-related) presented after a spell.

The episode was described as a warm feeling with diaphoresis followed by loss of awareness as he was walking from the bathroom to his bed at night. This progressed to whole body shaking. He received rescue medication from emergency medical services en route to the emergency department. He was intubated and admitted to the intensive care unit. He tested positive for COVID-19 despite being asymptomatic.

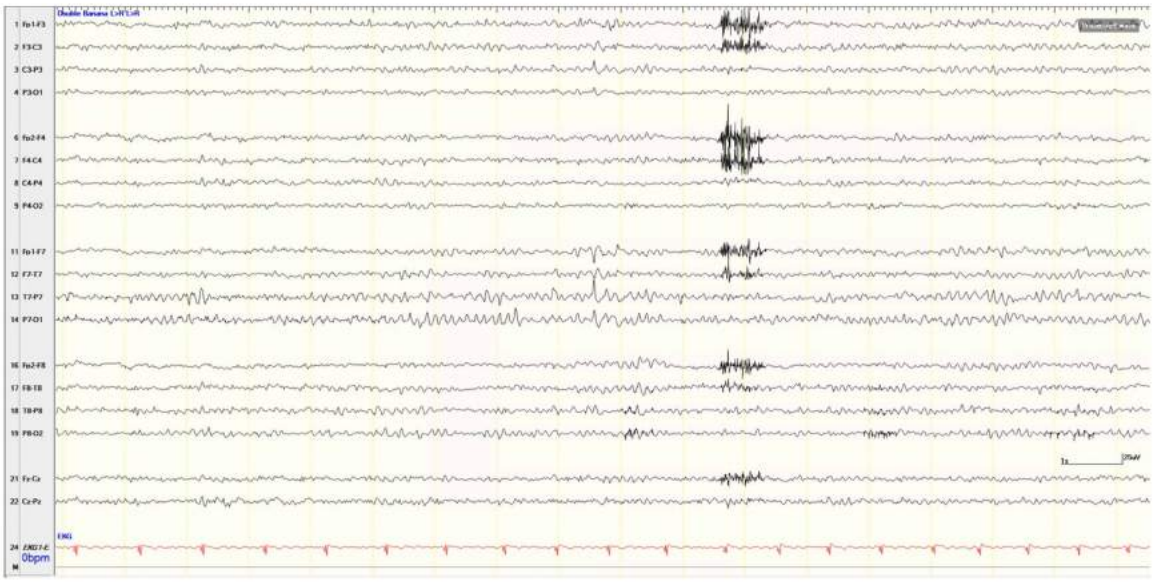
He had no history of febrile seizures, central nervous system infection, or family history of seizures. He had multiple head injuries due to falls without loss of awareness. He also had a gunshot wound to his head, although the bullet did not enter his skull. He drank 12 beers per week and smoked marijuana.

He required a cane to ambulate, his gait was slow, and his base was slightly increased. His exam was otherwise unremarkable.

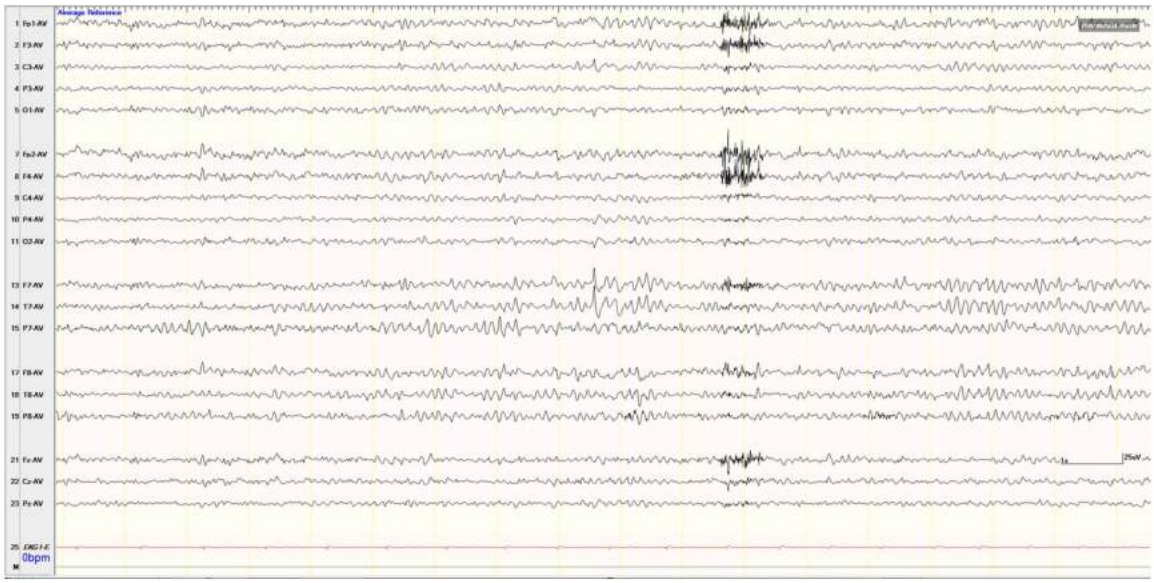
A brain MRI showed a small area of chronic encephalomalacia in the right frontal operculum.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 113. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 37 - Level of difficulty

* 114. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 38 - Clinical history

An 18-year-old right-handed female with a history of asthma, pneumothorax, vocal cord dysfunction, anxiety, depression, and post-traumatic stress disorder presented with spells of "losing time" that began six months prior.

There were seven total spells that occurred primarily when in front of a computer for over 1 hour. The episodes were preceded by a feeling that her hands were trembling. She was amnestic to the events, which lasted 20-45 minutes, and were followed by confusion and disorientation for ~2-3 hours. There was no tongue biting or incontinence. In the past, she had an episode of tonic up-gaze and whole body shaking for ~5 minutes after receiving a medication, the name of which she couldn't remember.

She had a head injury 3 years prior; it was unclear whether she lost awareness. There was no history of febrile seizures, central nervous system infection, or family history of seizures. She was born 2 weeks early, but there were no perinatal issues, and her development was normal.

Her exam was unremarkable.

* 115. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 38 - Neuroimaging & EEG

An 18-year-old right-handed female with a history of asthma, pneumothorax, vocal cord dysfunction, anxiety, depression, and post-traumatic stress disorder presented with spells of "losing time" that began six months prior.

There were seven total spells that occurred primarily when in front of a computer for over 1 hour. The episodes were preceded by a feeling that her hands were trembling. She was amnestic to the events, which lasted 20-45 minutes, and were followed by confusion and disorientation for ~2-3 hours. There was no tongue biting or incontinence. In the past, she had an episode of tonic up-gaze and whole body shaking for ~5 minutes after receiving a medication, the name of which she couldn't remember.

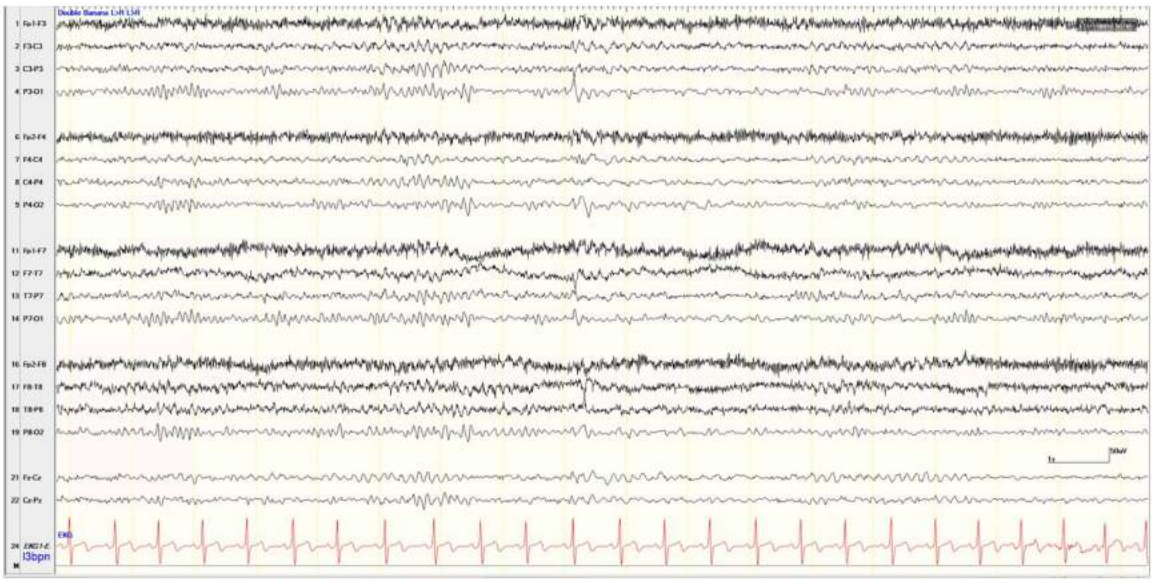
She had a head injury 3 years prior; it was unclear whether she lost awareness. There was no history of febrile seizures, central nervous system infection, or family history of seizures. She was born 2 weeks early, but there were no perinatal issues, and her development was normal.

Her exam was unremarkable.

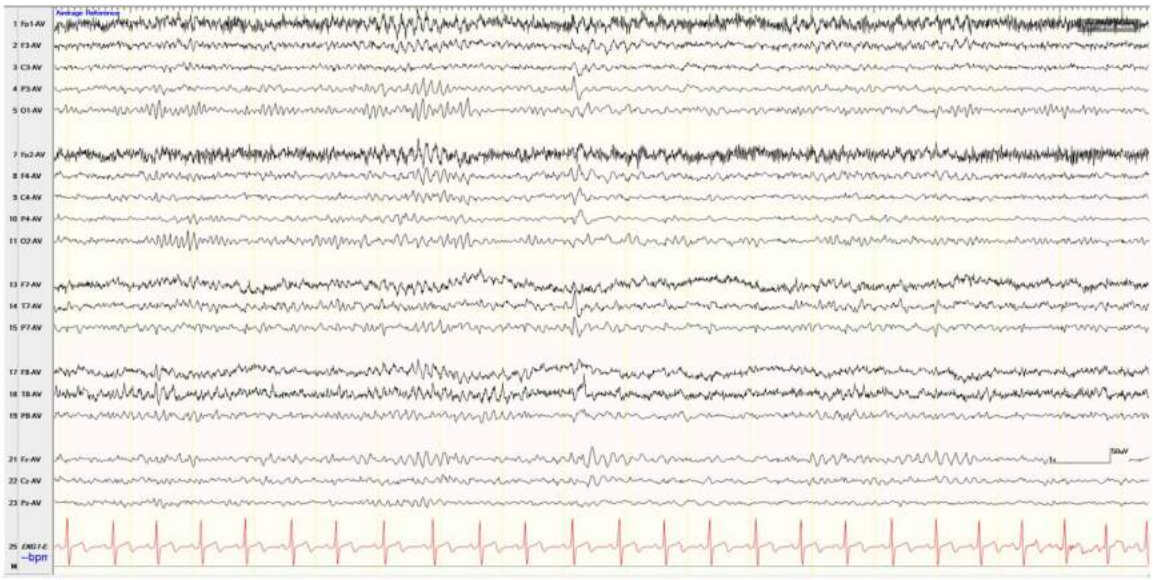
A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 116. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 38 - Level of difficulty

* 117. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 39 - Clinical history

A 47-year-old right-handed male with a history of fibromyalgia, chronic back pain, migraines, and tremors presented with spells that began 4 years prior.

The episodes were characterized by subjective weakness and eye fluttering followed by a sensation of loss of bodily control and unawareness. The events lasted for ~5 minutes after which he felt weak. They occurred daily and were triggered by stress, fatigue, anxiety, and pain. There were also separate spells described as "tensing up" with upper body shaking and loss of awareness for a few minutes. These episodes occurred weekly.

There was no history of febrile seizures, traumatic brain injury, or central nervous system infection. His father had epilepsy that began in adulthood.

* 118. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 39 - Neuroimaging & EEG

A 47-year-old right-handed male with a history of fibromyalgia, chronic back pain, migraines, and tremors presented with spells that began 4 years prior.

The episodes were characterized by subjective weakness and eye fluttering followed by a sensation of loss of bodily control and unawareness. The events lasted for ~5 minutes after which he felt weak. They occurred daily and were triggered by stress, fatigue, anxiety, and pain. There were also separate spells described as "tensing up" with upper body shaking and loss of awareness for a few minutes. These episodes occurred weekly.

There was no history of febrile seizures, traumatic brain injury, or central nervous system infection. His father had epilepsy that began in adulthood.

A brain MRI showed scattered white matter T2 FLAIR hyperintensities.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 119. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 39 - Level of difficulty

* 120. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 40 - Clinical history

A 72-year-old right-handed female with a history of atrial fibrillation, hypothyroidism, ocular migraines, and polymyalgia rheumatica presented with transient amnesia/confusion lasting for 45 minutes.

She was at an office visit with her primary care physician, waiting in line to return her Holter monitor, when she had sudden impairment of awareness with preceding headache and visual aura (flashing lights on the right side) consistent with her typical ocular migraines. She regained awareness in the ED. There was no bowel or bladder incontinence, tongue biting, abnormal movements, or postictal confusion.

Examination was unremarkable.

* 121. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 40 - Neuroimaging & EEG

A 72-year-old right-handed female with a history of atrial fibrillation, hypothyroidism, ocular migraines, and polymyalgia rheumatica presented with transient amnesia/confusion lasting for 45 minutes.

She was at an office visit with her primary care physician, waiting in line to return her Holter monitor, when she had sudden impairment of awareness with preceding headache and visual aura (flashing lights on the right side) consistent with her typical ocular migraines. She regained awareness in the ED. There was no bowel or bladder incontinence, tongue biting, abnormal movements, or postictal confusion.

Examination was unremarkable.

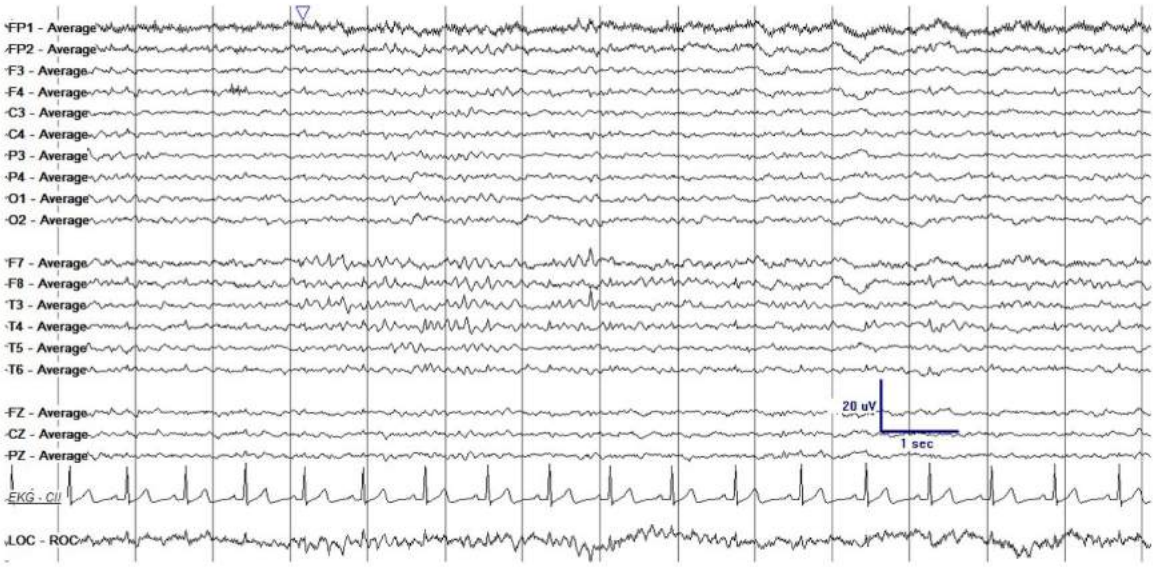
A brain MRI was remarkable for white matter disease.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 122. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 40 - Level of difficulty

* 123. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 41 - Clinical history

A 71-year-old right-handed male with a history of a left frontal meningioma with venous sinus invasion status post bifrontal craniotomy for resection complicated by hemorrhage and venous infarction requiring re-operation with craniectomy and hematoma evacuation presented from rehabilitation with aphasia and right-sided hemiparesis.

His examination was remarkable for aphasia, right-sided weakness, and left gaze preference.

* 124. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 41 - Neuroimaging & EEG

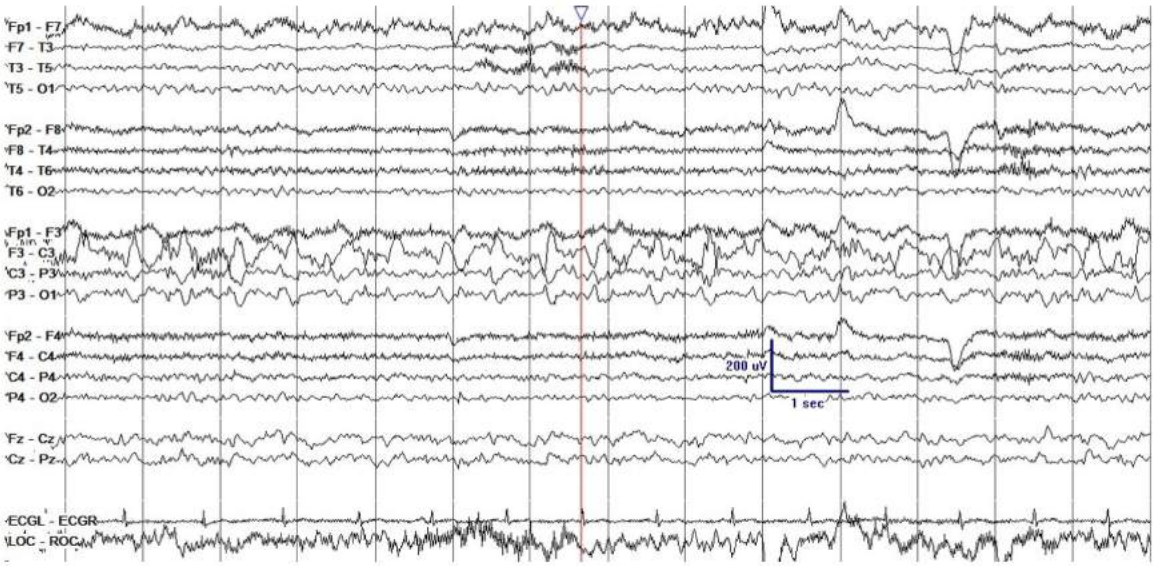
A 71-year-old right-handed male with a history of a left frontal meningioma with venous sinus invasion status post bifrontal craniotomy for resection complicated by hemorrhage and venous infarction requiring re-operation with craniectomy and hematoma evacuation presented from rehabilitation with aphasia and right-sided hemiparesis.

His examination was remarkable for aphasia, right-sided weakness, and left gaze preference.

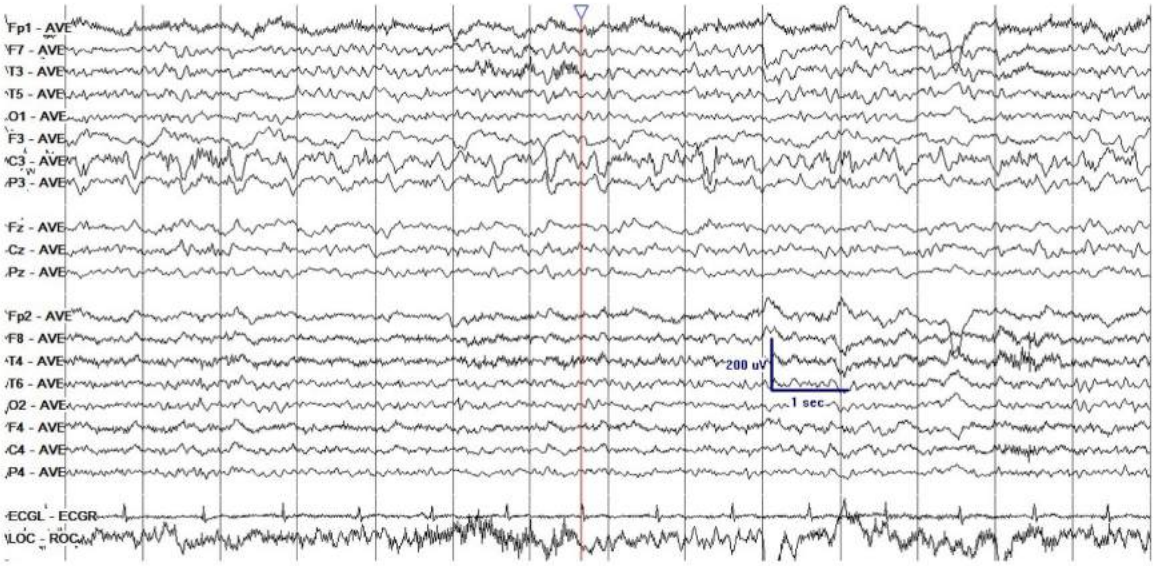
A brain MRI was remarkable for post-operative changes related to previous bifrontal craniotomy, residual left frontal meningioma, multi-compartmental intracranial hemorrhage especially in the left frontal lobe, and a subacute infarction in the left occipital lobe.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 125. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 41 - Level of difficulty

* 126. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 42 - Clinical history

A 65-year-old right-handed female with a history of hypertension presented with progressive cognitive decline over several weeks.

Her examination was remarkable for slow responses, flat affect, poor recall, and a MOCA of 21/30.

* 127. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 42 - Neuroimaging & EEG

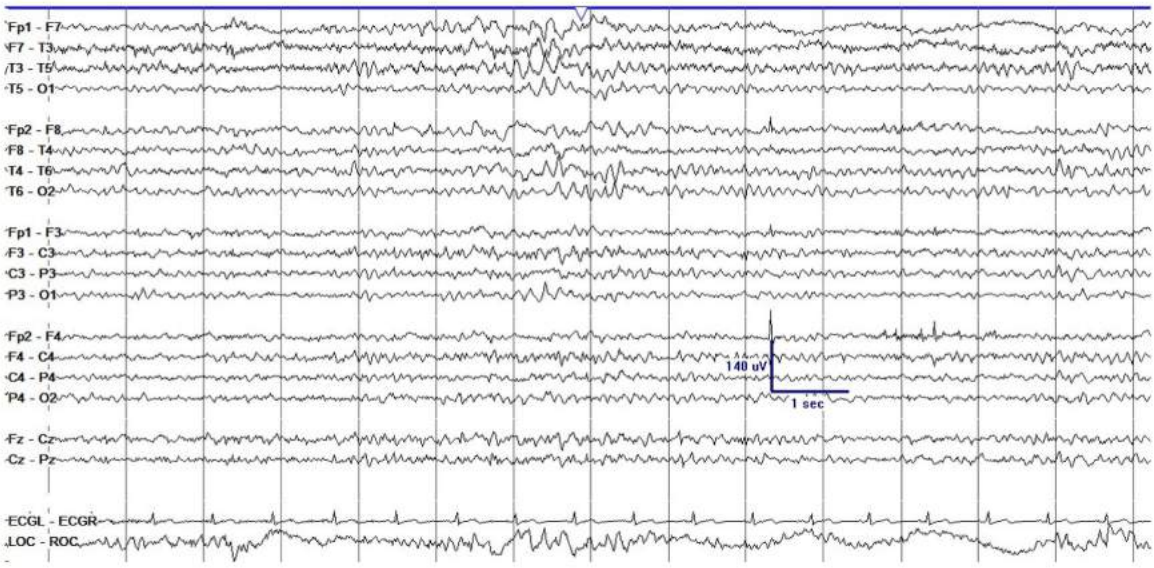
A 65-year-old right-handed female with a history of hypertension presented with progressive cognitive decline over several weeks.

Her examination was remarkable for slow responses, flat affect, poor recall, and a MOCA of 21/30.

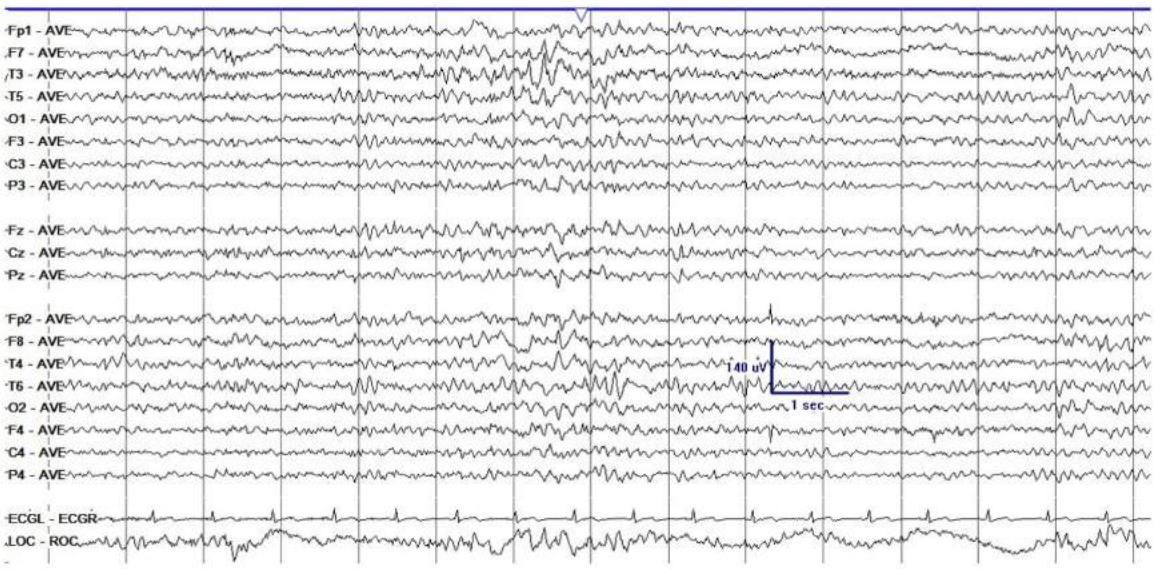
A brain MRI showed bilateral basal ganglia infarcts and white matter disease.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 128. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 42 - Level of difficulty

* 129. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 43 - Clinical history

A 78-year-old right-handed female with a history of scoliosis status post spinal surgery, hypertension, depression, migraines, facial twitching on oxcarbazepine, and renal artery stenosis status post stenting presented with 8 years of syncopal episodes.

These episodes were described as a sensation of lightheadedness progressing to loss of awareness. They occurred 15-20 times over the prior 8 years, some of them while standing and others while undergoing blood draws. She also had other spells characterized by staring and becoming pale while sitting down. These particular spells only occurred 3 times in her life.

Her examination was remarkable for inattention and poor recall, decreased proprioception bilaterally, and sensory changes in right arm and leg. Romberg was positive.

* 130. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 43 - Neuroimaging & EEG

A 78-year-old right-handed female with a history of scoliosis status post spinal surgery, hypertension, depression, migraines, facial twitching on oxcarbazepine, and renal artery stenosis status post stenting presented with 8 years of syncopal episodes.

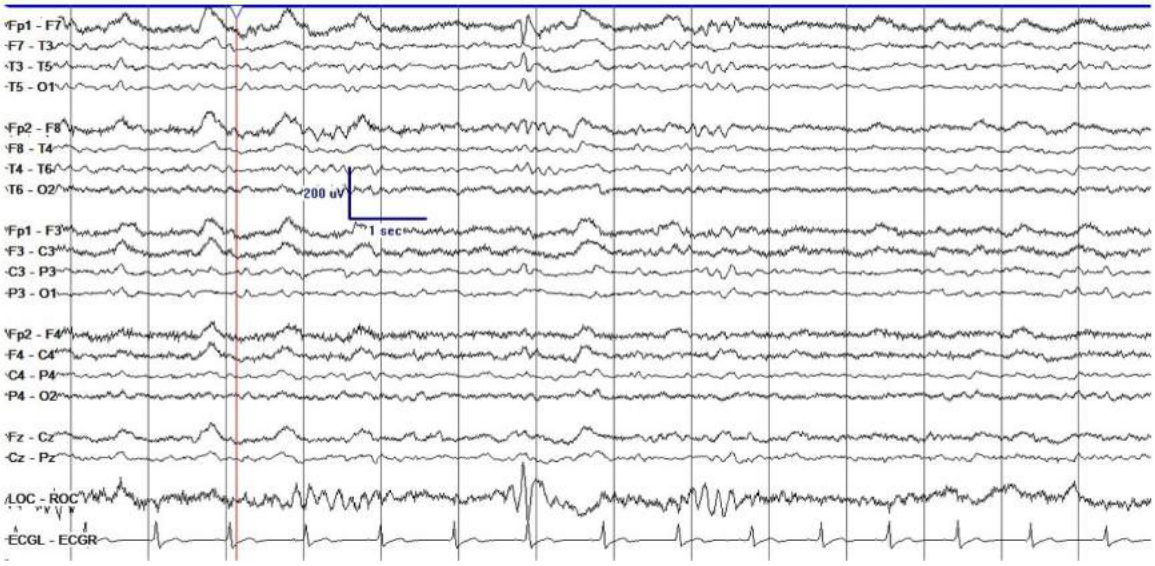
These episodes were described as a sensation of lightheadedness progressing to loss of awareness. They occurred 15-20 times over the prior 8 years, some of them while standing and others while undergoing blood draws. She also had other spells characterized by staring and becoming pale while sitting down. These particular spells only occurred 3 times in her life.

Her examination was remarkable for inattention and poor recall, decreased proprioception bilaterally, and sensory changes in right arm and leg. Romberg was positive.

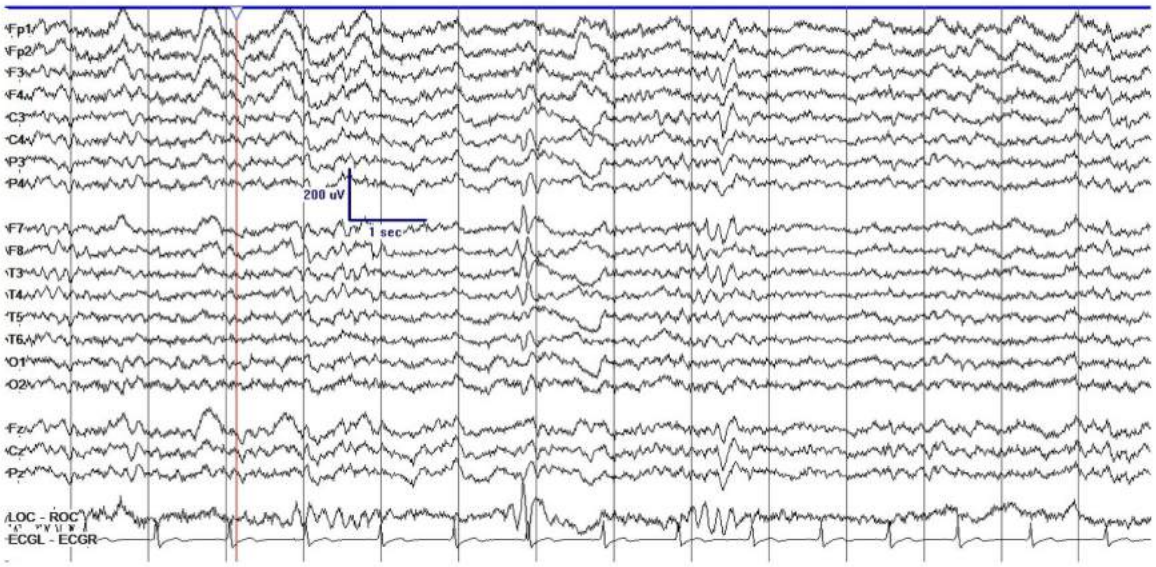
Neuroimaging was not performed.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 131. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 43 - Level of difficulty

* 132. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 44 - Clinical history

A 70-year-old right-handed male with a history of coronary artery disease status post stenting, obstructive sleep apena, and essential tremor presented with episodes of feeling foggy over the last year.

The spells were described as inability to concentrate. Per his wife, he did "not seem like himself" during the spells.

His examination was remarkable for cognitive issues with a MOCA of 24/30.

* 133. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 44 - Neuroimaging & EEG

A 70-year-old right-handed male with a history of coronary artery disease status post stenting, obstructive sleep apena, and essential tremor presented with episodes of feeling foggy over the last year.

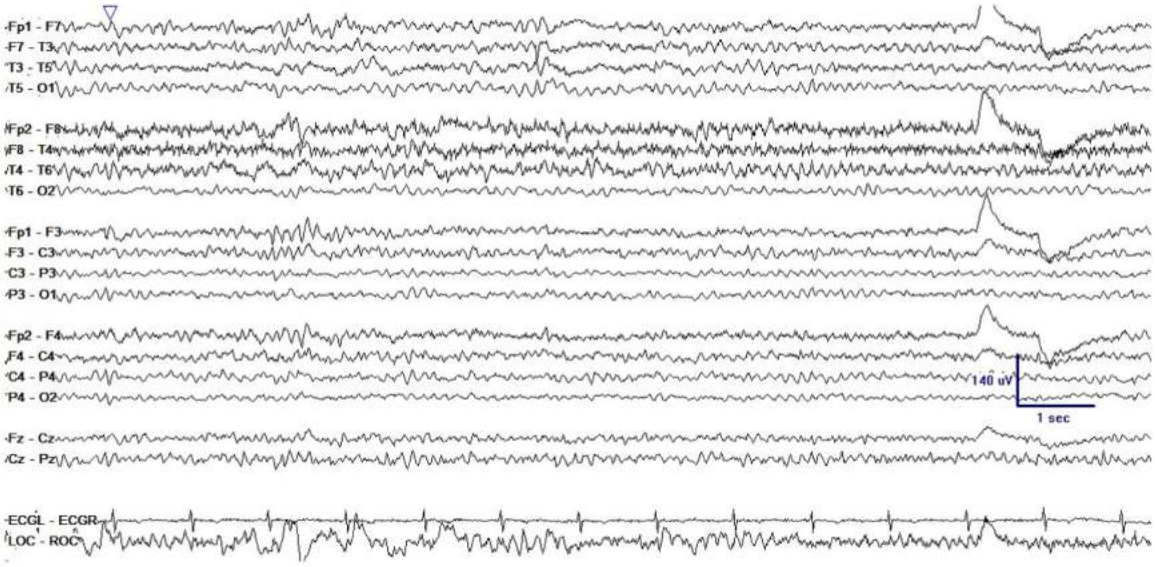
The spells were described as inability to concentrate. Per his wife, he did "not seem like himself" during the spells.

His examination was remarkable for cognitive issues with a MOCA of 24/30.

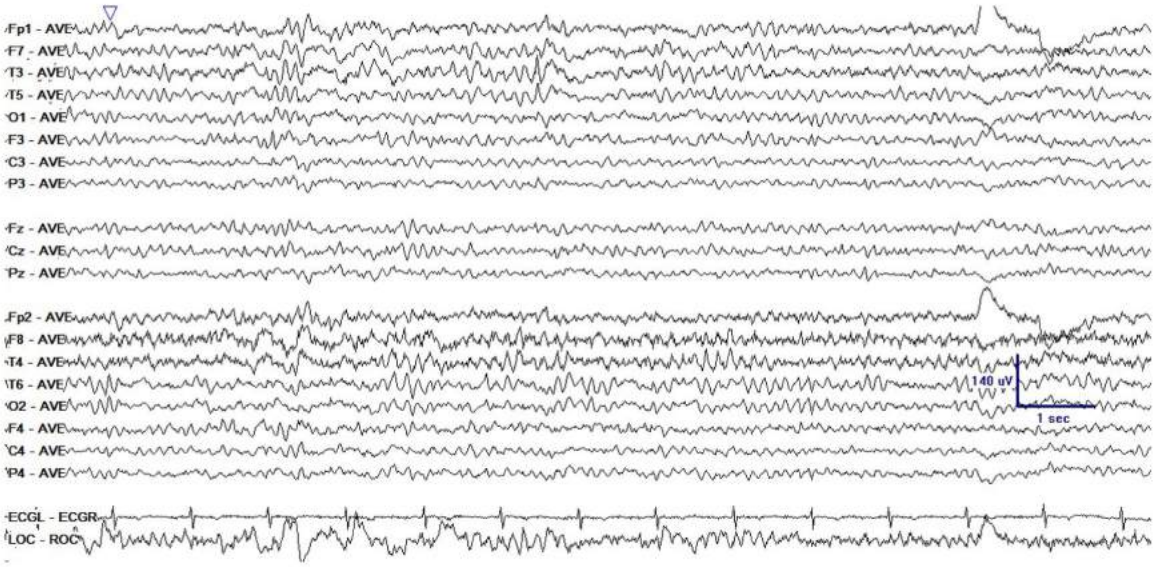
A head CT was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 134. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 44 - Level of difficulty

* 135. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 45 - Clinical History

76-year-old right-handed female with two episodes of "blacking out" over the last 4 years. The first spell was unwitnessed and occurred while she was walking down the stairs; she was found on the floor, and there was no bowel or bladder incontinence or tongue biting. She was confused after regaining awareness. The second spell was characterized by loss of awareness while driving; there were no preceding symptoms. This event resulted in a car accident. There was no tongue biting or bowel or bladder incontinence. There was no postictal symptoms.

There is no traumatic brain injury, febrile seizures, or family history of seizures/epilepsy.

Examination was unremarkable.

* 136. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 45 - Neuroimaging & EEG

A 76-year-old right-handed female presented with two episodes of "blacking out" over the last 4 years. The first spell was unwitnessed and occurred while she was walking down the stairs; she was found on the floor, and there was no bowel or bladder incontinence or tongue biting. She was confused after regaining awareness. The second spell was characterized by loss of awareness while driving. There were no preceding symptoms. This event resulted in a car accident. There was no tongue biting or bowel or bladder incontinence.

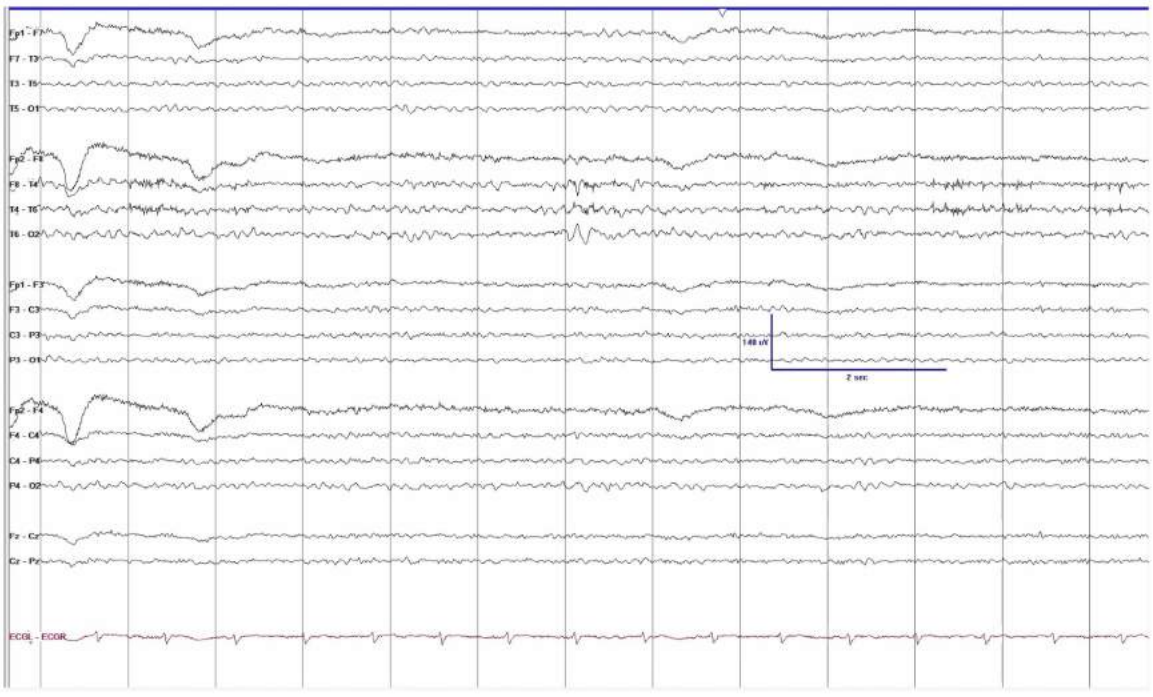
There is no traumatic brain injury, febrile seizures, or family history of seizures/epilepsy.

Her examination was unremarkable.

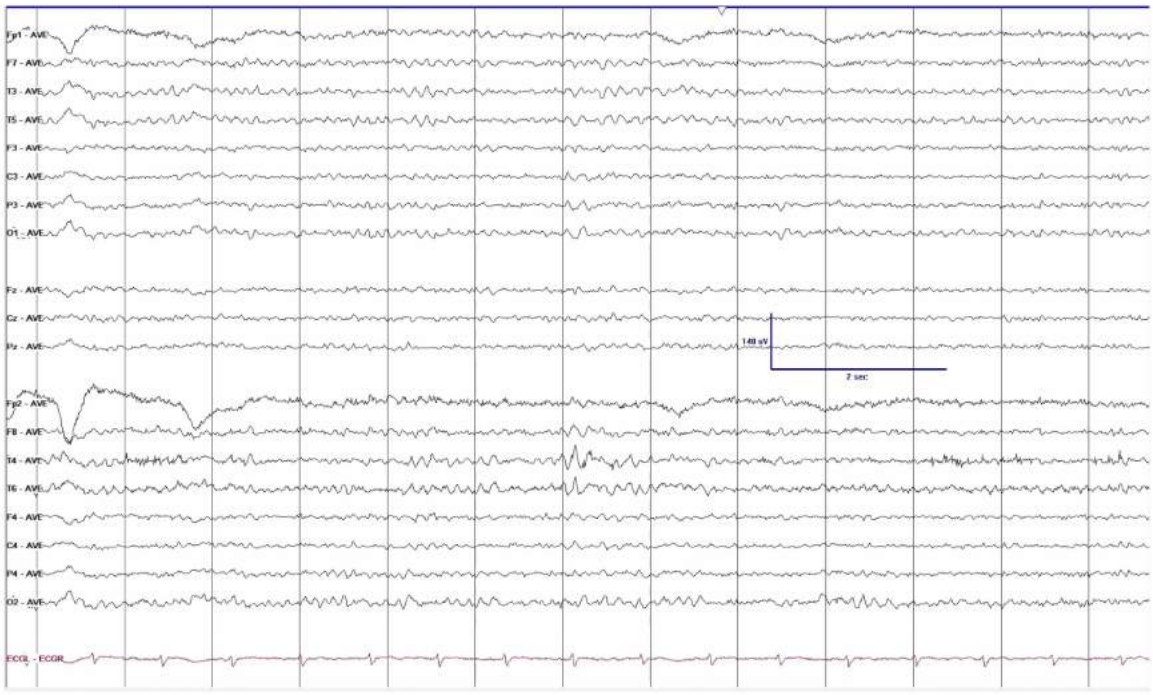
A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 137. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 45 - Level of difficulty

* 138. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 46 - Clinical history

A 16-year-old right-handed female with a history of anxiety and panic attacks presented after an event at school characterized by a feeling of warmth and a "fuzzy" sensation in her head, followed by loss of awareness.

She reported that she had ringing in her ears and felt as if she were about to pass out just prior to the event. She regained awareness after a few minutes but was very tired and slept most of the day. There were similar episodes the following two days and she was ultimately taken to the emergency department. There were no abnormal movements during these spells.

Her examination was unremarkable.

* 139. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 46 - Neuroimaging & EEG

A 16-year-old right-handed female with a history of anxiety and panic attacks presented after an event at school characterized by a feeling of warmth and a "fuzzy" sensation in her head, followed by loss of awareness.

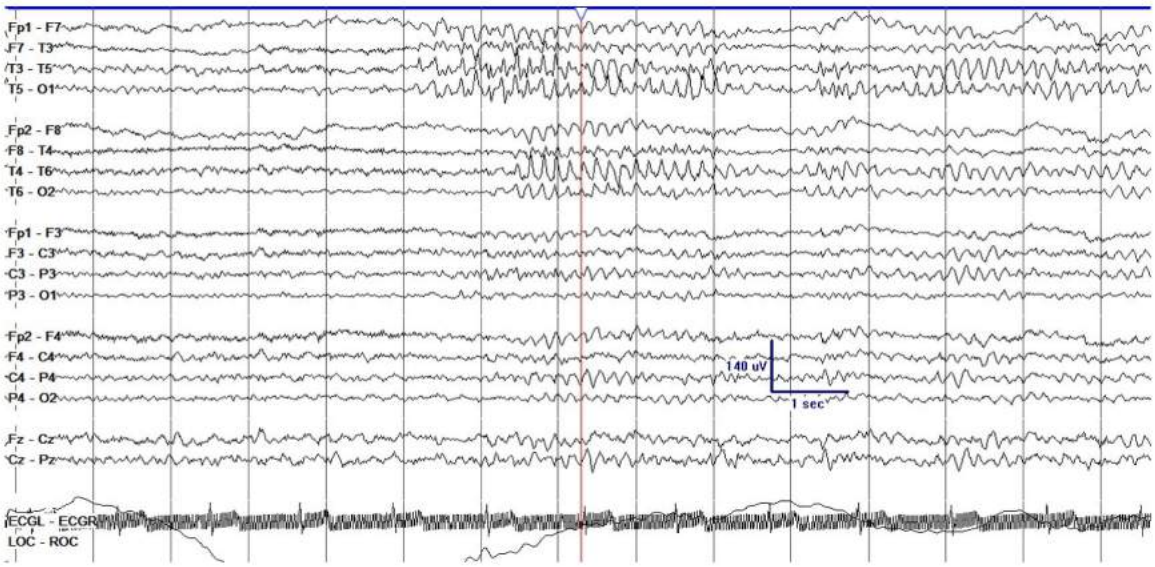
She reported that she had ringing in her ears and felt as if she were about to pass out just prior to the event. She regained awareness after a few minutes but was very tired and slept most of the day. There were similar episodes the following two days and she was ultimately taken to the emergency department. There were no abnormal movements during these spells.

Her examination was unremarkable.

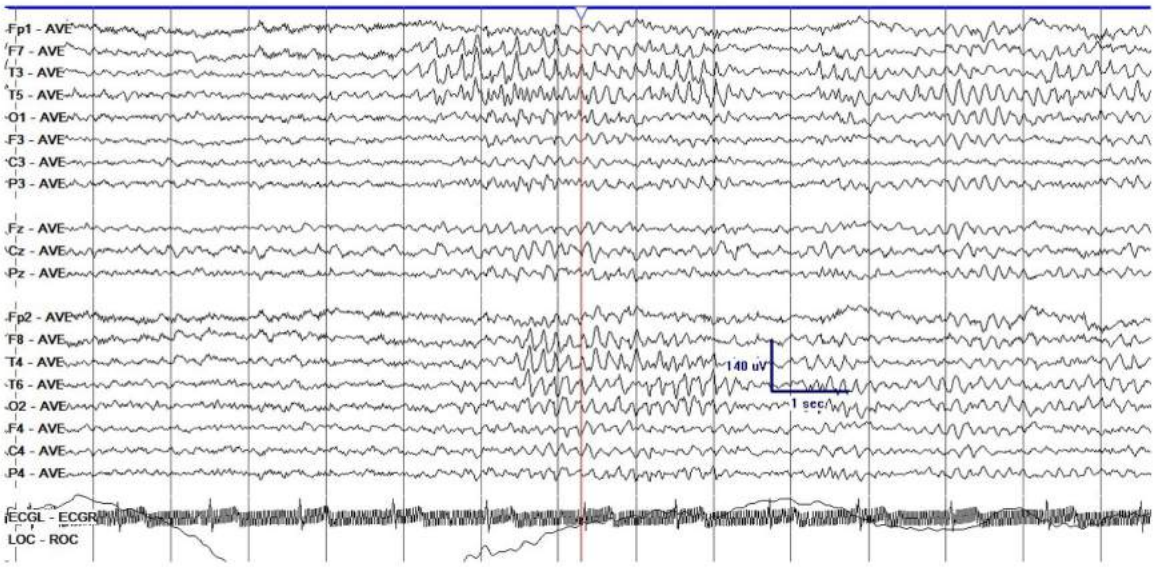
A brain MRI three months later showed a small cavernous malformation in the left angular gyrus.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 140. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 46 - Level of difficulty

* 141. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 47 - Clinical history

A 70-year-old right-handed female with a history of hyperlipidemia presented with intermittent gait disturbance, right arm incoordination and double vision that began 2 months prior. She also reported a "fuzzy" feeling in her head and was "not feeling herself" over the same time period. Other symptoms included intermittent, mild headache, as well as brief episodes of bilateral leg shaking and generalized jerking movements. Symptoms were worse in the morning.

Her exam was remarkable for poor recall, mild left pronator drift and orbiting, and significant bilateral dysmetria (worse on the left), truncal ataxia, and gait dysfunction.

* 142. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 47 - Neuroimaging & EEG

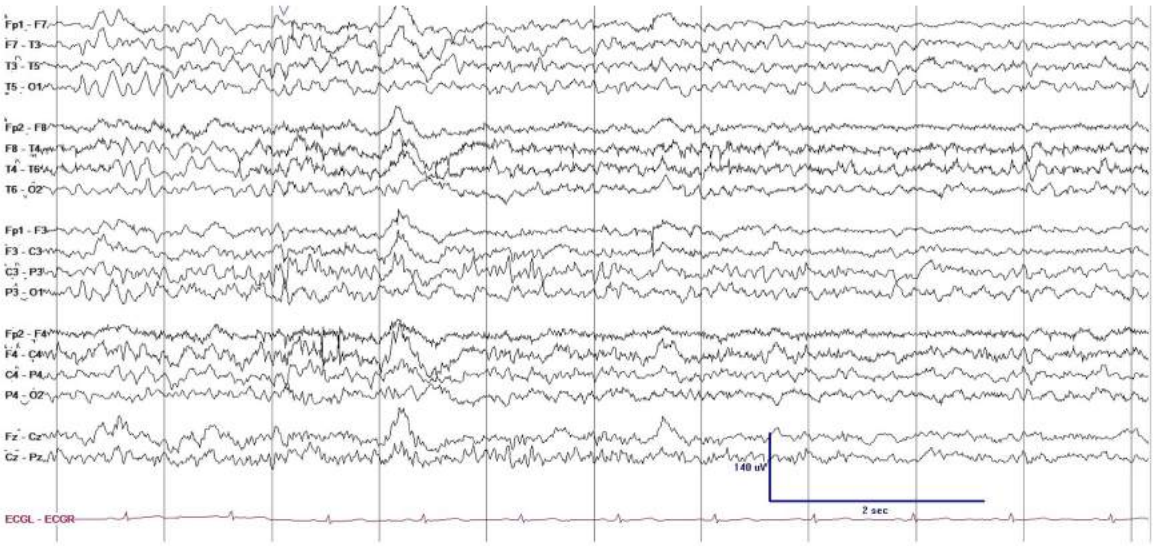
A 70-year-old right-handed female with a history of hyperlipidemia presented with intermittent gait disturbance, right arm incoordination and double vision that began 2 months prior. She also reported a "fuzzy" feeling in her head and was "not feeling herself" over the same time period. Other symptoms included intermittent, mild headache, as well as brief episodes of bilateral leg shaking and generalized jerking movements. Symptoms were worse in the morning.

Her exam was remarkable for poor recall, mild left pronator drift and orbiting, and significant bilateral dysmetria (worse on the left), truncal ataxia, and gait dysfunction.

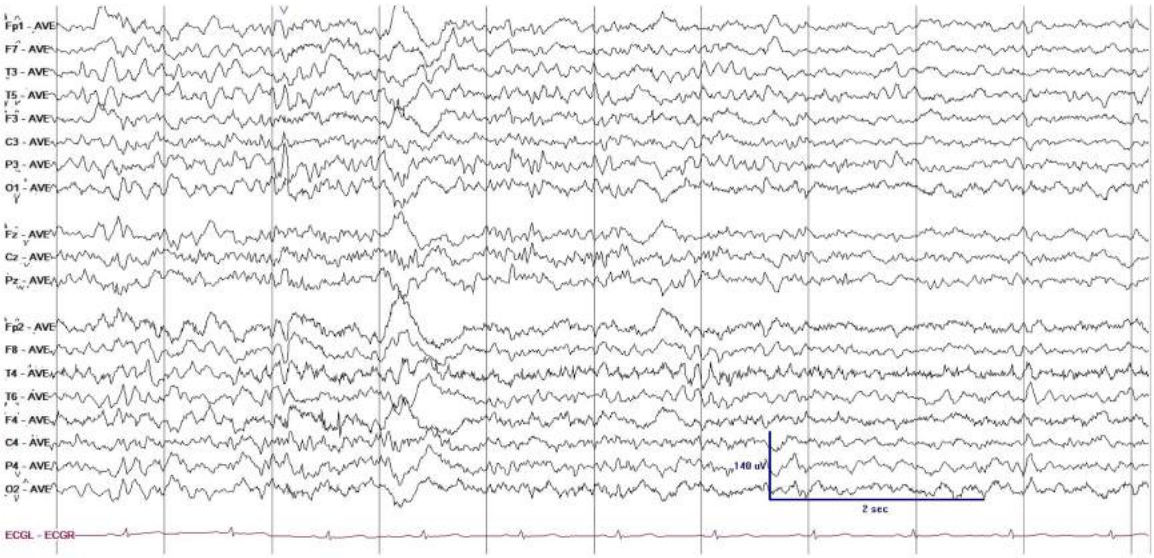
A brain MRI was remarkable for subtle, symmetric, abnormal diffusion restriction with associated T2 FLAIR hyperintensity in the basal ganglia and insular regions, left more than right.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 143. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 47 - Level of difficulty

* 144. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 48 - Clinical history

A 72-year-old right-handed female with a history of syncopal episodes beginning 10 years prior, complete atrio-ventricular block status post pacemaker implantation, atrial fibrillation, Meniere's disease, and obstructive sleep apnea presented after one spell of loss of awareness 8 months prior.

She was sitting with friends and eating lunch when she suddenly had flushing and collapsed at the table. The loss of awareness lasted 30 seconds, and there were no abnormal movements. She was noted to be tachycardic during the event.

She underwent interrogation of the pacemaker. There were four ventricular high rate episodes (maximal of 197 bpm) over the prior months including during the above-mentioned spell.

She had a complex febrile seizure as an infant. There was no family history of seizures/epilepsy, traumatic brain injury, or central nervous system infection.

Her exam was unremarkable.

* 145. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 48 - Neuroimaging & EEG

A 72-year-old right-handed female with a history of syncopal episodes beginning 10 years prior, complete atrio-ventricular block status post pacemaker implantation, atrial fibrillation, Meniere's disease, and obstructive sleep apnea presented after one spell of loss of awareness 8 months prior.

She was sitting with friends and eating lunch when she suddenly had flushing and collapsed at the table. The loss of awareness lasted 30 seconds, and there were no abnormal movements. She was noted to be tachycardic during the event.

She underwent interrogation of the pacemaker. There were four ventricular high rate episodes (maximal of 197 bpm) over the prior months including during the above-mentioned spell.

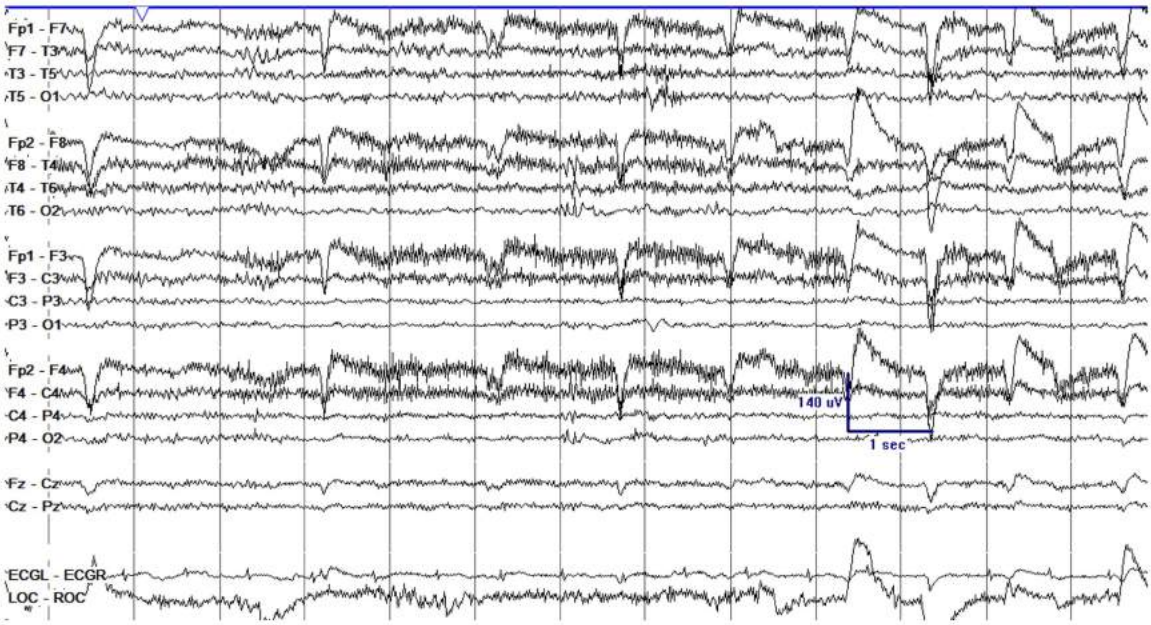
She had a complex febrile seizure as an infant. There was no family history of seizures/epilepsy, traumatic brain injury, or central nervous system infection.

Her exam was unremarkable.

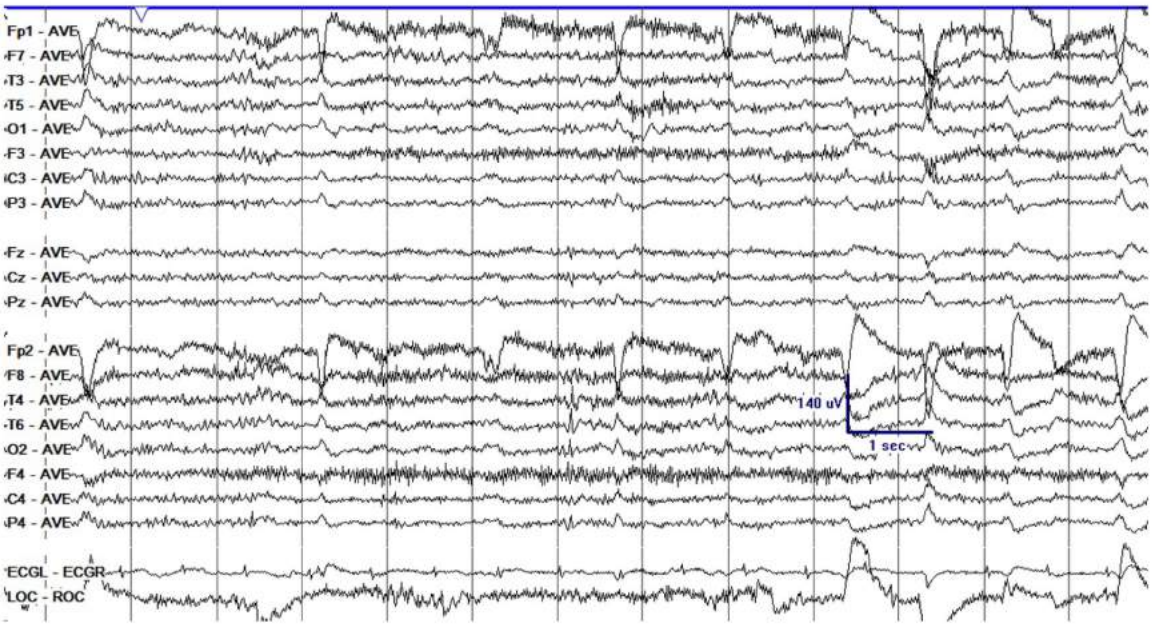
She did not undergo neuroimaging.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 146. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 48 - Level of difficulty

* 147. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 49 - Clinical history

A 14-year-old right-handed female with a history of anxiety, depression, and suicidality presented with self-harm and intermittent visual and auditory hallucinations that began several months prior.

There was no known family history of seizures/epilepsy.

Her exam was remarkable for flat affect and short-ended answers.

* 148. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 49 - Neuroimaging & EEG

A 14-year-old right-handed female with a history of anxiety, depression, and suicidality presented with self-harm and intermittent visual and auditory hallucinations that began several months prior.

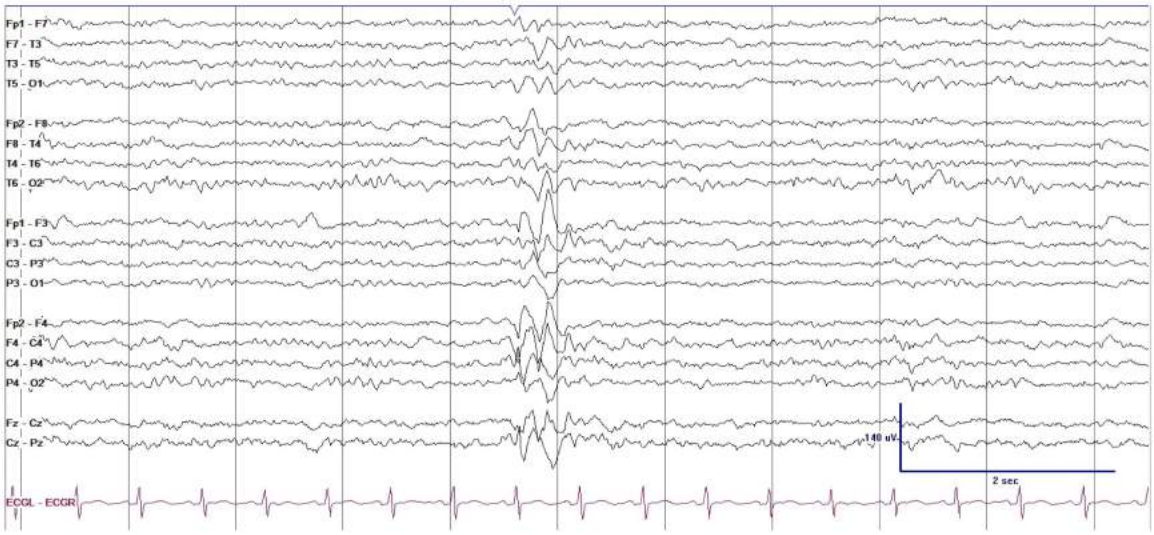
There was no known family history of seizures/epilepsy.

Her exam was remarkable for flat affect and short-ended answers.

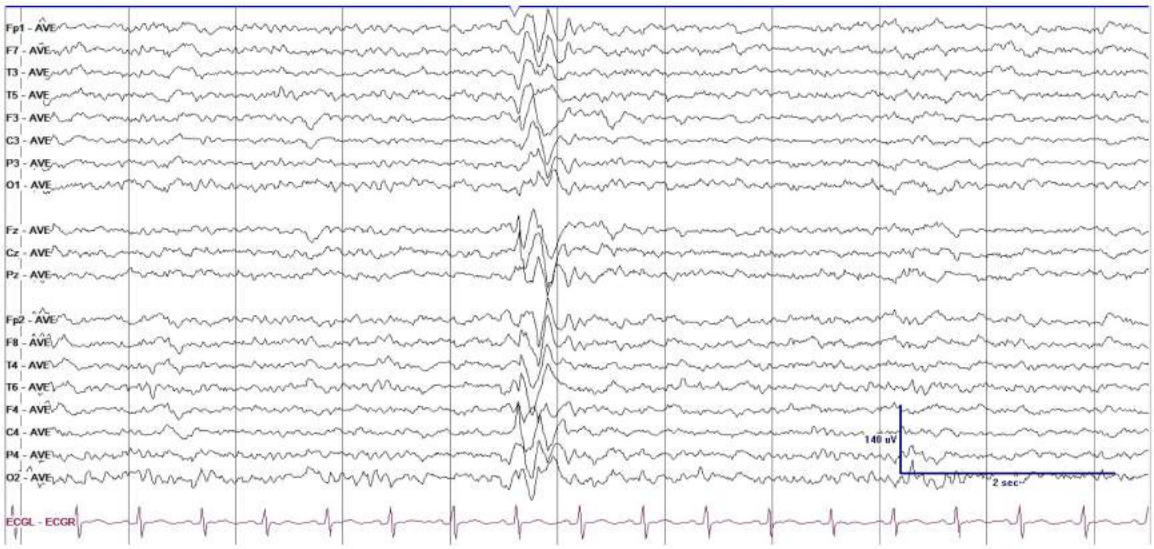
A brain MRI was unremarkable.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 149. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 49 - Level of difficulty

* 150. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult

Monkey 2 - Phase 1 (2023)

Case 50 - Clinical history

A 7-year-old right-handed boy presented with episodes of dizziness, nausea, and lightheadedness. These spells lasted 5-10 minutes, and occurred approximately monthly for one year. There was no impairment/loss of awareness, and no abnormal movements, tongue biting, or bowel/bladder incontinence.

There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures/epilepsy.

His exam was unremarkable.

* 151. Based on the clinical data, what is the likelihood this patient has epilepsy?

- ◯ Low enough to conclude that this patient does not have epilepsy and an antiseizure drug should not be started
- ◯ Intermediate thus requiring further testing: neuroimaging and EEG
- ◯ High enough to conclude that this patient has epilepsy and an antiseizure drug should be started

Monkey 2 - Phase 1 (2023)

Case 50 - Neuroimaging & EEG

A 7-year-old right-handed boy presented with episodes of dizziness, nausea, and lightheadedness. These spells lasted 5-10 minutes, and occurred approximately monthly for one year. There was no impairment/loss of awareness, and no abnormal movements, tongue biting, or bowel/bladder incontinence.

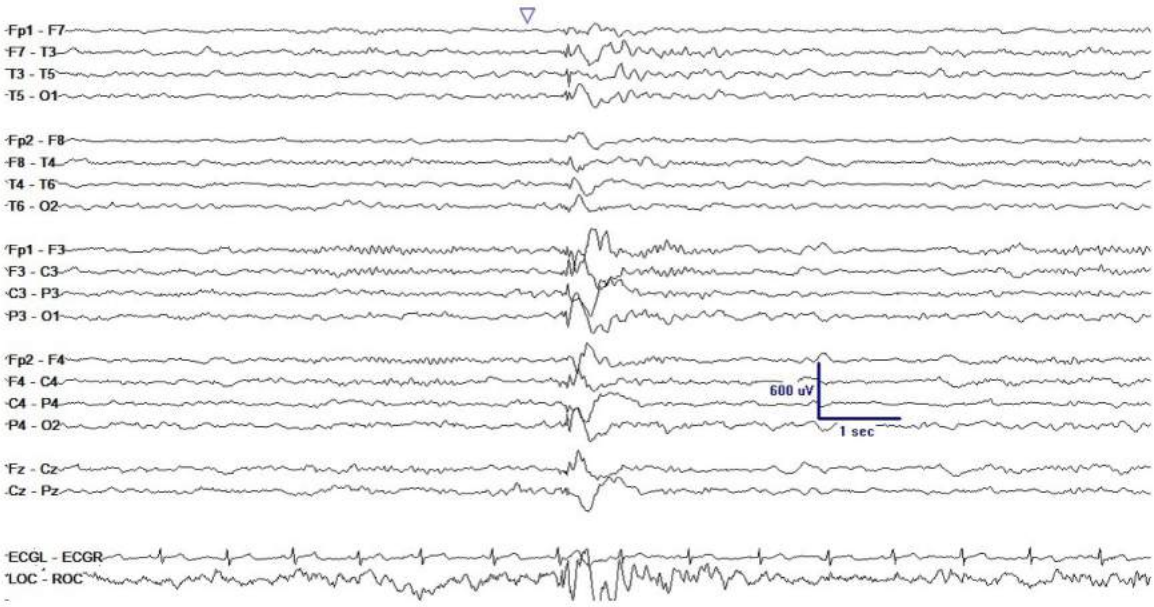
There was no history of febrile seizures, central nervous system infection, traumatic brain injury, or family history of seizures/epilepsy.

His exam was unremarkable.

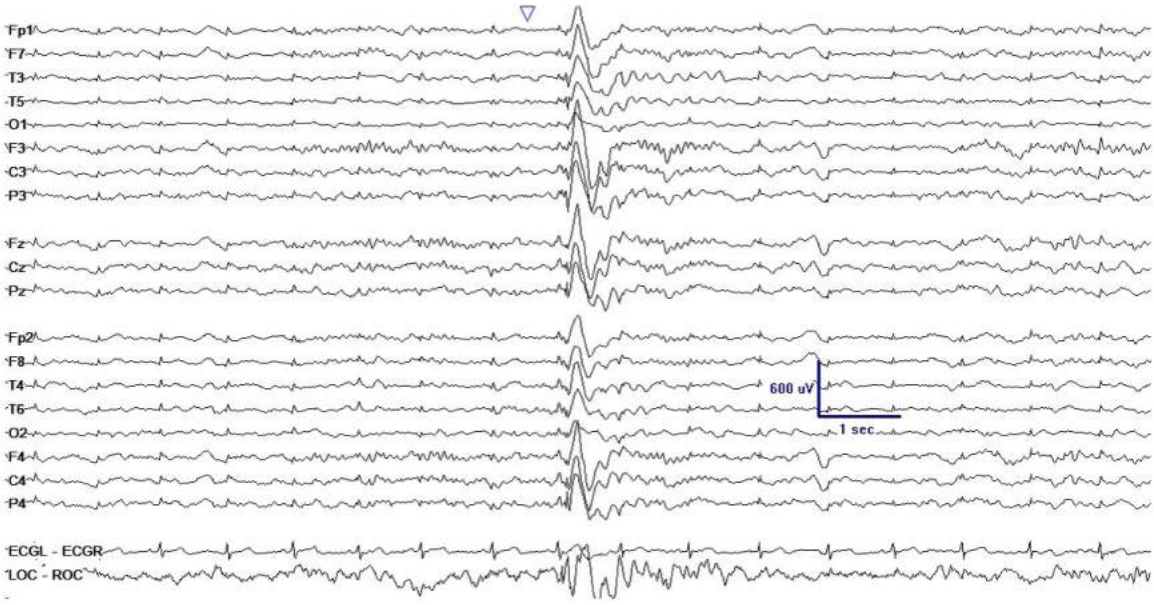
A brain MRI was remarkable for an infra-sellar cyst.

A representative sample of this patient's EEG is shown below.

Bipolar



Average



* 152. Based on the clinical data, neuroimaging, and EEG, do you think this patient has epilepsy?

- ◯ Yes: this patient has epilepsy and an antiseizure drug should be started
- ◯ No: this patient does not have epilepsy and an antiseizure drug should not be started

Monkey 2 - Phase 1 (2023)

Case 50 - Level of difficulty

* 153. Please rate the level of difficulty of this case (accounting for all the available data: clinical information, neuroimaging, EEG) in terms of determining whether or not this patient has epilepsy.

- ◯ Very easy
- ◯ Easy
- ◯ Neither easy nor difficult
- ◯ Difficult
- ◯ Very difficult