

History and diagnosis

Current presentation

- A 28-year-old, right-handed female patient presented when her colleagues noticed that she had been demonstrating episodes of blank staring and chewing movements lasting 2-3 minutes for the past six months.
- She had the feeling of poor memory and always making an error on her job, resulting in she was condemned by her boss, making she was frustrated and lose of motivation for working.
- She came to see the psychiatrist and was refer to epileptologist.

Past history

- Patient had the first seizure at the age of 3 years. She was challenged on phenytoin which resulted in seizure freedom. After three years of being seizure free, phenytoin was discontinued.
- The patient was seizure free until current presentation.
- There was no history of febrile seizures, CNS infections or major head trauma.
- There was no family of epilepsy

Personal history

She get the master degree in public administration with GPA 4.00

Working in the department of skill development, Ministry of Labor

Physical examination

- The following observations were made on physical examination:
 - o Facial angiofibroma on her nose
 - o Pedal digits displaying multiple lobulated fibromas

Perampanel Treatment Multifocal Epilepsy : 12 Months Follow Up

Tinokorn Yadee

Tinokorn Yadee
Comprehensive Epilepsy Centre,
Department of Neurology Prasat Neurological Institute

Corresponding author:
Tinokorn Yadee
Comprehensive Epilepsy Centre,
Department of Neurology Prasat Neurological Institute
312 Rachavithi road, Phayathai, Bangkok 10400
Email: Dontororo9@gmail.com
Tel. +6623069899, Fax +6623547085

- o Hypomelanotic macules (size 1-1.5 cm) on her back
- o No Shagreen patches or retinal nodular hamartomas
- o No other definite neurological deficits.



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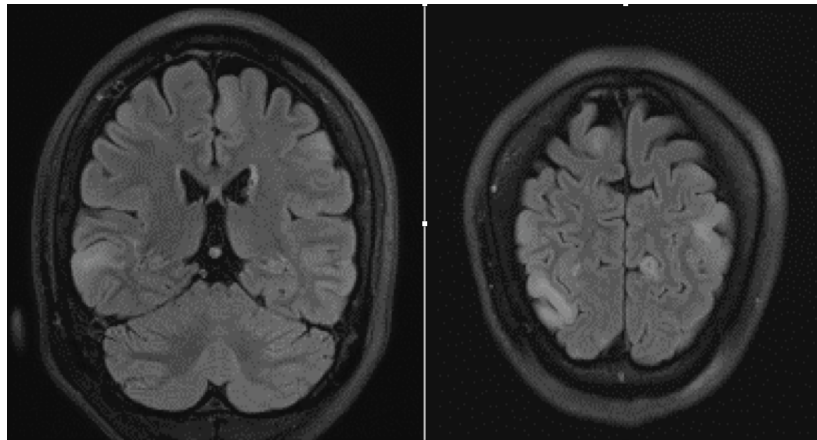
- Impression: Tuberous sclerosis with localized symptomatic epilepsy with impaired

awareness

Investigation

- Routine EEG: sharp wave at left frontotemporal, maximum FT9 (60%) and right frontocentral, maximum F4 (40%) conclusion: multifocal epilepsy arising from left fronto-temporal and right frontal areas

- MRI brain (epilepsy protocol): Multiple cortical tubers associated with superficial white matter abnormality and radial white matter band in bilateral cerebral hemisphere were seen. Several tiny subependymal nodules along bilateral lateral ventricle were also seen, with no evidence of subependymal giant cell tumor. Mild left hippocampal sclerosis was observed.



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Diagnosis

Tuberous sclerosis with localized symptomatic epilepsy with impaired awareness

Management

- Treatment was initiated with levetiracetam 500 mg twice daily. Seizure frequency reduced to once a month, but two months later patient complained of depression and presented with labile mood.

- Levetiracetam was tapered off and carbamazepine (with HLAB*1502 negative result) was initiated. Unfortunately, the patient developed drug eruption because of which carbamazepine was discontinued.

- Zonisamide was initiated and titrated to 400 mg per day. This was well tolerated but seizures continued at a frequency of twice a month.

- After three months of sub-optimal response to zonisamide monotherapy, perampanel was

initiate and slow tritrated starting from 2 mg once daily for 2 weeks then increase 2 mg once daily every 2 weeks until achieve 8 mg per day adding to the treatment regimen without any adverse events.

Outcome

- At the three-month follow-up after initiating perampanel, seizure frequency was reduced to one seizure in 3 months with no side effect from both AEDs
- In the following 12 months, patient reported that she was seizure free. During this zonisamide was gradually reduced to 200 mg/d and perampanel continue at 8 mg /d without adverse event.
- The patient confidence for working again because she felt her memory improve and has not had blank staring.

Expert commentary

The ideal AED should be effective in controlling seizures completely, resulting in sustained seizure freedom with no unwanted adverse effects.¹ However, currently available AEDs not only fail to control seizure activity in some patients but also produce adverse effects frequently. Physicians must choose the appropriate AED or combination of AEDs to control seizures with a favorable short and long-term safety and tolerability profile. In general, complete control of seizures by monotherapy can be achieved in only 50% of patients with epilepsy, while another 25% of patients show significant improvements. Factors to be considered when selected an AED include likelihood of seizure recurrence, the consequences of continuing seizures, and the beneficial and adverse effects of the AED in preventing recurrence.²

Although levetiracetam and carbamazepine are first line AEDs for the treatment of focal epilepsy, in this patient they produced adverse effects

leading to discontinuation. Zonisamide is also a first line AED for focal seizures - in this patient it was able to reduce the frequency of seizures and was well-tolerated, but seizure freedom was not achieved. Combination therapy with zonisamide and adjunctive AEDs was the next consideration.

AEDs with novel mechanism of action, such as perampanel, can be used as adjunctive therapy to achieve seizure control and avoid toxicity^{3,4}. Indeed, the efficacy and tolerability of adjunctive perampanel in patients with epilepsy has been demonstrated in clinical studies as well as in real-world settings⁵. In the current patient, perampanel led to cessation of seizures with no adverse event and the patient was seizure free for the past 12 months. The other crucial point is the social issue, this patient was criticized and blamed from her boss and her colleagues when she always made an error of the job because they don't understand about her illness and she need to get treatment leading to she had the feeling of downhearted and loss of motivation for working. After she get treatment her life was changed and she was able to go back to work again with her fully self-esteem and well understand from her colleagues.

References

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