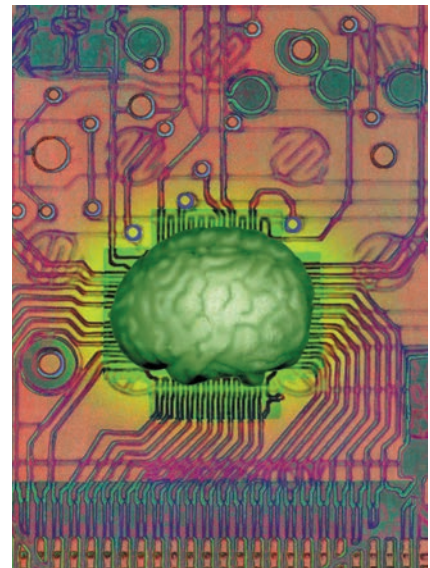


Test your knowledge

Up to 5% of the population will have a form of seizure during their lifetime; 1% will go on to have further seizures requiring treatment. In the past few years, new and effective antiepileptic drugs have been developed. Are you up to date on the treatment of epilepsy?

The multiple choice questions in this quiz may have more than one answer.

- Which of the following point towards a diagnosis of epilepsy rather than syncope?
 - attacks occurring when the person is either awake or asleep
 - loss of consciousness occurring while the person is standing only
 - a seizure lasting less than 20 seconds
 - episodes accompanied by incontinence of urine
 - a family history of epilepsy
- The EEG is a cornerstone in the diagnosis and investigation of epilepsy. Which of the following are true of EEG studies in epilepsy?
 - a patient with a normal EEG does not have epilepsy
 - an EEG may be helpful if performed within 24 hours after a seizure
 - a single EEG will be normal in approximately 50% of people with epilepsy
 - hyperventilation may precipitate abnormalities during an EEG trace
 - sleep deprivation may precipitate abnormalities in an EEG trace
- What is the most sensitive and specific way of imaging the brain in an adult presenting for the first time with seizures?
 - a skull x-ray
 - an MRI scan
 - a CT scan
 - nuclear medicine brain scan
 - a PET scan
- Seizures are classified as partial or generalised. Which of the following are true of partial seizures?
 - partial seizures may be motor or sensory
 - consciousness is never impaired in partial seizures
 - incontinence never occurs in partial seizures
 - automatic acts can occur
 - people never bite their tongue during a partial seizure
- Which of the following medications are first line drugs for treatment of partial seizures?
 - phenytoin
 - carbamazepine
 - oxazepam
 - diazepam
 - oxcarbazepine
- Which of the following medications are first line treatments for generalised seizures?
 - phenytoin
 - phenobarbital
 - diazepam
 - sodium valproate
 - oxazepam
- Unfortunately, a number of useful antiepileptic drugs can cause side effects, including rash, when first prescribed. Occasionally, the Stevens–Johnson syndrome is seen. Which of the following are danger signs that should lead to immediate review of continuing use of the drug if a rash develops?
 - a fever above 40°C
 - palpable purpura
 - lymphadenopathy
 - facial oedema
 - sweating
- Measurement of plasma drug levels is commonly performed in people on antiepileptic medication. How does this help in management?
 - antiepileptic drugs never have toxic effects if plasma drug levels are in the therapeutic range
 - side effects are always seen above the upper limit of the therapeutic range
 - plasma drug levels act as a guide – it is possible to increase the drug dose if its level is at the upper limit of the normal range if a patient is still having seizures and has no side effects
 - in some patients, seizures can be controlled when the plasma drug concentration is below the therapeutic range
 - seizures cannot be controlled if the plasma drug concentration is below the therapeutic range.



Reference

- Browne TR, Holmes GL. Epilepsy. *N Engl J Med* 2001; 344(15): 1145-1152.

Answers appear on page 128

Clinical quiz answers

(to questions on page 107)

1. a, d, e

Occasionally it is difficult to separate epilepsy from syncope on history alone. However, the following features each point to epilepsy: a family history, episodes while the patient is asleep or awake, episodes lasting for more than one minute, or accompanying incontinence.

2. b, c, d, e

A single EEG is normal in approximately 50% of people with epilepsy. An EEG performed within 24 hours of a seizure may not be as helpful in providing accurate information about the source of the abnormal electrical activity as a tracing done more than 48 hours after a fit, although some recent papers have suggested that it might be. Hyperventilation and sleep deprivation can precipitate abnormal electrical activity and seizures.

3. b

An MRI scan, although expensive, is the investigation of choice because it is better able to demonstrate smaller tumours or mesial temporal sclerosis than a CT scan.

4. a, d

The pattern of partial seizures depends on whether they are simple, complex or secondary. In simple partial seizures, signs and symptoms may be motor or sensory. There is no loss of consciousness in simple partial seizures; however, this can occur in complex partial and secondary generalised partial seizures (when there is a focal onset that spreads to both hemispheres). Incontinence and tongue biting can occur in secondary generalised partial seizures, so these signs do not help to distinguish between partial and generalised seizures.

5. a, b

Phenytoin and carbamazepine are the drugs used in first line treatment of partial seizures. Diazepam is used in the emergency treatment of epilepsy, but not as a maintenance anticonvulsant. Recently, oxcarbazepine has been approved in Australia for partial seizures, but its role is not yet clear.

6. a, d

Phenytoin and sodium valproate are first line drugs in the treatment of generalised grand mal seizures. Many other medications are useful in patients who do not respond to these drugs.

7. a, b, c, d

Stevens–Johnson syndrome can be lethal. Urgent review is required if a patient taking an anticonvulsant develops a high fever, skin pain or necrosis, confluent erythema, lymphadenopathy or palpable purpura.

8. c, d

The therapeutic range of plasma drug levels for antiepileptic drugs is a guide – some people will have their seizures controlled with a level below the recommended range and some people require and tolerate levels above the recommended range. Side effects can occur when levels are well within the range.