Novel treatment (new drug/intervention; established drug/procedure in new situation)

Maintaining electroconvulsive therapy for refractory epilepsy combined with psychotic symptoms

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Summary

Electroconvulsive therapy (ECT) is an effective treatment for many psychiatric conditions. However, using ECT to treat epilepsy is controversial. We present this case of a patient who had epilepsy and combined psychiatric symptoms, including irritable mood, aggressiveness, refusal of food intake and non-cooperation with medical care. Her brain CT revealed massive brain lesions. After ECT, she became dramatically more cooperative, less aggressive and ate food and took her medication. In addition, no spontaneous seizure was noted after ECT. However, when we stopped ECT, the previous symptoms gradually reappeared. We therefore regularly administered ECT once or twice a week to maintain the patient's stable condition. We suggest that ECT may be considered for maintenance of the patient with epilepsy who is refractory or uncooperative to other treatment.

BACKGROUND

Electroconvulsive therapy (ECT) is an effective treatment for many psychiatric conditions. Although ECT to treat epilepsy is still controversial, it should be considered in a patient with epilepsy who also has a psychiatric disorder requiring ECT. We discuss the case of a patient with epilepsy who persistently refused to eat or take anticonvulsant medication.

CASE PRESENTATION

A female patient was admitted to our hospital for long-term hospitalisation 32 years ago, when she was approximately 30 years of age. Her identity was unknown. During admission, she had frequent seizures, and also had poor verbal communication, was irritable, and refused to eat or take medicine required for non-convulsive status epilepticus. At the time she was diagnosed as having epilepsy with psychosis. Over the following 30 years, she was administered many antiepileptic (including phenytoin, carbamazepine, phenobarbital and valproate) and antipsychotic drugs, but her symptoms persisted.

Ten years ago, she was treated with ECT two to three times a week for about 6 months due to refusal to eat and loss of weight. The effect was marked and no spontaneous seizure was noted during those 6 months. However, over the next 9 years she was treated with medication only. Since it is quite difficult to get her to take her medicine, spontaneous seizures occasionally occurred. The patient was sometimes hurt when she fell during a seizure.

Four months ago she was admitted to the acute ward due to aggression and refusal to eat with loss of weight. A nasogastric tube was inserted for feeding but was pulled off by her within an hour.

INVESTIGATIONS

The patient accepted a brain CT examination 8 years ago after one episode of head concussion due to a seizure. CT revealed diffuse brain cerebral and cerebellar atrophy and

multiple brain lesions, with the most severe lesions located in the right temporal and frontoparietal areas.

DIFFERENTIAL DIAGNOSIS

This patient usually had disorganised behaviour and verbal expression with clear consciousness and no catatonic-like movement, and so did not meet the criteria of catatonia. The massive brain lesions shown by CT suggested that organic brain syndromes may explain her refusal to eat and non-cooperation.

TREATMENT

We restarted ECT immediately after admission. The patient quickly became much more cooperative, and accepted food and medicine. ECT was performed twice a week for 6 weeks, the patient's weight increased, and no seizures were noted. However, when we stopped ECT, the previous symptoms gradually reappeared, so regular ECT was again administered once or twice a week.

OUTCOME AND FOLLOW-UP

The patient's clinical condition became much stable under this treatment regime.

DISCUSSION

Griesemer *et al* reported that he treated two children with intractable epilepsy with ECT for seizure control, with a fair clinical effect.¹ Kellner and Fink also emphasised that ECT was a reasonable alternative for the treatment of intractable status epilepticus.² In light of the fact that ECT increases seizure thresholds with repetitive convulsions, it should be used more frequently to treat epilepsy.

Besides, the inverse relationship between seizure control and the occurrence of psychotic symptoms has long been observed. Landolt described 'normalisation' of EEG recordings with the appearance of psychiatric symptoms and coined the term 'forced normalisation'.³ This phenomenon

is also known as 'paradoxical normalisation' or 'alternative psychosis'. The opposite relationship between psychosis and epilepsy has been used to explain the therapeutic effect of ECT for psychotic disorders. Forced normalisation has been observed in a subgroup of patients with interictal psychosis and provided justification for using ECT in the treatment of resistant cases of epileptic psychosis. Regenold *et al* used ECT to treat a geriatric patient with complex-partial seizures, major depression and refusal of antidepressants and antiepileptics with reasonable clinical results.⁴ Recently, Weaver described a patient with epilepsy and chronic depression who intermittently went without anticonvulsants so that spontaneous seizures would relieve depression.⁵

Regarding the case discussed here, the administration of anticonvulsants was problematic as the patient refused medicine, even when mixed with food. However, if we used ECT to make her more cooperative, anticonvulsants would inhibit the effect of ECT. In our experience, the patient who is taking anticonvulsants can still be given ECT and experiences a generalised seizure, although a higher voltage is needed. So were anticonvulsants really necessary for this patient or could we treat refusal to eat and unexpected seizures using ECT only? We chose ECT and stopped all medications, and achieved a good clinical effect.

For long-term care of this patient, maintaining ECT for years is not practical, so could regular spontaneous seizures be allowed to function as natural ECT? Since this patient had lower leg weakness and is under close nursing care,

spontaneous seizures should not hurt her. Maybe we should consider this possibility if it is not possible to maintain ECT.

The case reported here might support a different treatment option for patients with epilepsy and psychosis who refuse to eat.

Learning points

- Maintaining ECT may be considered for patients who have epilepsy and psychiatric symptoms and are refractory or uncooperative to other treatments.

Competing interests None.

Patient consent Obtained.

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