Unexpected outcome (positive or negative) including adverse drug reactions

Psychosis and temporal lobe epilepsy-role of electroconvulsive therapy

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Correspondence to Professor Amin Gadit, amin.muhammad@med.mun.ca**Summary**

A 49-year-old female presented for admission with features of being withdrawn, inability to comprehend questions, auditory hallucinations and disorganised thoughts. She also had a previous diagnosis of temporal lobe epilepsy. She did not respond well to psychotropic medications. During her sleep deprived EEG, she had a brief episode of seizures. Following this, she showed improvement in psychosis for a day or so. Based on this finding, it was decided to initiate a course of electroconvulsive therapy. She improved remarkably on six treatments. At the time of discharge, she was in a stable condition.

BACKGROUND

The beneficial effects of seizure on the psychosis prompted us to initiate electroconvulsive therapy (ECT) which resulted in marked improvement in the patient's clinical condition. It appears that ECT can be a treatment of choice for patients suffering from psychosis associated with temporal lobe epilepsy (TLE).

CASE PRESENTATION

A 49-year-old female was brought into emergency after being found in her home with a decreased level of consciousness. She was admitted to psychiatry unit initially for a possible drug overdose, however no laboratory evidence was found to support this. During her initial hospital stay, she admitted to auditory hallucinations, was withdrawn, had flattened affect, poverty of speech, disorganised thoughts, paranoid ideation and an intense stare.

Her medical history included arthritis and absence seizures diagnosed at approximately 2 years of age; Aplastic anaemia secondary to carbamazepine. It is important to mention that she had multiple previous admissions with similar presentation and of longer durations with minimal improvement in clinical profile. Previous psychiatric diagnoses included bipolar affective disorder, psychosis NOS, psychosis secondary to epilepsy, delusional disorder, schizoaffective disorder, borderline personality disorder and substance abuse (alcohol).

Current medications are clonazepam 0.5 mg nightly, mirtazapine 30 mg nightly, vitamin B12 100 mcg daily, folic acid 5 mg daily, phenytoin 100 mg in the morning and 130 mg nightly, risperidone 4 mg nightly and zopiclone 7.5 mg nightly.

She is one of seven children with a reported normal birth and milestones on previous admissions. She completed grade 8; neuropsychology testing showed cognitive functioning on the WAIS-III in the borderline to extremely low range. She had difficulties with alcohol abuse in her teen and early 20's and also had legal difficulties in that age. She had reported physical abuse in relationships in her 20s

and 30s with possible head injury. Her children have been removed from her care since their births. She currently is single, lives alone, unemployed and supported on social assistance.

Her family history includes a brother with mental retardation and her mother who died when the patient was 15 years old was reported to have odd behaviours and psychosis was queried as a possible diagnosis.

INVESTIGATIONS

Investigations on admission include complete blood count, electrolytes, liver function tests, EKG, urinalysis and CAT scan without contrast of her head which were all within normal limits with the exception of a slightly elevated alkaline phosphatase, mean corpuscular volume (MCV) elevated. During her admission she had a routine EEG which was reported normal and sleep deprived EEG that was discontinued early secondary to postictal confusion following a 3 min seizure without provocation. The seizure was reported to originate in the left hemisphere which corresponded to a prior EEG in 2005 with an origin in the left fronto-temporal region. Blood work was followed while in hospital and MCV continued to be elevated despite a normal vitamin B12 level and treatment with folic acid, her γ -glutamyltransferase was elevated. She had a chest x-ray which was within normal limits. She had consultations by neurology and anaesthesia as well she had a second opinion within psychiatry and a capacity assessment was completed.

DIFFERENTIAL DIAGNOSIS

Psychosis secondary to TLE.

Differential diagnosis includes schizophrenia, psychosis NOS, schizoaffective disorder, major depressive disorder, with psychotic features.

TREATMENT

The patient was initially treated with risperidone which was titrated up to 4 mg daily however she showed no

improvement. Neurology did not recommend changes to her anticonvulsants secondary to past severe adverse side effects. She showed marked improvement after a 3 min seizure during a sleep deprived EEG. She showed improvement in her speech, affect, thoughts and interaction. Thus a six-session course of ECT was discussed and agreed to. She continued her treatment for TLE during ECT regime. A neurologist had prescribed phenytoin to her for this condition.

OUTCOME AND FOLLOW-UP

She was markedly improved with ECT treatment. A follow-up appointment with her out-patient psychiatrist was arranged for 2 weeks.

DISCUSSION

This case report is atypical in the sense that there is hardly any report in the literature which could indicate the role of ECT in TLE associated psychosis. The patient's presentation was also quite unusual and atypical. A Polish case report¹ identified therapeutic difficulties in similar type of case. The case features of paroxysmal auditory hallucinations with concomitant anxiety and motor automatisms. There was an improvement with only antiepileptic drugs. In another case report,² where refractory psychosis was initially diagnosed, the condition remained refractory in a 27-year-old female who was treated with antipsychotic medications. With rigorous investigations, it was transpired that she was suffering from Psychosis of epilepsy. Treatment with amisulpride and lamotrigine achieved excellent response. A case series³ illustrated that epileptic patients may experience non-convulsive seizures that are mistaken for psychiatric illnesses. In such cases, video EEG-telemetry and MRI were recommended if routine EEG and CT scan remain normal. A Brazilian study⁴ found

that patients with TLE had a high frequency of lifetime psychiatric disorders (70%), the most frequent being mood disorders (49.3%). Structured psychiatric interviews were emphasised by Bragatti JA *et al*⁵ in a study on Southern Brazilian population. Improvement in this patient's psychosis was an incidental finding after a seizure; this led to ECT treatment and could be an option in other patients suffering with similar conditions.

Learning points

- ▶ Seizures are therapeutic for psychosis.
- ▶ Psychosis associated with TLE can present in a bizarre manner.
- ▶ Patient on antiepileptic treatment in order to prevent seizures can benefit from external induction of seizure through ECT.

Competing interests None.

Patient consent Obtained.

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Please cite this article as follows (you will need to access the article online to obtain the date of publication).

Miffen Anderson N, Gadit A. Psychosis and temporal lobe epilepsy-role of electroconvulsive therapy. *BMJ Case Reports* 2012;10.1136/bcr.03.2012.6056, Published XXX

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