

## Effect of antipsychotics in epilepsy patients with psychiatric symptoms

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**Background and Objective:** Psychiatric co-morbidity in epilepsy patients is common, often requiring the use of antipsychotic drugs. However, antipsychotics may not be administered at dosages adequate for therapeutic gain because it is generally believed that seizure threshold may be lowered. We evaluated the effect of antipsychotics, especially in terms of seizure control, in epilepsy patients with psychiatric symptoms.

**Methods:** Subjects were 70 epilepsy patients with psychiatric symptoms who were admitted to our hospital between April 2001 and March 2006 and given antipsychotics for the first time (37 men and 33 women; mean  $\pm$  SD age,  $32.6 \pm 10.8$  years; simple partial epilepsy, n=62; secondary generalized epilepsy, n=6; idiopathic generalized epilepsy, n=2). Seizure frequency, antipsychotic drug dosage, and number of antiepileptic drugs (AEDs) prescribed at admission and discharge were assessed. After excluding psychiatric symptoms that were determined to be a side effect of AEDs, antipsychotics were used only when improvement by psychotherapy and environmental adjustment were not adequate. Antipsychotics were started at the minimum dose and titrated at intervals of 3 days or more in each patient. AEDs were slowly titrated on a case-by-case basis. Behavioral disorder level was evaluated by The Global Assessment of Functioning (GAF) scale of DSM-IV. Seventy epilepsy patients without psychiatric symptoms were matched for age and epilepsy type (age,  $32.7 \pm 10.8$  years) and were recruited as controls to compare seizure frequency and number of AEDs prescribed.

**Results:** Mean chlorpromazine-equivalent dose of antipsychotics was 558 mg/day at discharge. In one patient, seizure frequency increased 2 days after risperidone was increased from 8 to 10 mg/day and required replacement with another antipsychotic. Antipsychotic dosages were reduced in 5 patients because of other side effects (constipation, n=3; somnolence, n=2). The seizure frequency decreased from  $4.92 \pm 9.55$  per month per patient upon admission to  $3.28 \pm 7.66$  at discharge ( $p < 0.001$ ; paired *t*-test). The number of AEDs decreased from  $2.62 \pm 1.27$  upon admission to  $1.88 \pm 0.85$  at discharge ( $p < 0.001$ ). Seizure frequency and number of AEDs in control patients were  $2.97 \pm 6.77$  per month and  $1.82 \pm 0.91$ , respectively. We found significant difference only between the number of AEDs in patients with psychiatric symptoms at admission and that in control patients ( $p < 0.001$ ; unpaired *t*-test).

**Discussion:** Our study revealed that appropriate use of antipsychotics at the dosage range in routine clinical use does not necessarily increase seizure frequency in patients with epilepsy. However, to prevent side effects including the risk of seizure aggravation, appropriate initial and maximum doses must be used with slow titration. The fact that introduction of antipsychotics into the treatment regimen in our patients decreased seizure frequency and reduced the number of AEDs prescribed suggests that insufficient clinical evaluation of patients suffering from serious psychotic symptoms might result in poor seizure control and polypharmacy.

**Conclusion:** Antipsychotic drugs can often be used successfully and safely in epilepsy patients with psychiatric symptoms. We suggest that treatment of psychiatric symptoms could contribute to reevaluation of epilepsy symptoms and adjustment of antiepileptic medications.