Long-Acting Injectable Risperidone and Hospital Readmission: A Mirror-Image Study Using a National Claim-Based Database in Taiwan

Sir: Poor compliance with antipsychotic medication, which would potentially lead to disease relapse, has been challenging for psychiatrists when treating schizophrenia.[1] Long-acting injection of antipsychotics is an appropriate alternative, since better compliance improves treatment outcomes. Mirror-image studies, in which each patient acts as his/her own control, of long-acting injection of conventional antipsychotics have shown significant decreases in numbers of hospitalizations and days of hospitalization.[2]

The development of atypical antipsychotics has provided a new treatment paradigm based on their superior tolerability, if not efficacy. Risperidone long-acting injection (RLAI) is the first licensed long-acting injectable atypical antipsychotic agent and has recently been reported cost-effective by reducing total admission number and inpatient days in a community-based inpatient setting.[3] To our knowledge, a national claim-based database has never been used in any mirror-image study for RLAI.

Method. The data source used for this 6-month mirror image study was the Psychiatric Inpatients Medical Claims Data (PIMC) from the National Health Research Institute, Taiwan. The PIMC compiled all the health care utilization records during 1996–2006 for patients who had at least 1 psychiatric hospitalization during 1996–2001. The inclusion criteria required that patients (1) could be observed at least 6 months after the first dose of RLAI, (2) had a primary diagnosis of schizophrenia, and (3) were continuously treated with RLAI for at least 6 months. Patients who received at least 75 mg RLAI total for a 3-month time period were considered continuously treated. The differences in number of acute admissions, hospital days, and emergency room visits between the pre- and post-RLAI periods were compared.

Results. A total of 253 from 91,104 patients met the inclusion criteria. As compared to the 6-month pre-RLAI period, the total number of acute admissions was reduced by 35% (136 vs. 88 times, $p = .0007$), and total hospital stays were reduced by 47% (5856 vs. 3080 days, $p = .0002$) in the 6-month post-RLAI period. A reduced number of emergency room visits was also observed (80 vs. 67 times) but was not significantly different ($p = .24$). Since the average hospital stay in acute psychiatric settings was 33 days in Taiwan (data on file; Department of Health, Executive of Yuan, Taiwan; 2007), a secondary analysis to eliminate prolonged hospitalization was conducted by excluding patients who stayed longer than 90 days per admission in the pre-RLAI period. The case number was therefore slightly decreased ($N = 237$), but the differences in acute admissions (115 vs. 80, $p = .0010$) and hospital days (3701 vs. 2160 days, $p = .0026$) remained significant.

The mirror-image study design has 2 major advantages: to assess real-world practice and to have patients act as their own controls[1]; however, the effect of long-acting injectable agents could be overestimated due to the selection bias (e.g., the long-acting injection was started when previous treatment failed) and the exclusion of noncompliant patients. With the claim-based database, we can minimize the latter bias. For future study, a prospective clinical trial or a case-controlled design using the claim data is warranted for generalizability and to provide more information for comparison of utilization across nations.

In conclusion, this 6-month mirror-image analysis showed that RLAI treatment is associated with a reduction of hospital service utilization in Taiwan, and further investigation of long-term outcome is warranted.

The work was supported by grant CMU95-143 from China Medical University (to Dr. Su) and an investigator-initiated grant from Janssen-Cilag Belgium (to Dr. Tang). The authors report no competing interests.

REFERENCES

1. Kane JM, Eerdekens M, Lindenmayer JP, et al. Long-acting injectable risperidone: efficacy and safety of the first long-acting atypical antipsychotic. Am J Psychiatry 2003;160(6):1125–1132
2. Schooler NR. Relapse and rehospitalization: comparing oral and depot antipsychotics. J Clin Psychiatry 2003;64(suppl 16):14–17
3. Niaz OS, Haddad PM. Thirty-five months experience of risperidone long-acting injection in a UK psychiatric service including a mirror-image analysis of in-patient care. Acta Psychiatr Scand 2007;116(1):36–46

Hui-Chih Chang, M.H.A.
Chao-Hsiun Tang, Ph.D.
School of Health Care Administration
Taipei Medical University
Taipei, Taiwan
Shih-Jen Tsai, M.D.
Taipei Veterans General Hospital and
National Yang-Ming University
Taipei, Taiwan
Feng-Chang Yen, M.D.
Cheng Hsin Rehabilitation Medical Center
Taipei, Taiwan
Kuan-Pin Su, M.D.
Department of Psychiatry and
Mind-Body Interface Research Centre
China Medical University Hospital
Taichung, Taiwan

Address correspondence to: Dr. Kuan-Pin Su (cobolsu@gmail.com)

Aripiprazole-Induced Agitation After Clozapine Discontinuation: A Case Report

Sir: Clozapine continues to be the gold standard for patients with treatment-refractory schizophrenia.[1] However, when patients who have responded to clozapine need to have clozapine treatment discontinued due to a serious adverse event, such as glucose abnormalities, clinicians are often confronted with difficult choices regarding a suitable substitute treatment.

We present a patient who developed acute ketoacidosis while on clozapine treatment and who developed severe agitation and psychotic decompensation with subsequent aripiprazole treatment.

Case report. Ms. A is a 45-year-old undomiciled and unemployed black woman with a history of psychosis and substance abuse with multiple psychiatric hospitalizations who was transferred from a jail facility in September 2006. She was transferred to our state psychiatric center due to her incapacity to assist in her defense related to the charges against her, which was attributed to her psychiatric illness, specifically to auditory