Drug (mg)	600 mg Chlorpromazine Equivalents				1,000 mg Chlorpromazine Equivalents				Dosing		
	Consensus		Calculation		Consensus		Calculation		Highest Dose		Recommended Range <sup>a</sup>
	Kane <sup>b</sup>	Gardner <sup>c</sup>	Woods <sup>d</sup>	Andreasen <sup>e</sup>	Kane <sup>b</sup>	Gardner <sup>c</sup>	Woods <sup>d</sup>	Andreasen <sup>e</sup>	Kane <sup>b</sup>	Gardner <sup>f</sup>	
Risperidone	6.6	6	12	7.9	11.7	10.0	20.0	13.2	10.5	8.5 (1.0)	2–8
Olanzapine	24.0	20	30	28.5	33.3	33.3	50.1	47.5	40.0	30 (0)	10–20
Quetiapine	720.0	750	450	852.0	1,000.0	1,250.0	751.5	1,420.0	950.0	1,000 (162)	300–750
Ziprasidone	168.0	160	360	303.0	200.0	266.7	601.2	505.0	180.0	200 (40)	80–160
Aripiprazole	24.0	30	45	38.5	33.3	50.0	75.2	64.2	30.0	30 (0)	10–30
Haloperidol	12.0	10	12	11.0	22.2	16.7	20.0	18.4	25.0	20 (4.0)	6–20

## TABLE 1. Computed Doses of Antipsychotics at 600 and 1,000 mg Chlorpromazine Equivalents From Consensus and Calculation Methods

<sup>a</sup> Recommended dose range for treatment of an acute episode (3).

<sup>b</sup> Doses obtained and approximated from haloperidol, 10 mg for 600 mg of chlorpromazine equivalents and 20 mg for 1,000 mg of chlorpromazine equivalents, from guideline 5A of Kane et al. (4).

<sup>c</sup> Doses computed from dose equivalency ratio versus chlorpromazine (5).

<sup>d</sup> Doses calculated from table provided in Woods (6).

<sup>e</sup> Doses calculated from power transformation for chlorpromazine equivalent (7).

<sup>f</sup> Median (interquartile range) maximum doses (5).

- Andreasen NC, Pressler M, Nopoulos P, Miller D, Ho BC: Antipsychotic dose equivalents and dose-years: a standardized method for comparing exposure to different drugs. Biol Psychiatry 2010; 67:255–262
- 8. Davis JM, Chen N: Dose response and dose equivalence of antipsychotics. J Clin Psychopharmacol 2004; 24:192–208

JIMMY LEE, M.B.B.S, M.MED. GARY REMINGTON, M.D., PH.D.

From the Department of General Psychiatry 1 and Research Division, Institute of Mental Health, Singapore; the Schizophrenia Division, Centre for Addiction and Mental Health, Toronto; and the Department of Psychiatry, University of Toronto.

Dr. Lee has served as a consultant for Roche and is currently supported by the Singapore Ministry of Health's National Medical Research Council under its Transition Award (grant NMRC/TA/002/2012). Dr. Remington has received research support, consulting fees, or speaker's fees from the Canadian Diabetes Association, the Canadian Institutes of Health Research, Hoffman-La Roche, Laboratorios Farmacéuticos Rovi, Medicure, Neurocrine Biosciences, Novartis Canada, Research Hospital Fund–Canada Foundation for Innovation, and the Schizophrenia Society of Ontario.

*This letter (doi: 10.1176/appi.ajp.2013.13070965) was accepted for publication in November 2013.* 

## Metformin and Alzheimer's Disease Risk

To THE EDITOR: In the September issue of the *Journal*, Jarskog et al. (1) report and Correll et al. (2) discuss a 4-month trial of metformin that concluded "metformin was modestly effective in reducing ... risk factors for cardiovascular disease" and "represents a safe ... option for patients who are motivated to lose weight." That study spanned 4 months, but the treatment of cardiovascular risk factors may continue indefinitely. Imfeld et al. (3) reported that long-term metformin use (over 60 prescriptions or more than 7 years) but not use of other antidiabetic medications such as sulfonylureas, thiazolidinediones, or insulin was associated with a small increased risk of developing Alzheimer's disease (adjusted odds ratio, 1.71).

I would be grateful if Jarskog et al. and Correll et al. would compare the benefit they anticipate from reducing cardiovascular risk factors with metformin in psychiatric, nondiabetic patients to the risk of increased Alzheimer's disease from metformin.

## References

- Jarskog LF, Hamer RM, Catellier DJ, Stewart DD, Lavange L, Ray N, Golden LH, Lieberman JA, Stroup TS; METS Investigators: Metformin for weight loss and metabolic control in overweight outpatients with schizophrenia and schizoaffective disorder. Am J Psychiatry 2013; 170:1032–1040
- Correll CU, Sikich L, Reeves G, Riddle M: Metformin for antipsychotic-related weight gain and metabolic abnormalities: when, for whom, and for how long? Am J Psychiatry 2013; 170: 947–952
- 3. Imfeld P, Bodmer M, Jick SS, Meier CR: Metformin, other antidiabetic drugs, and risk of Alzheimer's disease: a population-based case-control study. J Am Geriatr Soc 2012; 60:916–921

JONATHAN E. ROSENFELD, M.D., PH.D.

From the Department of Psychiatry, St. Luke's-Roosevelt Hospital Center, and the Department of Psychiatry, Columbia University, New York.

The author reports no financial relationships with commercial interests.

*This letter (doi: 10.1176/appi.ajp.2013.13091193) was accepted for publication in October 2013.* 

## **Response to Rosenfeld**

TO THE EDITOR: We appreciate Dr. Rosenfeld bringing attention to a recent report by Imfeld et al. (1) suggesting that long-term metformin use may increase the risk for Alzheimer's disease in elderly patients with diabetes mellitus. In fact, a number of clinical and preclinical reports within the past 5