

Data Supplement 1. Characteristics of and Potential Sources of Bias in Head-to-Head Comparison Studies of Second-Generation Antipsychotics Fully or Partly Sponsored by the Manufacturer of One of the Drugs in the Study^a

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Addington et al., 2003 ^e	Pfizer	149/147	Ziprasidone not inferior to risperidone in PANSS total and CGI severity changes after 8 weeks; no significant differences between ziprasidone and risperidone in PANSS total and CGI severity changes after 52 weeks	80–160 mg of ziprasidone (mean=114.2 mg); 6–10 mg of risperidone (mean=7.4 mg); optimum risperidone dose of 4 mg explicitly excluded**	1) Lower limit of equivalence range at 60% of risperidone efficacy was very low.** 2) Only patients with more than 14 days of treatment were included in efficacy analysis.*	—
Azorin et al., 2001	Novartis	138/135	BPRS and CGI change after 12 weeks significantly in favor of clozapine; no significant difference in response	200–900 mg of clozapine (mean=600 mg); 2–15 mg of risperidone (mean=9 mg); upper limit of risperidone dose range too high (this judgment is debatable for treatment-resistant illness); unnecessary slow titration of risperidone.**	—	1) Weight gain briefly mentioned only in one sentence.* 2). Risperidone upper dose limit described as “slightly high,” which is a mild expression for 15 mg/day dose. Response with clozapine claimed to be superior, although the a priori defined criteria were not met.*

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Azorin et al., 2003 ^e	Lundbeck	97/89 ^f	Sertindole significantly superior to risperidone at week 12 in PANSS reduction (OC data set only, not LOCF)	12–24 mg of sertindole (—) ^g ; 4–10 mg of risperidone (—) ^g ; relatively high risperidone dose range*	—	—
Bitter et al., 2004	Lilly	75/75	No significant difference in PANSS or CGI change after 18 weeks	5–25 mg of olanzapine (mean=17.2 mg); 100–500 mg of clozapine (mean=216.2 mg); although within recommended dose range, mean dose of clozapine low for treatment-resistant patients*	No differentiation of treatment-resistant and treatment-intolerant patients in the analysis**	Combined analysis of data for treatment-refractory and treatment-intolerant patients may lead to the impression that olanzapine is as effective as clozapine in explicitly treatment-refractory patients.**
Bondolfi et al., 1998	Janssen	43/43	No significant difference in PANSS or CGI change after 8 weeks in treatment-resistant patients with chronic schizophrenia	0–600 mg of clozapine (mean=291.2 mg); 0–12 mg of risperidone (mean=6.4 mg); although within recommended dose range, mean dose of clozapine low for treatment-resistant patients*	No differentiation of treatment-resistant and treatment-intolerant patients in the analysis**	Combined analysis of data for treatment-refractory and treatment-intolerant patients may lead to the impression that risperidone is as effective as clozapine in explicitly treatment-refractory patients.**

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Breier et al., 2005	Lilly	277/271	Olanzapine significantly superior to ziprasidone in PANSS total score after 28 weeks	10–20 mg of olanzapine (mean=15.27 mg); 80–160 mg of ziprasidone (mean=115.96 mg)	—	Weight gain and alterations in lipid status were only briefly mentioned in discussion.*
Ciudad et al., 2004 ^e	Lilly	120/115	SANS global score change after 1 year significantly higher with olanzapine	≥10 mg of olanzapine (mean=12.2 mg); ≥3 mg of risperidone (mean=4.9 mg); dose range of risperidone not limited*	—	SANS global score change difference was statistically significant only in patients receiving anticholinergic drugs, but authors did not comment on this result.*
Conley et al., 2001	Janssen	188/189	No significant difference in ESRS change from baseline to endpoint (8 weeks) between groups; no significant differences in PANSS reduction, except for two factors in favor of risperidone after 8 weeks for the OC data set	2–6 mg of risperidone (mean=4.8 mg); 5–20 mg of olanzapine (mean=12.4 mg); slow titration of olanzapine*	—	1) Emphasized findings for single items of the PANSS that revealed superiority of risperidone; selective display of certain response cutoffs showing superiority of risperidone.* 2) Extensive description of weight gain debatable*

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Cornblatt et al., 2002 ^e	Bristol-Myers Squibb	128/127	Aripiprazole significantly superior to olanzapine in improving verbal learning after 8 and 26 weeks	30 mg of aripiprazole; 15 mg of olanzapine; low olanzapine dose; only 10 mg of olanzapine in week 1**	No Bonferroni adjustment applied, despite extensive multiple testing**	—
Gureje et al., 2003	Lilly	32/33	Reduction of the PANSS total significantly higher in olanzapine group after 30 weeks	10–20 mg of olanzapine (mean=17.2 mg); 4–8 mg of risperidone (mean=6.6 mg)	—	Only response criterion mentioned in abstract was ≥20% change in PANSS score; all other levels showed no significant difference between groups.**
Harvey et al., 2003a	Janssen	188/189	Cognitive effects of risperidone and olanzapine after 6 weeks comparable.	2–6 mg of risperidone (mean=4.8 mg); 5–20 mg of olanzapine (mean=12.4 mg); slow titration of olanzapine; in week 1 only 5–10 mg of olanzapine allowed, while doses of risperidone reached 2–4 mg*	—	1) Numerical superiority of olanzapine in most effect sizes not mentioned** 2) No reference for Conley et al. 2001, although data were derived from that study**

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Harvey et al., 2003b	Janssen	74/79	Cognitive effects of risperidone and olanzapine after 8 weeks comparable in elderly patients	1–3 mg of risperidone (mean=1.95 mg at endpoint); 5–20 mg of olanzapine; (mean=11.46 mg at endpoint); relatively high olanzapine dose for an elderly population**	No adjustment of the significance level, despite extensive multiple testing**	Risperidone stated as being more effective than olanzapine in several tests, whereas Bonferroni adjustment would not have shown such a difference**
Harvey et al., 2004	Pfizer	136/133	Cognitive effects of olanzapine and ziprasidone after 6 weeks comparable	80–160 mg of ziprasidone (—) ^e ; 5–15 mg of olanzapine (—) ^e ; low olanzapine dose range; in week 1 olanzapine dose limited to 10 mg, whereas ziprasidone dose up to the maximum dose of 160 mg allowed**	—	Statistically significant advantage of olanzapine in terms of dropouts was not mentioned in discussion; general numerical trend in favor of olanzapine was not mentioned.**

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Jeste et al., 2003	Janssen	87/88	No significant difference after 8 weeks in efficacy of risperidone and olanzapine as measured by PANSS change in elderly patients	1–3 mg of risperidone (mean=1.9 mg); 5–20 mg of olanzapine; (mean=11.1 mg); relatively high olanzapine dose for an elderly population**	—	1) No level of significance stated for prolactin elevation, although prolactin was obviously highly increased in risperidone group.* 2) Weight gain, but not prolactin level, was mentioned in abstract and discussion.*
Kinon, 2004 ^e	Lilly	202/192	Significant improvement on CDSS after 24 weeks of olanzapine	10, 15, 20 mg of olanzapine; 80, 120, 160 mg of ziprasidone (six-arm, fixed-dose study)	—	—
Knegtering et al., 2004	AstraZeneca	25/26	After 6 weeks, significantly fewer patients taking quetiapine reported sexual dysfunction, as measured by ASFQ, compared to patients taking risperidone.	200–1200 mg of quetiapine (mean=580 mg at week 6); 1–6 mg of risperidone (mean=3.2 mg at week 6); previous medication continued for up to 3 weeks after study entry*	One-sided assessment of primary outcome**	1) Baseline sexual functioning not assessed** 2) No other side effects mentioned*

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Lecrubier et al., 1999 ^e	Lilly	70/70/70/34	Olanzapine-treated patients (data of both dose groups combined) showed a statistically significant greater improvement in the PANSS positive subscore after 6 months in patients with primarily negative symptoms (secondary outcome).	5 mg of olanzapine; 20 mg of olanzapine; 150 mg of amisulpride; placebo (four-arm, fixed-dose study)	—	—
McQuade et al., 2003 ^e	Bristol-Myers Squibb	156/161	Significantly more patients experienced clinically significant weight gain with olanzapine.	15–30 mg of aripiprazole (mean=25.1 mg); 10–20 mg of olanzapine (mean=16.5 mg)	—	—
Meltzer et al., 2003	Novartis	490/490	Significantly less suicidal behavior and fewer attempted suicides and hospitalizations to prevent suicide within 2 years with clozapine	Mean=274.2 mg of clozapine; mean=16.6 mg of olanzapine	—	—

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Mortimer et al., 2004	Sanofi-Synthelabo	189/188	Amisulpride not significantly inferior to olanzapine after 6 months in efficacy measured by BPRS change	200–800 mg of amisulpride (mean=504 mg); 5–20 mg of olanzapine (mean=13 mg)	—	BAS results displayed only in dichotomous way (cutoff of at least moderate); no anticholinergic drug use mentioned; prolactin levels not measured/shown**

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Mullen et al., 2001	AstraZeneca	553/175	No significant difference in EPS frequency, PANSS and CGI improvement after 4 months; significantly superior improvement in HAM-D with quetiapine	50–800 mg of quetiapine (mean=253.9 mg); >2 mg of risperidone (flexible dosing according to package insert) (mean=4.4 mg); low quetiapine mean dose that probably reflected low degree of severity of psychotic symptoms at baseline*	Heterogeneous study population, including patients with Alzheimer’s dementia and psychotic symptoms, vascular dementia, schizophrenia, schizoaffective disorder, and major depressive disorder with psychotic features. Heterogeneity probably explains low baseline PANSS; overall the reader may erroneously conclude equal level of efficacy in patients with schizophrenia.*	1) EPS data were excessively described; minor differences were stated to be significantly different, although overall frequencies and odds ratios were comparable between groups; level of significance for other adverse events was not stated within the text.** 2) Quetiapine stated as superior in CGI improvement, although result was not statistically significant; findings for EPS and other adverse events were presented differently depending on the results for quetiapine.**

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Olie et al., 2002 ^e	Pfizer	60/63	Equivalent effect on PANSS negative subscale score after 12 weeks of treatment	Maximum of 160 mg of ziprasidone (mean=112 mg); maximum of 200 mg of amisulpride (mean=138.5 mg); dose range for amisulpride too low, compared to ziprasidone dose range, if patients had significant positive symptoms**	Lower limit of the equivalence range at 60% change in PANSS negative subscale score for amisulpride seems very low.**	No baseline scores reported for PANSS or its subscale; lack of PANSS positive subscale score change data makes it impossible to judge whether patients had significant positive symptoms at baseline.**
Oliemeulen et al., 2000 ^e	Lilly	21/15	No major overall differences in improvement of performance in psychomotor tests between olanzapine and clozapine treatment groups after 8 weeks.	Not available	—	—
Peuskens et al., 1999	Sanofi- Synthelabo	115/113	Amisulpride and risperidone equally effective in treating symptoms of schizophrenia measured by the PANSS	800 mg of amisulpride; 8 mg of risperidone; risperidone dose too high for fixed dose**	—	—

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Potkin et al., 2003	Bristol-Myers Squibb	101/101/99/103	Both drugs were significantly better than placebo in all efficacy measures.	20 mg of aripiprazole; 30 mg of aripiprazole; 6 mg of risperidone; placebo	—	—
Purdon et al., 2000	Lilly	21/23/21	Olanzapine showed a superior effect on general cognitive index improvement, compared to both risperidone and haloperidol after 54 weeks.	5–20 mg of olanzapine (mean=11.0 mg); 5–20 mg of haloperidol (mean=9.7 mg); 4–10 mg of risperidone (mean=6.0 mg); risperidone dose range too high, especially in stable patients**	—	Side effects not mentioned in detail; concomitant medication other than anticholinergic drugs not stated*
Ritchie et al., 2003	Lilly	34/32	In both treatment groups there was improvement in parkinsonism at end of switch period.	Mean=9.9 mg of olanzapine; mean=1.7 mg of risperidone; no dose ranges	—	Wording slightly in favor of olanzapine, e.g., concerning sedation*

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Sacchetti et al., 2003 ^e	AstraZeneca	22/16/12	Data from the interim analysis (8 weeks) suggested that quetiapine is as effective as risperidone and olanzapine but has a more favorable tolerability profile.	400–800 mg of quetiapine (—) ^g ; 10–20 mg of olanzapine (—) ^g ; 4–8 mg of risperidone (—) ^g	—	1) Adverse events other than EPS and weight gain not reported** 2) Selective display of side effects and efficacy; problematic outcome interpretation for underpowered study without any statistical testing**
Sechter et al., 2002	Sanofi-Synthelabo	152/158	Amisulpride was not inferior, compared to risperidone, according to the difference in PANSS total change after 6 months of treatment.	400–1000 mg of amisulpride (mean=683 mg); 4–10 mg of risperidone (mean=6.92 mg); high risperidone dose range*	—	—
Simpson et al., 2003 ^e	Pfizer	62/71	Both drugs demonstrated comparable efficacy as measured by BPRS and CGI after 6 months.	80–160 mg of ziprasidone (—) ^g ; 5–15 mg of olanzapine (—) ^g ; upper limit of olanzapine dose range too low**	—	Adverse events selectively stated; no EPS details*

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Tollefson et al., 2001	Lilly	90/90	Olanzapine was not inferior in efficacy as measured by PANSS total reduction, compared to clozapine, after 18 weeks in patients eligible for clozapine treatment.	15–25 mg of olanzapine (mean=20.5 mg); 200–600 mg of clozapine (mean=303.6 mg); low clozapine dose for treatment-resistant patients*	—	—
Tran et al., 1997	Lilly	172/167	No significant difference between groups after 28 weeks in PANSS total score and subscore (positive/negative) changes; olanzapine significantly superior in SANS improvement and rate of response measured as ≥40% improvement in PANSS total score.	10–20 mg of olanzapine (mean=17.2 mg); 4–12 mg of risperidone (mean=7.2 mg); risperidone dose range and mean risperidone dose too high**	One-sided test, although olanzapine was a priori not proven to be superior**	1) Weight gain mentioned in only one sentence.** 2) High dose range of risperidone not adequately discussed in regard to potentially diminished efficacy; weight gain not discussed. Superiority of olanzapine in response was generalized in the conclusion, although it was not significant for primary efficacy outcome.*

Study	Sponsor	Sample Sizes (N) ^b	Primary Outcome Result(s) Reported ^c	Potential Sources of Bias ^d		
				Drug Dose (mg/day)	Statistics/Design	Reporting and Wording of Results
Volavka et al., 2002	Lilly ^h	40/39/41/37	Significantly superior efficacy as measured by PANSS total reduction of olanzapine and clozapine, compared to haloperidol, after 14 weeks in patients previously nonresponsive to conventional antipsychotic treatment	200–800 mg of clozapine (mean=526.6 mg); 10–40 mg of olanzapine (mean=30.4 mg); 4–16 mg of risperidone (mean=11.6 mg); 10–30 mg of haloperidol (mean=25.7 mg); high risperidone dose (debatable in these treatment-refractory patients) *	—	—

^dPotential source of bias are highlighted in boldface type. Items judged by the authors to be a debatable source of bias are marked with an asterisk (*). Items judged by the authors to be a clearly inappropriate choice of dose, design, reporting, etc., are marked with two asterisks (**).

^bNumbers of subjects in study groups ordered according to listing of drugs in primary outcome or drug dose columns.

^cAbbreviations: ASFQ=Antipsychotics and Sexual Functioning Questionnaire, BAS=Barnes Rating Scale for Drug-Induced Akathisia, BPRS=Brief Psychiatric Rating Scale, CDSS=Calgary Depression Scale for Schizophrenia, CGI=Clinical Global Impression, EPS=extrapyramidal side effects, ESRS=Extrapyramidal Symptom Rating Scale, HAM-D=Hamilton Depression Rating Scale, LOCF=last observation carried forward, OC=observed cases, PANSS=Positive and Negative Syndrome Scale, SANS=Scale for the Assessment of Negative Symptoms, SAS=Simpson-Angus Scale

^aEmpty cells indicate that no potential source of bias was identified.

^eStudy description was available only as a conference report.

^fTerminated early.

^eMean dose was not reported.

^hLilly contributed supplemental funding, but overall experimental design, data acquisition and analysis, and interpretation of the results were implemented with no input from Lilly.

References

- Addington D, Pantelis C, Dineen M, Bermattia I, Romano SJ, Murray SR: Ziprasidone versus risperidone in schizophrenia: 52 weeks of comparative data, in 2003 Annual Meeting New Research Program and Abstracts. Arlington, Va, American Psychiatric Association, 2003, number 525
- Azorin J-M, Spiegel R, Remington G, Vanelle J-M, Péré J-J, Giguere M, Bourdeix I: A double-blind comparative study of clozapine and risperidone in the management of severe chronic schizophrenia. *Am J Psychiatry* 2001; 158:1305–1313
- Azorin J, Toumi M, Sloth-Nielsen M: Sertindole is well tolerated and superior to risperidone with respect to efficacy in patients with schizophrenia (abstract). *Schizophr Res* 2003; 60(suppl 1):271–272
- Bitter I, Dossenbach MR, Brook S, Feldman PD, Metcalfe S, Gagiano CA, Furedi J, Bartko G, Janka Z, Banki CM, Kovacs G, Breier A: Olanzapine versus clozapine in treatment-resistant or treatment-intolerant schizophrenia. *Prog Neuropsychopharmacol Biol Psychiatry* 2004; 28:173–180
- Bondolfi G, Dufour H, Patris M, May JP, Billeter U, Eap CB, Baumann P (Risperidone Study Group): Risperidone versus clozapine in treatment-resistant chronic schizophrenia: a randomized double-blind study. *Am J Psychiatry* 1998; 155:499–504
- Brier A, Berg PH, Thakore JH, Naber D, Gattaz WF, Cavazzoni P, Walker DJ, Roychowdhury SM, Kane JM: Olanzapine versus ziprasidone: results of a 28-week double-blind study in patients with schizophrenia. *Am J Psychiatry* 2005; 162:1879–1887

- Ciudad A: Olanzapine and risperidone: results of a one-year randomized trial in outpatients with schizophrenia with prominent negative symptoms, in Abstracts of the XIIth Biennial Winter Workshop on Schizophrenia, Davos, Switzerland, Feb 7–13, 2004. *Schizophr Res* 2004; 67(suppl 1):161
- Conley RR, Mahmoud R: A randomized double-blind study of risperidone and olanzapine in the treatment of schizophrenia or schizoaffective disorder. *Am J Psychiatry* 2001; 158:765–774; correction, 158:1759
- Cornblatt B: Neurocognitive effects of aripiprazole vs olanzapine in stable psychosis (abstract). *Int J Neuropsychopharmacol* 2002; 5:S185
- Gureje O, Miles W, Keks N, Grainger D, Lambert T, McGrath J, Tran P, Catts S, Fraser A, Hustig H, Andersen S, Crawford AM: Olanzapine vs risperidone in the management of schizophrenia: a randomized double-blind trial in Australia and New Zealand. *Schizophr Res* 2003; 61:303–314
- Harvey PD, Green MF, McGurk SR, Meltzer HY: Changes in cognitive functioning with risperidone and olanzapine treatment: a large-scale, double-blind, randomized study. *Psychopharmacology (Berl)* 2003a; 169:404–411
- Harvey PD, Napolitano JA, Mao L, Gharabawi G: Comparative effects of risperidone and olanzapine on cognition in elderly patients with schizophrenia or schizoaffective disorder. *Int J Geriatr Psychiatry* 2003b; 18:820–829
- Harvey PD, Siu CO, Romano S: Randomized, controlled, double-blind, multicenter comparison of the cognitive effects of ziprasidone versus olanzapine in acutely ill inpatients with schizophrenia or schizoaffective disorder. *Psychopharmacology (Berl)* 2004; 172:324–332
- Jeste DV, Barak Y, Madhusoodanan S, Grossman F, Gharabawi G: International multisite double-blind trial of the atypical antipsychotics risperidone and olanzapine in 175 elderly patients with chronic schizophrenia. *Am J Geriatr Psychiatry* 2003; 11:638–647

- Kinon B: Improvement of comorbid depression with olanzapine versus ziprasidone treatment in patients with schizophrenia or schizoaffective disorder, in Abstracts of the XIIth Biennial Winter Workshop on Schizophrenia, Davos, Switzerland, Feb 7–13, 2004. *Schizophr Res* 2004; 67(suppl 1):163
- Knegtering R, Castelein S, Bous H, Van Der LJ, Bruggeman R, Kluiter H, van den Bosch RJ: A randomized open-label study of the impact of quetiapine versus risperidone on sexual functioning. *J Clin Psychopharmacol* 2004; 24:56–61
- Lecrubier Y, Bouhassira M, Olivier V, Lancrenon S, Crawford AM: Olanzapine versus amisulpride and placebo in the treatment of negative symptoms and deficit states of chronic schizophrenia, in Abstracts of the 12th Congress of the European College of Neuropsychopharmacology, London, Sept 21–25, 1999. *Eur Neuropsychopharmacol* 1999; 9(suppl 5):288
- McQuade RD, Jody D, Kujawa MJ, Carson WH Jr, Iwamoto T, Archibald DG, Stock EG: Long-term weight effects of aripiprazole versus olanzapine, in 2003 Annual Meeting New Research Program and Abstracts. Arlington, Va, American Psychiatric Association, 2003, number 231
- Meltzer HY, Alphas L, Green AI, Altamura AC, Anand R, Bertoldi A, Bourgeois M, Chouinard G, Islam MZ, Kane J, Krishnan R, Lindenmayer JP, Potkin S: Clozapine treatment for suicidality in schizophrenia: International Suicide Prevention Trial (InterSePT). *Arch Gen Psychiatry* 2003; 60:82–91
- Mortimer A, Martin S, Loo H, Peuskens J: A double-blind, randomized comparative trial of amisulpride versus olanzapine for 6 months in the treatment of schizophrenia. *Int Clin Psychopharmacol* 2004; 19:63–69

Mullen J, Jibson MD, Sweitzer D: A comparison of the relative safety, efficacy, and tolerability of quetiapine and risperidone in outpatients with schizophrenia and other psychotic disorders: the Quetiapine Experience With Safety and Tolerability (QUEST) study. *Clin Ther* 2001; 23:1839–1854

Olie JP, Spina E, Benattia I: Ziprasidone versus amisulpride in the treatment of negative symptoms of schizophrenia: a 12-week, double-blind trial (abstract). *Schizophr Res* 2002; 53(suppl 1):180

Oliemeulen EAP: Is olanzapine a substitute for clozapine? the effects on psychomotor performance, in Abstracts of the 10th Biennial Winter Workshop on Schizophrenia, Davos, Switzerland, Feb 5–11, 2000. *Schizophr Res* 2000; 41(1):187

Peuskens J, Bech P, Moller HJ, Bale R, Fleurot O, Rein W: Amisulpride vs risperidone in the treatment of acute exacerbations of schizophrenia. *Psychiatry Res* 1999; 88:107–117

Potkin SG, Saha AR, Kujawa MJ, Carson WH, Ali M, Stock E, Stringfellow J, Ingenito G, Marder SR: Aripiprazole, an antipsychotic with a novel mechanism of action, and risperidone vs placebo in patients with schizophrenia and schizoaffective disorder. *Arch Gen Psychiatry* 2003; 60:681–690

Purdon SE, Jones BD, Stip E, Labelle A, Addington D, David SR, Breier A, Tollefson GD: Neuropsychological change in early phase schizophrenia during 12 months of treatment with olanzapine, risperidone, or haloperidol. *Arch Gen Psychiatry* 2000; 57:249–258

Ritchie CW, Chiu E, Harrigan S, Hall K, Hassett A, Macfarlane S, Mastwyk M, O'Connor DW, Opie J, Ames D: The impact upon extra-pyramidal side effects, clinical symptoms and quality of life of a switch from conventional to atypical antipsychotics (risperidone or olanzapine) in elderly patients with schizophrenia. *Int J Geriatr Psychiatry* 2003; 18:432–440

- Sacchetti E: Comparison of quetiapine, olanzapine and risperidone in patients with schizophrenia: interim results of a randomized, rater-blinded study, in Abstracts of the 16th Congress of the European College of Neuropsychopharmacology, Prague, Sept 20–24, 2003. *Eur Neuropsychopharmacol.* 2003; 13(suppl 4):S350–S351
- Sechter D, Peuskens J, Fleurot O, Rein W, Lecrubier Y: Amisulpride vs risperidone in chronic schizophrenia: results of a 6-month double-blind study. *Neuropsychopharmacology* 2002; 27:1071–1081
- Simpson GM, Weiden PJ, Pigott TA, Romano SJ, Siu C: Ziprasidone versus olanzapine in schizophrenia: 6-month blinded continuation study, in 2002 Annual Meeting New Research Program and Abstracts. Arlington, Va, American Psychiatric Association, 2003, number 315
- Tollefson GD, Birkett MA, Kiesler GM, Wood AJ: Double-blind comparison of olanzapine versus clozapine in schizophrenic patients clinically eligible for treatment with clozapine. *Biol Psychiatry* 2001; 49:52–63
- Tran PV, Hamilton SH, Kuntz AJ, Potvin JH, Andersen SW, Beasley C Jr, Tollefson GD: Double-blind comparison of olanzapine versus risperidone in the treatment of schizophrenia and other psychotic disorders. *J Clin Psychopharmacol* 1997; 17:407–418
- Volavka J, Czobor P, Sheitman B, Lindenmayer J-P, Citrome L, McEvoy JP, Cooper TB, Chakos M, Lieberman JA: Clozapine, olanzapine, risperidone, and haloperidol in the treatment of patients with chronic schizophrenia and schizoaffective disorder. *Am J Psychiatry* 2002; 159:255–262