Department of Psychiatry

Gender-specific effects in the treatment of acute schizophrenia with risperidone

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Introduction:

The 'one hat fits all' approached has been abandoned in modern psychopharmacology. A variety of different variables including gender, ethnic background, body-composition and genetics should be taken into consideration when a pharmacological treatment is planned. The importance of gender for treatment-planning in schizophrenia was emphasized by a recent review[1].

Atypical antipsychotics have an established role in the treatment of schizophrenia and have proven superiority to typical antipsychotics in terms of tolerability and efficacy. We recently published a study demonstrating the efficacy of the atypical antipsychotic risperidone in the management of acute psychotic decompensations[2]. We now present a reanalysis of the clinical data to assess the effects of gender on treatment and outcome.

Methods:

From December 2000 until June 2002, we screened all admissions to the secure unit for possible inclusion in this observational study. The following inclusion- and exclusion-criteria were used:

Inclusion-criteria:

- Diagnosis of schizophrenia, schizoaffective disorder or schizophreniform disorder
- Minimum age 18 years
- Minimum-score of " 4 on two items of the positive symptom subscale of the PANSS (Positive and Negative Symptom Scale)
- Antipsychotic treatment clinically required

Exclusion-criteria:

- Acute intoxication
- Alcohol- or substance dependence within the last three months
- Prior non-response to risperidone
- Refusal to be treated with risperidone
- Acute suicidal ideation
- Acute administration of intramuscular antipsychotics
- Use of other antipsychotics
- Medical or neurological problems that require immediate intervention

Treatment:

On admission, all eligible subjects were treated with risperidone 2 – 4 mg b.i.d. Benzodiazepines and anticholinergics were allowed as comedication.

Rating-scales:

Positive and Negative Syndrome Scale (PANSS), Clinical Global Impression of Severity (CGI-S) and Clinical Global Impression of Improvement (CGI-I) were performed on days 0, 1, 3, 7, 14, 21 and 28.

Results:

25 males and 23 females participated in this open-label observational study. Patients were diagnosed with schizophrenia (n = 40), schizoaffective disorder (n = 5) or schizophreniform disorder (n = 3).

Table 1 shows the demographic information for the male and female participants in our study. While females were older and treated with higher doses of antipsychotics, both samples did not differ significantly in any of the demographic variables (all $p > 0.10$).

Table 1: Demographic information

	Males	**Females**
n:	25	23
Age:	34.0 ± 12.6 y	40.0 ± 13.7 y
Duration:	13.4 ± 9.2 d	13.3 ± 10.4 d
Max. dose:	5.9 ± 1.4 mg/d	6.3 ± 1.4 mg/d
Final dose:	5.6 ± 1.6 mg/d	5.8 ± 1.5 mg/d

Clinical ratings:

Both males and females improved significantly under treatment with risperidone (all $p < 0.01$). Males and females did not differ significantly in any of the clinical ratings at baseline or after treatment with risperidone. Figure 1 shows the CGI-ratings and Figure 2 the PANSS total score before and after treatment with risperidone.

Discontinuation rates:

Significantly more females (n = 14) than males (n = 8) discontinued treatment with risperidone ($X^2 = 4.02$; df = 1; $p < 0.05$). The reasons for discontinuation are listed in table 2.

Figure 1: CGI-S change under treatment with risperidone

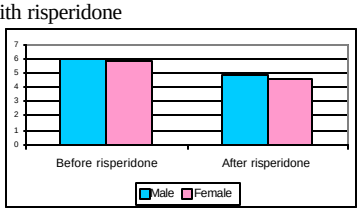

Figure 2: Change in PANSS total score under risperidone

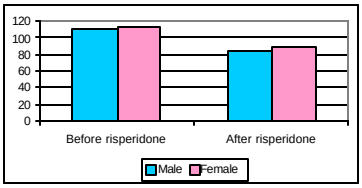

Table 2: Discontinuation rates

	Males	Females
Im-Injection	3	5
Switch to clozapine	4	2
Switch to another AP	1	3
Combination treatment	0	1
Side-effects	0	1
Noncompliance	0	2

Conclusions:

While we found no significant differences in clinical ratings between males and females in the treatment of acute psychotic episodes with risperidone, significantly more females discontinued this treatment. To our surprise, females were treated with slightly higher average doses than males. While the reasons for the better outcome in males are not clear, our results suggest that risperidone may be more beneficial in males for the treatment of acute schizophrenia. Therefore, gender should be taken into consideration when planning antipsychotic treatment.

[1]Seeman MV. Gender differences in the prescribing of antipsychotic drugs. Am J Psychiatry 2004;161:1324-1333.
[2]Raedler TJ, Schreiner A, Naber D, Wiedemann K. Risperidone in thetreatment of acute schizophrenia. J Clin Psychopharmacol 2004;24:335-338.