Comparison of Topiramate and Risperidone for Treatment of Behavioral Disturbances of Patients With Alzheimer Disease; A Double-Blind, Randomized Clinical Trial

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Introduction

Treatment of behavioral disturbances are determining factors in handling patients with Alzheimer dementia(1).

The current pharmacotherapy for behavioral symptoms associated with dementia is not satisfactory (2,3).

Our goal in this research is to compare the anticonvulsant, topiramate, with a usually used medication, risperidone, for controlling behavioral disturbances of patients with Alzheimer dementia.

Method

- Patients had DSM-V diagnosis criteria for Alzheimer disease.
- They suffered from significant behavioral disturbances.
- Patients were randomized to receive, for a period of 8 weeks, a flexible dose of either topiramate (25-50 mg/d) or risperidone (0.5-2 mg/d).
- Outcome measures were the Cohen-Mansfield Agitation Inventory, Neuropsychiatry Inventory parts 1 and 2, and the Clinical Global Impression.
- Of 48 patients who provided informed consent and were randomized to treatment, 41 completed the trial.
- The numbers of subjects who completed the trial in the groups of topiramate and risperidone were 21 of 25 and 20 of 23, respectively.
- The patients were visited and examined by a board-certified psychiatrist at baseline. Follow-up occurred 2, 4, and 6 weeks after the baseline measurements.

TABLE 1. Demographic and Baseline Clinical Characteristics of Patients Completing the Study

	All	Topiramate Group	Risperidone Group
No. patients	41	21	20
Age, y	74.7 (3.0)	75.2 (3.0)	74.1 (3.0)
Sex, % female	61	61.9	60
NPI1	23.6 (3.8)	23.9 (3.6)	23.3 (3.8)
NPI2	27.1 (3.9)	27.2 (3.8)	27.1 (3.6)
NPI total	51.2 (4.6)	51.6 (4.1)	50.8 (4.9)
CMAI	56.4 (5.3)	58.6 (4.2)	54.1 (5.53)
MMSE	18.4 (3.1)	18.6 (2.9)	18.3 (3.2)

Values are presented as mean (SD), unless stated otherwise.

NPI1 indicates Neuropsychiatry Inventory part 1; NPI2, Neuropsychiatry Inventory part 2; NPI total, NPI1 and NPI2 sum of scores.

Results

Treatment groups were comparable at baseline on the variables of sex, age, and severity of behavioral disturbance and cognitive status (Table1).

Table 2 shows outcome measures and cognitive status changes within groups and comparison of the changes between the two groups.

Discussion

Our 8-week double-blind, randomized clinical trial demonstrated a comparable efficacy and safety for both low-dose (25-50 mg/d) topiramate and risperidone in the treatment of behavioral disturbances associated with Alzheimer' dementia. Low-dose topiramate did not show more cognitive deterioration in our patients.

In line with our study, there were some previous studies that had demonstrated the efficacy of topiramate in reducing agitation and behavioral disturbances in patients with schizophrenia (4), dementia (5) and bipolar disorder(6).

However, it needs to be mentioned that our study is preliminary, and a larger double-blind controlled studies are needed to confirm the results.

TABLE 2. Outcome Measures and Cognitive Status Changes Within Groups and Comparison of the Changes Between Groups

	Topiramate Group			Risperidone Group			Comparison of the 2 Groups
	Baseline, Mean (SD)	8 Wk, Mean (SD)	*P*	Baseline, Mean (SD)	8 Wk, Mean (SD)	*P*	*P*
NPI1	23.9 (3.6)	15.9 (3.2)	0.000	23.3 (3.8)	14.2 (3.5)	0.000	0.574
NPI2	27.2 (3.8)	24.7 (3.4)	0.009	27.1 (3.6)	23.0 (4.5)	0.009	0.456
NPI total	51.6 (4.1)	41.1 (3.4)	0.000	50.8 (4.9)	38.0 (6.7)	0.000	0.531
CMAI	58.6 (4.2)	53.0 (4.2)	0.003	54.1 (5.53)	48.0 (3.9)	0.001	0.927
MMSE	18.6 (2.9)	18.2 (2.6)	0.327	17.3 (3.2)	17.0 (2.5)	0.306	0.479
CGI-2		3.1 (0.96)			2.9 (1.2)		0.654

NPI1, Neuropsychiatry Inventory part 1; NPI2, Neuropsychiatry Inventory part 2; NPI total, NPI1 and NPI2 sum of scores; CGI-2, efficacy index of Clinical Global Improvement.

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