A Pilot Study of the Clinical Efficacy and Safety of Memantine for Huntington’s Disease

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ABSTRACT

OBJECTIVE: To determine the clinical efficacy and safety of memantine in Huntington’s disease (HD). BACKGROUND: The excitoactivatory activity of L-glutamate may affect the prognosis of HD. Memantine, an N-methyl-D-aspartate antagonist used to treat Alzheimer’s disease, could theoretically retard the progression of this disorder, improve cognition, and improve movement. METHODS: HD patients were recruited from Baylor College of Medicine. Twelve were started on memantine, started at a daily dose of 20 mg and followed for three months. Other medications were unchanged during this period. RESULTS: Three patients stopped memantine because of lack of apparent efficacy (N = 1) and adverse events (N = 2). The remaining patients (N = 10) were followed for 3.6 ± 2 months (Table 1). A significant difference existed between their initial (N = 432 ± 117) and final (N = 33.50 ± 11.1) total UHDRS motor scores (P < 0.006) as well as in their maximum (P < 0.0002) and minimum (P < 0.006) UHDRS motor scores (Table 2). Patients did not show a significant change in their cognitive (P = 0.08) or behavioral (P = 0.358) ratings. Their total functional capacity (P = 0.078) and independence scale rating (P = 0.13) also failed to show a significant change (Figure 1). In conclusion, most (N = 7, 77.7%) patients did not have any adverse effects under memantine; one (11.1%) reported dizziness, another (11.1%) complained of worsening balance, speech and social interaction. No serious adverse events were reported.

RATIONALE

Memantine, due to its uncompetitive antagonism, prevents activation of NMDA receptors, but allows their physiologic activity, decreasing the probability of side effects.

METHODS

We recruited HD patients from Baylor College of Medicine. Twelve patients were started on memantine. They were:

- Treated at a daily dose of 20 mg
- Followed for 3 months
- Other medications were unchanged during this period.

Ascertained information included:

- Demographic data
- Vital signs
- UHDRS (scale 1)
- Initial evaluation
- Follow-up evaluation
- Concomitant medications

RESULTS

Three patients stopped memantine because of lack of apparent efficacy (N = 1) and adverse events (N = 2). Patients treated to a maximum dose of memantine and were followed for 3.6 ± 2 months (Table 1). A significant difference existed between their initial (N = 432 ± 117) and final (N = 33.50 ± 11.1) total UHDRS motor scores (P < 0.006) as well as in their maximum (P < 0.0002) and minimum (P < 0.006) UHDRS motor scores (Table 2). Patients did not show a significant change in their cognitive (P = 0.08) or behavioral (P = 0.358) ratings. Their total functional capacity (P = 0.078) and independence scale rating (P = 0.13) also failed to show a significant change (Figure 1). In conclusion, most (N = 7, 77.7%) patients did not have any adverse effects under memantine; one (11.1%) reported dizziness, another (11.1%) complained of worsening balance, speech and social interaction. No serious adverse events were reported.

CONCLUSIONS

- In this mild to moderate HD trial, doses of memantine significantly decreased motor symptoms (progressively slowing, but failed to show improvement in patients’ cognition, behavioral dysfunction, or independence scales).
- All patients tolerated memantine without side effects.
- Larger controlled trials and long-term trials to assess for disease modification are justified.

REFERENCES