Review: Bromocriptine may be beneficial in delaying motor complications and dyskinesias in Parkinson disease

Ramaker C, van Hilten JJ. **Bromocriptine versus levodopa in early Parkinson's disease.** Cochrane Database Syst Rev. 2000;(3):CD002258 (latest version 22 Feb 2000).

QUESTION

In patients with Parkinson disease (PD), how effective is bromocriptine (BR) monotherapy for delaying the onset of motor complications associated with levodopa (LD) therapy?

DATA SOURCES

Studies were identified by searching the Cochrane Controlled Trials Register (1999, issue 2), using the search strategy of the Movement Disorders Group (includes computerized searches of MEDLINE and EMBASE/Excepta Medica and hand searching of appropriate neurology journals), scanning reference lists of identified reviews, reviewing symposia reports and PD books, and contacting experts in the field and the manufacturer of BR.

STUDY SELECTION

Studies were selected if they were randomized controlled trials that evaluated the effectiveness of BR monotherapy and LD therapy for delaying the onset of motor complications in PD.

DATA EXTRACTION

Data were extracted on study methods, patient characteristics, occurrence and severity of motor complications, changes in impairment and disability, and side effects.

MAIN RESULTS

6 studies that involved 850 patients (mean age range 60 to 68 y, mean disease duration range 12 to 25 mo) met the selection criteria. Study results could not be pooled because of methodologic problems and study incomparabilities. Available individual trial data were reanalyzed. Dyskinesias were reported in 6 trials; in 3 trials, the occurrence was too low to draw any conclusions. Of the remaining 3 trials, BR led to a lower occurrence of dyskinesias in only 1 large trial after 3 years {relative risk reduction (RRR) 93%, 95% CI 83 to 97, number needed to treat (NNT) 4, CI 4 to 5}*. Dystonia was reported in 5 trials; its occurrence was lower in the BR group in only 1 large trial at 3 years {RRR 73%, CI 56 to 83, NNT 6, CI 5 to 8}*. Wearing off (end of dose) was reported in 2 trials; trends favored BR. On–off fluctuations were reported in 3 trials; their occurrence was lower in the BR group in 1 trial after 3 years {RRR 85%, CI 74 to 91, NNT 4, CI 4 to 5}*. Impairment was reported in 6 trials. 1 large trial reported a greater improvement for the LD group during the first year of therapy; the other trials found no difference. 4 trials evaluated disability, and all found no differences between the groups. Overall, a larger number of dropouts occurred in the BR groups because of inadequate therapeutic response or intolerable side effects.

CONCLUSION

In patients with Parkinson disease who can tolerate bromocriptine, bromocriptine may be beneficial in delaying motor complications and dyskinesias with effects similar to levodopa therapy on impairment and disability.

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*Numbers calculated from data in article.

COMMENTARY

This review of 6 trials by Ramaker and van Hilten shows that initiating treatment of PD with the agonist BR as monotherapy decreases the incidence of dyskinesia and probably wearing-off and on–off complications. Some of the trials were brief, with the longest being only 5 years. The mean age of the patients was between 60 and 68 years. Side effects of BR, particularly hallucinations and postural hypotension, occur more frequently in elderly patients. The high rate of dropouts observed might have been even greater if the patients had been older.

These results are consistent with recent data on ropinirole as monotherapy for PD (1). Treatment with this newer agonist led to fewer dropouts than with BR. Even in this study, however, only 34% completed 5 years of receiving ropinirole alone. In the largest BR trial, only 31% completed 3 years of receiving BR alone compared with 68% who received LD (2). Another limitation of agonists is the recently reported occurrence of sudden sleep attacks. This appears to be a class effect of agonists, although the incidence is higher with pramipexole and ropinirole than with BR (3).

Initiating treatment with an agonist is worth consideration, particularly in younger patients. Enthusiasm has to be tempered by the realization that many patients either cannot tolerate agonists or will not continue taking them beyond 3 to 5 years without also taking LD.

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References

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