The Herbal Treatment of Parkinson’s Disease:  
A Possible Role for BR-16A (Mentat)

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ABSTRACT
BR-16A (Mentat), is a herbal medication which has been found to enhance cognition in various animal models. In the laboratory rat, it also enhances dopamine postsynaptic receptor functioning. This suggests a potential application in Parkinson’s disease. A case is presented of the attenuation of severe Parkinson’s tremor by BR-16A (Mentat) and its efficacy in this disorder is discussed.

Key words: Mentat, Parkinson's disease, L-Dopa

INTRODUCTION
BR-16A (Mentat, The Himalaya Drug Co., Bangalore, India) is a herbal medication derived from principles laid down in Ayurveda, a traditional system of medicine in India. BR-16A (Mentat) contains over 20 different ingredients, the exact formulation differing between paediatric and adult presentations of the composite. Important ingredients of BR-16A (Mentat) suggested to improve memory functions include the following: Brahmi (Bacopa monnieri), Mandukaparni (Centella asiatica), Ashvagandha (Withania somnifera), Jatamansi (Nardostachys jatamansi), Vach (Acorus calamus), Jyotishmati (Celastrus paniculatus) and Sunthi (Zingiber officinale).

The other ingredients of BR-16A (Mentat) claimed to be nerve tonics include Tagara (Valeriana wallichii), Vatadha (Prunus amygdalus), Salabmisi (Orchis mascula), Lavanga (Syzygium aromaticum) and Mukta pishti. The remaining ingredients are putative, general tonics and vitalizers. Each ingredient is a plant extract which contains a variety of psychotropic and other compounds. The formulation of BR-16A (Mentat) is in accordance with Ayurvedic principles - different components of the formulation mutually complement each others’ properties.

Pre-clinical research has found that BR-16A (Mentat) enhances cognition and protects against both anterograde and retrograde amnesia induced by electroconvulsive shocks (ECS) in rats. This relationship holds even when rats are pre-selected for poor learning in an effort to define the floor effect of the formulation.

Studies on the mechanism of action of BR-16A (Mentat) have indicated that it may have opioid peptidergic activity. BR-16A (Mentat) does not appear to influence α-2 adrenergic receptor functioning but enhances the activity of dopamine postsynaptic receptors in vivo in laboratory rats.

Parkinson’s disease is characterised by both dopaminergic hypofunction and cognitive decline. There is, therefore, a hypothetical potential for the application of BR-16A (Mentat) in this disorder. A case is herein presented of the use of BR-16A (Mentat) in an elderly male suffering from Parkinson’s disease.

CASE REPORT
Mr. F. aged 67, was diagnosed as suffering from Parkinson’s disease of 7 years’ duration. The most prominent symptom was bilateral coarse tremor of the hands, more pronounced on the right than on
the left. This tremor interfered with his activities of daily life. He was unable to write or sign his name, to hold a cup of coffee to his lips without spilling some of the fluid; to button his clothing, etc.

Cog-wheel rigidity of both upper limbs (at the wrist joints) was present. There was mild, global, bradykinesia.

There was a past history of treatment with anticholinergic medication. The treatment had been discontinued due to poor tolerance of the peripheral anticholinergic side-effects. L-dopa had not been considered as Mr. F. had comorbid bipolar affective disorder. BR-16A (Mentat) was therefore started on an experimental basis at a dose of 2 tablets twice a day after obtaining the patient’s consent.

The patient was reassessed one month later. The most evident change was in the tremor which, although still present, was much improved. Mr. F. was able to write, sign his name, drink coffee without spilling the fluid and button his own clothing. A global rating of the severity of his tremor had reduced from moderate (2/4) to mild (1/4). Objective ratings of the tremor component on the Extrapyramidal Symptom Rating Scale decreased from 12 to 8.5. On this scale, rigidity decreased from a rating of 2 to 1. There was no change in gait, posture or elements of bradykinesia.

Ratings of mood on the Hamilton Rating Scale for Depression, ratings of motor dexterity (finger tapping test, probe tapping test, bead sorting test) and ratings of memory (digit span, complex figure recall) showed little pre- and post-treatment difference. Ratings of abstraction and perceptuo-motor function (Koh’s Block Design timed task for items 1-5) however improved from a total score of 722 seconds to 473 seconds.

Six months later, the clinical improvement in tremor was observed to be maintained. No adverse effect of any nature was observed over the course of treatment.

DISCUSSION
Conventionally, drugs that augment dopaminergic neurotransmission are considered to primarily improve bradykinetic symptoms in Parkinson’s disease. Curiously, BR-16A (Mentat) which increases dopaminergic neurotransmission in laboratory animals, improved tremor, not bradykinesia.

Conventionally, drugs considered useful to treat tremor in Parkinson’s disease have anticholinergic properties. Curiously, BR-16A (Mentat) showed no anticholinergic activity at least as could be evidenced by the absence of peripheral anticholinergic adverse effects. In fact, in animal studies, BR-16A (Mentat) has been found to reverse anticholinergic drug-induced impairment of memory. In effect, the mechanism whereby BR-16A (Mentat) attenuated the tremor is uncertain.

Further investigation is warranted to assess the effect of BR-16A (Mentat) on the symptom profile of Parkinson’s disease.

As a concluding note, many plant extracts, including some in the BR-16A (Mentat) formulation, are known to contain L-dopa. The various extracts in BR-16A (Mentat) are however present in milligram doses. Being crude extracts, the quantum of L-dopa contained therein is likely to be negligible. L-dopa sans a peripheral decarboxylase inhibitor is required in gram doses to be therapeutic in Parkinson’s disease. Clearly, unless a homeopathic theory of sensitisation is valid, BR-16A (Mentat) does not act through L-dopa.

REFERENCES


