

Research Paper

Medical Science



Cerebroprotein Hydrolysate in Treatment of Dementia

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ABSTRACT

Alzheimer's disease (AD) is a progressive neurodegenerative disorder and is one of most prevalent diseases of the elderly. Neurotrophic factors are being considered as a crucial therapeutic strategy for neurological disorders such as dementia or stroke. Similar pharmacological effects have been shown for Cerebrolysin, a neuropeptide preparation used for the treatment of neurodegenerative and cerebrovascular disorders. Here we report two cases of dementia where cerebroprotein hydrolysate was found helpful in improvement of patient's condition.

Keywords : cerebroprotein hydrolysate, dementia, Alzheimer, vascular

Introduction

The word dementia comes from the Latin *demens* meaning 'without a mind'.¹ Dementia which is characterized by loss of or decline in memory and other cognitive abilities is caused by various diseases and conditions that result in damaged brain cells.² There are several forms of dementia, Alzheimer's disease being the most common, and vascular dementia the second most common form.³ It is characterized by development of multiple cognitive deficits manifested by both memory impairments and cognitive disturbances like aphasia, apraxia, agnosia and disturbances in executive functioning.⁴ Dementia has a significant impact on the quality of life of the sufferer and a very distressing effect on friends and family.⁵

Alzheimer's disease (AD) is a progressive neurodegenerative disorder and is one of most prevalent diseases of the elderly.⁶ Cerebroprotein hydrolysate is a neurotrophic peptidic mixture produced by standardized enzymatic breakdown of lipid-free porcine brain proteins.⁷ It has unique neurotrophic activity that enhances neurogenesis, neuronal survival, provides neuromodulatory action, increases neuronal plasticity and neuronal repair and has neuroimmunotrophic actions.⁸ It has demonstrated significant improvements in clinical global impression, cognitive performance and on level of activities of daily living in patients suffering from Alzheimer's and vascular dementia.⁹⁻¹⁰ For treatment of dementia we have no other drugs available which acts at neuronal level. Cerebroprotein provides us with this option and here we report two case reports where we had found cerebroprotein very useful in management of patients having dementia.

Case Reports

Case 1

An 80 year old uneducated Hindu male was brought to us

by his family members with chief complaints of forgetfulness since 2-3 months. He would forget where he has kept his belongings; forget whether he had meals or not, would sometimes even enter wrong building when he would go outside the house alone. He even stopped communicating with family members and would not be able to recognize family members. Gradually he became dependent on others for his self care. He would not be able to brush and bathe on his own. He had to be dressed up and fed by family members and started passing urine and stools in clothes. Gradually he started having difficulty in standing and walking by self and was wheel chair bound. Occasionally he would be found muttering and gesticulating to himself. His sleep cycle was disturbed and he would remain awake at night for a long time. He did not have any past history of psychiatric illness or any significant medical or surgical illness. His general and systemic examination did not reveal any significant findings. His Addenbrooke's Cognitive Examination- (ACE-R) score was 9/100 and Mini Mental Status Examination (MMSE) Score was 8/30. All his routine investigations were within normal limits. A magnetic resonance imaging (MRI) study of his brain showed multiple lacunar ischemic foci in bilateral cerebral hemisphere, bilateral periventricular ischemic white matter changes and a tiny area of gliosis seen in right frontal white matter with small non-hemorrhagic infarct seen in right posterior parietal region and mild age related cerebral atrophy. He was diagnosed as having Vascular Dementia and started on Donepezil + Memantine (5 + 5 mg), Ramelteon (8mg) for sleep along with Quetiapine (100mg). He was started on Aspirin 150mg and Atorvastatin 20mg by the physician. Even after one month of taking above medications there was no improvement in his condition. He was then started on Inj. Cerebroprotein Hydrolysate 60 mg in 250 ml of normal saline intravenously over 60mins on daily basis. He received a total of 20 injections.

The patient started gradually improving. He started communicating and recognizing family members. He started taking self care, would feed by self, bathe and brush by self and dress by self. He started going to the toilet for passing urine and stools by himself. His ACE-R score improved to 22/100 and MMSE to 14/30.

Case 2

An 85 year old female patient was referred to us by the medicine department whose complaints had started 2 years back when she presented with altered behavior in the form of suspiciousness towards family members and strangers along with auditory and visual hallucinations. She also became forgetful and would forget whether she had eaten food or not, while she would talk about incidents that had not taken place. These symptoms were episodic. The patient then had one episode of giddiness and a fall. Brain imaging done suggested lacunar infarct of right internal capsule and an infarct in the right posterior cerebral artery (PCA) territory. She was a known case of diabetes mellitus and hypertension with irregular treatment patterns. After the fall, the patient had a weakness of the left side of her body and left sided homonymous hemianopia, would not recognize family members and would talk irrelevant intermittently while she would pass urine in clothes, had become increasingly irritable, picking at her clothes and started placing objects inside her clothes. These symptoms would worsen towards the evening. The patient was not able to perform her daily chores on her own like taking a bath, dressing undressing, eating food. The patient was diagnosed as having neurocognitive disorder due to stroke in a known case of diabetes and hypertension and admitted in medicine ward. She was started on Aspirin (150mg), Atorvas-

tatin (20mg), Amlodipine (5mg), Ramipril (5mg) and Inj. Lente insulin 8 units twice a day. A urinary catheter was also placed. The patient did not show significant improvement and was wheelchair bound.

She was referred to the psychiatry department in view of her irrelevant talking. We evaluated her and diagnosed her as having Delirium on Dementia with behavioral and psychological symptoms associated with dementia (BPSD) in a case of cerebrovascular accident. She was started on Donepezil (5mg), Memantine (5mg), Tiapride (50mg), Citicoline (500mg) + Piracetam (800mg) combination and Ramelteon (8mg) with multivitamin injections. As there was no improvement in her condition she was started on injection Cerebroprotein Hydrolysate on an out patient basis, after about a month of the fall. She received 60mg cerebroprotein hydrolysate in 250 ml of normal saline intravenously over 60mins for 20 days. After course of 20 injections patient showed significant improvement - she was able to recognize family members, could walk with support. She could perform daily chores with some help from family members.

Discussion

For treatment of dementia we have very few medical options in form of acetylcholinesterase inhibitors like donepezil and N-methyl-D-aspartate (NMDA) receptor blockers such as memantine. Cerebroprotein hydrolysate provides us with an option for improvement in activities of daily living in such patients which would be a great relief for care givers. It reduces the dependence of patient on others as was seen in both the cases though further rigorous controlled safety and efficacy studies across various populations is needed.

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