Is the role of BDNF in depression and dementia already proved?

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Abstract

The structural changes of the aging brain lead to cognitive decline which can end in dementia. But why almost the same pathological changes are often found in patients with late-life depression? Does this mean that depression and dementia are two links of one continuing process?

The same concerns the issue of neurochemical changes found in patients with dementia and depression. One of the prominent neurochemical findings of last years is the fact that the concentration of the brain-derivated neurotrophic factor /BDNF/ in patients with dementia and depression is declined. It is raised again when effective treatment of depression is carried out but it seems that the same doesn’t happen during the drug treatment of patients with dementia. Perhaps it could be understood according to the fact that the results of such treatment are much poorer than in the depression cases. But still there is no understandable explanation of the raised concentration of BDNF in patients with co-morbidity of dementia and depression.

Besides there is obvious data that the concentration of BDNF decreases along the aging. So further studies are needed for assessing the role of BDNF and other neurotrophic factors oscillations in patients with neurodegenerative processes and psychopathological states as well as their dynamics during the therapy.