Zinc and depression. An update

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Abstract:
Unsatisfactory clinical efficacy and a variety of adverse effects of current antidepressant drugs have incited search for better therapy. Zinc, an antagonist of the glutamate/N-methyl-D-aspartate (NMDA) receptor, exhibits antidepressant-like activity in rodent tests/models of depression. Similarly to antidepressants, zinc induces brain derived neurotrophic factor (BDNF) gene expression and increases level of synaptic pool of zinc in the hippocampus. Clinical observations demonstrated serum hypozincemia in depression, which was normalized by effective antidepressant treatment. Moreover, our preliminary clinical study demonstrated the benefit of zinc supplementation in antidepressant therapy. All the data indicate the important role of zinc homeostasis in psychopathology and therapy of depression and potential clinical antidepressant activity of this ion.

Key words: zinc, depression, antidepressants, NMDA, BDNF