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MEETING ABSTRACT Open Access

Anticonvulsant treatment and mood disorders. A Vitamine B12 key role?

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Background

Clinical study of the correlation of plasma Vitamin B12 levels and mood disorders in a patient with history of long term treatment with antiepileptic drugs. A female patient with bipolar disorder II, treated in the near past with carbamazepine and sodium valproate, during her stay in our clinic ward mentioned weakness and loss of sensation in both arms, accompanied with a filling of unstable walking and hemodia. After the full neurological clinical evaluation and examination with structural neuroimaging procedures such a CT scan and MRI, our attention was moved to the possible relationship between the reported symptoms with the B12 serum levels. As the levels were 150 pg/ml and our patient's blood cell values do not reveal megaloblastic anaemia, we started substitute treatment, provided that she had been taking antiepileptic medicine for years and had low toxicity of B12. At following neurological examinations the patient's clinical icon had improved. Carbamazepine and sodium valproate are widely used as maintenance treatment of bipolar disorder. Although the alteration of accumulation of B12 in serum is not totally acceptable by scientists, there are indications for the relation between antiepileptic medicine and reduced levels of B12 at least at cerebrospinal fluid folate. Additionally, the combination of any inefficiency with the chronic alcoholism that is often present in this category of mental patients and the rise of life expectancy creates the need of a bigger demanded quantity of B12 in their diet.

Materials and methods

Clinical examination, laboratory tests, neuroimaging and bibliographic research.

Results

The full spectrum of relations between B12 and psychiatric illness is still not clear. Much of the evidence comes from case-control and cross-sectional studies. Cohort studies and definitive randomized-controlled trials to test the therapeutic benefit of B12 are required to confirm or refute any causal relationship. Evidence suggesting a causal relationship between the disturbed vitamin metabolism and the abnormal mental state.

Conclusions

The introduction in routine laboratory test of the determination of B12 serum levels under the evidence of the association of B12 deficiency and low serum B12 values in patients with mental disorders and atypical psychiatric symptoms may help. As the neuropsychiatric severity by vitamin B12 deficiency and the therapeutic efficacy depends on the duration of signs and symptoms, the B12 levels should be evaluated in every patient with history of treatment with antiepileptic drugs, resistant depressive disorders, dementia, psychosis or risk factors for malnutrition such as alcoholism or advancing age associated with neurological symptoms, anaemia, malabsorption, gastrointestinal surgery, parasite infestation or strict vegetarian diet.

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