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### CHARLES BONNET SYNDROME AND VITAMIN B12 DEFICIENCY: A CASE REPORT

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Visually impaired patients may experience complex visual hallucinations, a condition known as the Charles Bonnet syndrome (CBS). In the elderly, vitamin B12 deficiency has been implicated in various psychiatric conditions such as dementia, depression, delirium.

Here we report the case of 78 years old women with low vision due to bilateral glaucoma and unilateral cataract who was admitted in our psychogeriatric unit for complex and repetitive visual hallucinations (male characters, visions of her childhood), localized in external space that occurred acutely, inducing emotional distress and paranoia in response to the imagery. She had no past history of any psychiatric disorder. Psychiatric and physical exam, lab test, neuropsychological testing, EEG and brain CT scan ruled out visual hallucination due to dementia, epilepsy, delirium, psychosis. Therefore, criteria for CBS diagnosis were fulfilled.

Emotional distress was so intense that risperidone (1 mg/day) was started that permitted better insight within few days. Plasma vitamin B12 was low (< 44 pmol/L) unless normal red blood cell count. Supplementation with vitamin B12 (1mg/day) was started and plasma vitamin B12 increased within 1 month (198 pmol/L). In the same time, visual hallucinations disappeared and riperidone was stopped. Three month later, supplementation with vitamin B12 was stopped and visual hallucinations reappeared as plasma vitamin B12 was 87 pmol/L. Therefore, vitamin B12 alone (1 mg/day) was administered again and the CBS disappeared within 2 weeks.

To our knowledge, this is the first report of CBS associated with vitamin B12 deficiency successfully improved by vitamin B12 supplementation.