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CASE REPORT

Effect of Carbamazepine and Clonazepam Combination on Charles Bonnet Syndrome: A Case Report

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There is no established treatment for Charles Bonnet Syndrome (CBS). As a naturalistic study, a 68-year-old woman with CBS received carbamazepine alone, carbamazepine plus clonazepam, clonazepam alone, and again, carbamazepine plus clonazepam, consecutively. As a result, the combined use of carbamazepine and clonazepam was most effective. The present results suggest that carbamazepine and clonazepam combination can be useful in the treatment of CBS in some patients. © 1998 John Wiley & Sons, Ltd.

KEY WORDS — carbamazepine; clonazepam; combination treatment; Charles Bonnet Syndrome

INTRODUCTION

Charles Bonnet Syndrome (CBS) is characterized by the presence of complex visual hallucinations in psychologically normal people. Although the syndrome was considered to be rare for a long time, Teunisse *et al.* (1996) demonstrated that 60 of 505 (12 per cent) visually handicapped patients suffered from CBS. Thus, CBS seems to be more common than it was previously thought to be.

Nonetheless, there is no established treatment for CBS, though a few case reports (Hosty, 1990; Bhatia *et al.*, 1992) showed the benefits of carbamazepine use for the treatment of CBS. Recently, Batra *et al.* (1997) reported three cases of CBS which were successfully treated with the atypical neuroleptic melperone, but it is uncertain whether this will be confirmed by other investigators. Thus, at present, several attempts are required to establish the treatment of CBS.

This report presents a woman with CBS responding to a carbamazepine and clonazepam combination. To the best of the author's knowledge, this is the first report describing the usefulness of a carbamazepine and clonazepam combination in the treatment of CBS.

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CASE REPORT

A 68-year-old woman was seen with her husband on 21 March 1997. There was no family or personal history of psychiatric illness or epilepsy. She suffered from left Bell palsy and C-type hepatitis at the age of 60 and 64, respectively.

The patient reported that she had begun to see black spots on the wall in the evening in December 1995. She could recognize the unreality of black spots. Moreover, she sometimes perceived the wall and ceiling 'approaching' her at night. When the lights were on, and reflecting off the wall and ceiling, the latter seemed to recede from her. Furthermore, she sometimes saw the face of a man on the ceiling. Again, she could recognize that these phenomena were not real. Throughout these periods, she did not take any medicine including triazolam. After consulting several doctors, she was seen by a neurologist who prescribed haloperidol and tiapride, but with little effect. In September 1996, she underwent surgery for cataracts of both eyes. Although her visual acuity improved to some extent (visual acuity, $R = 0{\cdot}3$, $L = 0{\cdot}3$), her visual hallucinations improved little. She saw eels swimming on the floor when she came back to her house from the hospital. Thereafter, she was on 0·25 mg a day of triazolam, 50 mg a day of tiapride, and 100 mg a day of pentoxifylline, but they brought about little effect.

Thus, the neurologist advised that she had better see a psychiatrist, and he introduced her to me on 21 March 1997.

She said that she saw unreal black spots or stones every night, and that she sometimes saw a white cloud, a purple cloud, and/or the face of a man on the ceiling, particularly when closing her eyes at night. There were no symptoms suggesting other psychiatric or neurological disorders. A complete blood count, blood chemistry test, and thyroid studies revealed only slight liver dysfunction. Serological tests for syphilis were negative. Although the findings of electroencephalography were considered within normal range, magnetic resonance imaging (MRI) of the brain indicated slight cortical atrophy and slight hyperintensities in the pallidum and putamen on both sides.

On 4 April she was started on 100 mg a day of carbamazepine. On 18 April, she said that carbamazepine seemed to be somewhat effective, but that when she could not fall asleep, she still saw black spots, stones and/or a human face appearing in the dark subjective space in front of her eyes while closing eyes. In such cases, she took 0·125 or 0·25 mg a day of triazolam for insomnia. Thus, carbamazepine was increased to 200 mg a day, but soon decreased to 100 mg a day because she suffered from paresthesia in her oral cavity and dysphoria probably due to carbamazepine. It was confirmed by rechallenge by the administration of 200 mg a day of carbamazepine.

Two months after starting carbamazepine treatment, the unreal stones disappeared, although the concentration of 100 mg a day of carbamazepine was relatively low (2·3 μg/ml). However, she and her husband said that the medicine was not sufficiently effective. Thus, it was decided to add 0·5 mg a day of clonazepam to the 100 mg a day of carbamazepine on 27 June. Consequently, the unreal faces came to appear less frequently. Thereafter, only carbamazepine was withdrawn to investigate the possibility that only clonazepam was effective for her visual symptoms. As a result, the unreal faces reappeared. Again, 100 mg a day of carbamazepine was combined with 0·5 mg a day of clonazepam with the result that her visual symptoms almost completely subsided beginning 19 August. On 12 September, she was referred back to the neurologist at her request because it was more convenient for her to see the neurologist than continue treatment at the university hospital.

DISCUSSION

In the present case, a psychologically normal woman had complex as well as simple visual hallucinations which were recognized as unreal and occurred in the absence of any other psychiatric symptoms. Of note, she saw unreal things mainly while closing her eyes. This pattern of CBS was described by Teunisse *et al*. (1996), who reported that 13 per cent of patients with CBS hallucinated only when their eyes were closed, perceiving hallucinations in the dark subjective space in front of their eyes. Thus, she was diagnosed as suffering from CBS. On the other hand, hypnagogic hallucinations were unlikely because she experienced visual hallucinations in the middle of the day (e.g. seeing eels on the floor when she came back to her house from the hospital). Also, visual hallucinations induced by triazolam were ruled out because her hallucinations occurred before she began to receive triazolam.

In the treatment of CBS of this patient, carbamazepine could not be increased to sufficient doses because of the side effects. However, it was continued at a lower dose because even 100 mg a day (2·3 μg/ml) of carbamazepine seemed to be somewhat effective. The beneficial effect of the carbamazepine treatment, i.e. the disappearance of the unreal stones, did not manifest itself until 2 months after starting treatment, the delay probably being due to the low dose. Moreover, after clonazepam addition, the unreal faces also disappeared. It seems unlikely that only clonazepam was effective for her CBS, because her hallucinations increased after carbamazepine discontinuation. Thus, it is probable that it was the combined use of carbamazepine and clonazepam which was most effective in the treatment of CBS in this patient.

With regard to the etiology of CBS in this patient, visual sensory deprivation seems unlikely because her CBS improved little after her visual acuity improved. An irritable cortex also seems unlikely because she had normal electroencephalographic findings. Alternatively, organic changes in the brain such as slight cortical atrophy and bilaterally slight hyperintensities in the pallidum and putamen revealed by MRI might have produced CBS in this patient. Also, it seems probable that carbamazepine and clonazepam improved such an organic hallucinosis because there are case reports showing the effect of carbamazepine on organic visual hallucinosis similar to CBS (Stewart and Yelton, 1995) and on organic

auditory hallucinosis with musical hallucinations (Erkwoh *et al*., 1992).

In conclusion, the present case suggests that a carbamazepine and clonazepam combination can be effective in the treatment of CBS in some patients.

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