Treating multiple sclerosis with amantadine hydrochloride

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The association of viruses with certain chronic neurological diseases, e.g. Parkinson's disease and multiple sclerosis (M.S.) is gaining in significance. This association prompted me to investigate the effect of the antiviral agent amantadine hydrochloride on a patient suffering from multiple sclerosis.

The progress and improvement of the patient during a period of two years prompted this communication. Numerous clinical trials have demonstrated that amantadine hydrochloride is prophylactically effective against the virus of influenza of the A_2 strain.

Case history

J.D. aged 47 yrs. In January, 1962, after a period of marital disharmony, he complained of dizziness and difficulty in walking straight. There was slight slurring of speech and stiffness in his legs after sitting for a long period in one position. The investigations at that time were negative, and it was thought that the symptoms were due to anxiety. However, his dizziness persisted and further examination did not substantiate any explanation for his condition, and he was referred to a psychiatrist who was unable to explain the dizziness. The dizziness persisted and in June, 1966 a further revision did not elucidate the cause and he was referred for the opinion of the E.N.T. surgeon, who was doubtful if the dizziness was a true labyrinthine vertigo. It was not until July 1967, when the patient complained of progressive difficulty in walking and gave a history of diplopia that the diagnosis of multiple sclerosis was accepted.

Condition of the patient before treatment

From July 1967, his condition gradually deteriorated and the dizziness became troublesome. His gait was very unsteady and he was unable to maintain his balance, often falling down. Diplopia was a permanent feature and he became frustrated as he was unable to read, watch television, and follow his electronic hobby which he had always enjoyed. Speech became slurred and he had difficulty in pronunciation and was unable to complete sentences. Conversation was difficult and caused tiredness and breathlessness. Tremor became accentuated. He was unable to write and he had difficulty in drinking from a cup. His upper and lower limbs were rigid and weak. He had difficulty in grasping bannisters to go upstairs and therefore he was compelled to remain downstairs for the night.

The patient felt irritable and occasionally was violent and uncommunicative. He lacked affection for his family and secluded himself at home. He experienced tingling in the fingers, and had cold hands. There was weakness of the bladder with precipitant micturition which became troublesome and he often wet his clothes. This was one of the main reasons why he was unwilling to go out into the town or park. Bowel movement became more frequent, and on occasions he soiled his clothes.

In spite of this condition, he still attempted to carry out domestic chores which tired him and often left him exhausted. As he was unable to care for himself, his mother came to live with him permanently. She noticed that his condition gradually deteriorated and her relationship with him became very strained. She was often the victim of his irritability and occasional violence.

Treatment and progress

On 12 July 1972, the patient was given amantadine hydrochloride, 100 mg at 12-hourly intervals.

Nine days later he became more talkative and less irritable. There was improvement

in speech and he showed a desire to meet people. On 28 July 1972, the diplopia disappeared for six hours. His hearing improved and his appetite increased.

The amantadine hydrochloride was increased to 300 mg daily and within a week the diplopia disappeared completely. Further improvement of the patient manifested itself in the disappearance of dizziness—reduction of unsteadiness, and complete arrest of the tremor. Marked improvement of speech—he was able to pronounce words correctly and follow conversation without breathlessness and tiredness. Satisfactory control of the bowel and bladder functions enabled him to go out into town to do his shopping or visit neighbouring parks. His relationship with his family and neighbours improved and his life became more purposeful. On his own initiative he has taken two holidays annually.

Stopping treatment

To assess the value of the treatment and ascertain that progress was not due to natural remission or psychological factors, the treatment was stopped on 18 October 1973. Within three weeks his condition deteriorated. He felt generally weak and tired, irritable and occasionally violent. The dizziness returned, there was deterioration of bladder and bowel function and loss of balance. He lost his previous zest for domestic chores and once again secluded himself in the house. The obvious worsening of his condition prompted me to resume the treatment.

Resumption of treatment

The treatment was re-started on 10 January 1974. Amantadine hydrochloride 300 mg was given daily until 7 February 1974 when, owing to heartburn, it was reduced to 200 mg daily. From the very outset of the treatment there was a gradual improvement in the patient's condition which manifested itself within three weeks. The patient felt better, stronger, less irritable and more calm, and had more urge to do his household chores as easily as before without being tired. He had control of micturition: he felt he could safely go out again. As the treatment continued, his condition became similar to the period during the treatment.

Conclusion

The progress of the patient under treatment with amantadine hydrochloride, and the possibility of multiple sclerosis (MS) being associated with virus infection indicate that amantadine could alleviate the patient's condition. Further investigation could be rewarded with beneficial results in this very distressing disease.

Addendum

Since writing this, another patient came under my care with multiple sclerosis.

Mrs E. E., aged 51 years. In June 1973, she complained of unsteadiness of gait, impaired vision with a history of optic neuritis. In March 1974, her condition deteriorated and her clinical picture was typical of multiple sclerosis. I decided to treat her with amantadine hydrochloride, 100 mg b.d. The improvement was dramatic. Her headache disappeared, the speech improved and the unsteadiness of gait ceased within ten days.

The rapid improvement shows that early symptoms of multiple sclerosis can be controlled quicker, and further follow up is essential to ascertain if amantadine hydrochloride could arrest the progress of this disease.

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