

## LETTERS TO THE EDITOR

### Pemoline and neuroleptic-induced side effects

Sir, — We would like to describe the case of a 43 year old civil servant who was admitted to a general psychiatric unit with an acute psychosis. He was treated with high doses of various neuroleptics, including pimozide and haloperidol. He developed marked extrapyramidal side effects which proved resistant to various strategies including lowering the dosage of the neuroleptic, stopping the neuroleptic and increasing doses of procyclidine.

He was treated with pemoline, a CNS—stimulant which resolved the side-effects completely within seven days.

### Case Report

Our patient was admitted compulsorily to a general psychiatric ward. He was extremely suspicious, hostile and aggressive on admission. He talked of “trouble at work, physical trouble and aggravation” which had resulted in his having several absences from work over the previous six weeks. He believed that people at work walked towards him in a threatening way. He also believed that someone at work had pick-pocketed him in the street and he knew this because he found two £10 notes and a cheque belonging to him on the street. He said that people in the street were talking about him. Ominously he talked of taking revenge and killing his workmates.

His mental state on admission revealed that he was extremely guarded. He was not formally thought disordered and his mood was euthymic. He had elaborate persecutory delusions partly related to third-person auditory hallucinations. Whilst on the ward he accused fellow patients of talking about him and he became very abusive and aggressive. He had no previous psychiatric history and no family history of mental illness. There was also clear evidence of personality deterioration from a bright honours graduate to a withdrawn, apathetic civil servant who had not been promoted for six years although working in the same department since graduating. He lives with his elderly mother and has no close friendships and no previous sexual experience. A diagnosis of schizophrenia was made and he was commenced on haloperidol 10 mg TDS increasing to 20 mg TDS. Over the next two months he gradually improved although tended to isolate himself on his bed.

A decision was made to change neuroleptic to pimozide due to its reported stimulating properties and this was commenced 8mg BD. Over the next month he became more lethargic and apathetic. He began to lose weight, developed pressure sores on his heels due to his prolonged self-inflicted bed rest and he became incontinent of urine.

Physical examination revealed marked cog-wheel rigidity, mask-like face and a resting tremor. He remained orientated in time, place and person and there were no signs of autonomic dysfunction. Routine investigations including haematological and biochemical profile (including CPK) were normal, VDRL was negative and he had a normal EEG. The malignant extrapyramidal side effects continued and the pimozide was stopped one week later.

Over the next two weeks he became more lethargic and it was difficult to differentiate negative symptoms from side-effects of the medication. Due to the severity of this man's reaction to the neuroleptics it was decided to try pemoline, a CNS-stimulant and he was commenced on 20mg BD. The parkinsonian side-effects disappeared gradually and he got off his bed and went for three long walks per day and became very sociable.

He remained on pemoline for the next two months while depixol 20mg per fortnight was commenced. After this it was

decided to tail off the pemoline. Unfortunately, doing this resulted in the return of the same side-effects which again improved when the pemoline was increased to 20mgBD. Depixol was then slowly titrated to a dose of 10mg monthly. After three months the pemoline was gradually tapered off without any adverse effect.

Over the last 2½ years he had remained on depixol and has not relapsed.

### Discussion

Pemoline is a CNS-stimulant and is used mainly in the field of child psychiatry in the treatment of hyperkinesia. The structure of pemoline is similar to amphetamines but its potential for abuse is low. Like other psychostimulants, it acts predominantly by releasing biogenic amines from their storage sites in pre-synaptic nerve terminals and blocking their reuptake.<sup>1</sup>

Psychostimulants have been used as adjuncts to the treatment of various psychiatric illnesses,<sup>2,3,4</sup> and as a pharmacological probe to delineate sub-groups of patients with schizophrenia.<sup>5</sup>

Dopaminergic hyperactivity has been postulated in the biochemistry of schizophrenia and this has led to the use of neuroleptics which are potent dopamine receptor blockers.

We present this case of a man with an extreme sensitivity to neuroleptics who developed marked and resistant extrapyramidal side-effects. We excluded neuroleptic malignant syndrome (NMS) as he was never confused, never pyrexial and autonomic function was maintained.

We tried pemoline which increased dopamine in the synapse which had the desired effect of relieving this man's distressing side-effects. We also suggest that pemoline might be used as a pharmacological probe and might be of benefit to patients with negative schizophrenia.

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### References

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### Irish general practice and clinical psychology

Sir, — The “Personal Report” in the last issue<sup>1</sup> had much to say of interest and importance. I should be grateful if Declan Aherne would clarify what he understands and would recommend by way of ‘adequate training’ for general practitioners in relation to ‘exploring in depth the human psyche’. He might also indicate in his reply what would be “highly dangerous” and to whom.

I would also have some difficulty in his statement in section 7 of his contribution where he says that ‘the clinical psychologist is similar to the psychiatrist in that they both specialise in the understanding of abnormal behaviour’ and then goes on to say in relation to their own particular areas of expertise, ‘for the psychiatrist it is the use of drugs as a treatment device and for the other it is psychometric assessment techniques’. That