Acute dystonia due to amitriptyline

Acute dystonic reactions are most frequently seen in patients receiving neuroleptic medication or metoclopramide but have also been observed in association with phenytoin and carbamazepine. Although it is generally believed that the a-adrenergic antagonists or the a-2-adrenergic agonists of these drugs cause such reactions the precise mechanism is unclear although it has been suggested that they may be due to enhanced dopaminergic drug release on supersensitive post-synaptic receptors. However, most explanations cannot fully explain why only a small proportion of patients develop acute dystonia or why it may occur during chronic drug therapy.

A 20 year old man was admitted with severe muscular spasm. He had first been aware of stiffness in his lower limbs whilst jogging on the day of admission. He then developed spontaneous arching of his back and involuntary tongue protrusion. His past medical history was unremarkable but because of a depressive illness he had been taking amitriptyline 50 mg daily for three months prior to his admission. He denied taking any other medication. A subsequent examination of his tablets confirmed they were amitriptyline. Examination revealed marked opisthotonus, retrolenticoculofacial contortion with spontaneous tongue protrusion. Intravenous procyclidine (10 mg) terminated the attack. Routine haematological and biochemical indices were normal.

Amitriptyline and other tricyclic antidepressants only rarely cause extrapyramidal side-effects although tremor, dystonia and akathisia have been observed. There are two previous reports of acute dystonia due to amitriptyline and we believe this patient is a further case. Whilst tricyclic antidepressants have anti-cholinergic properties and potentiate the actions of biological amines in the central nervous system the mechanism of this reaction seems unclear. However the drugs are widely used and it is a side effect that prescribers should be aware of.

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Paradoxical akineti c response to apomorphine in Parkinsonism

Apomorphine is a direct D1 and D2 dopamine receptor agonist, and its efficacy in Parkinson's disease (PD) depends on intact post-synaptic receptors. Administration by subcutaneous injection and intranasally has been beneficial in Parkinsonian patients with declining motor response, intractable on/off fluctuations which are commonly accompanied by dyskinesias, tachypnoea and other autonomic chiotic symptoms. We describe studies in a patient who showed a hitherto unreported profound akineti c response to the drug.

A 60 year old man presented in 1988 with three months of lethargy, slowness of movements and slurred speech. Examination showed an extrapyramidal type of dystarthis, facial hypomimia, reduced spontaneous and automatic movements, symmetrical bradykinesia of both upper limbs, micrographia and a shuffling, short stepped gait. There was no tremor, no supranuclear palsy and no signs of autonomic denervation; rigidity was minimal in axial structures. Disability was minimal and treatment was withheld.

Over the next year he deteriorated with increasing gait disorder, difficulty with stairs and reduced arm swing, but no tremor. In July 1989 he was given Sinemet plus, three times daily, without improvement. He was admitted for further investigation and treatment. Examination confirmed the previous signs but there was symmetrical 5% diminished arm-swing, slight postural flexion and masked facies; tremor was absent, rigidity minimal.

Routine haematological, biochemical, intravenous edrophonium tests and CT head scan were normal. EMG showed no myasthenic reaction.

All drugs were withdrawn for 24 hours. An oral dose of 2 tablets of Madopar (levodopa 400 mg, benserazide 100 mg) given at 9.00 am produced no significant change in the Webster rating measured 1 hourly for 3 hours (table). On a separate day, on dopar electrode 20 mg, 8 hourly, apomorphine 2 mg, 4 mg and 6 mg were administered subcutaneously at 8 hour intervals. Serial Webster scores recorded over 2 hours.

Apomorphine 4 mg produced no change in score at 5 and 10 minutes. At 15 minutes he became totally immobile and mute, lying on his bed, conscious but apparently drowsy and sweating. There was no voluntary movement to commands, muscle tone was not obviously altered from his pre-treatment state. Eyes were closed, mouth slightly open, no abnormal movements were seen. Webster scores are shown in the table. This state continued until 90 minutes when he walked to the office door and his Webster score had returned to basal values. Identical episodes, with profound akinesia, resembling a very severe "off" period occurred with both 2 mg and 6 mg doses. On the latter dose there was a short period of pre-syncpe, BP 90/60 mm Hg, pulse 52/min.

The batch of apomorphine was assayed by the manufacturers and its potency and freedom from contaminants were confirmed.

The diagnosis of idiopathic PD is excluded by bilateral signs at presentation, lack of tremor, and lack of response to levodopa and other dopamine agonists. The probable diagnosis is striatognial degeneration, with no current evidence

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