

## Acute extrapyramidal symptoms following abrupt discontinuation of propranolol

*Sir* - A case of acute extrapyramidal manifestations consisting of dystonia and akathisia following abrupt discontinuation of propranolol is reported. She responded well to oral propranolol and intramuscular diazepam. Extrapyramidal symptoms have commonly been associated with acute or chronic administration of neuroleptic drugs. There have been reports of a substantial number of cases with similar clinical characteristics associated with the tricyclic antidepressants, monoamine oxidase inhibitors, and selective serotonin reuptake inhibitors. Although it is known that beta-adrenoceptor antagonists are effective in the treatment of extrapyramidal symptoms especially akathisia, there has been no previous report of such symptoms induced by abrupt withdrawal of these drugs. Although she had been on low dose of amitriptyline and had discontinued this medication long before, prolonged use of amitriptyline may have had a predisposing role in the development of these symptoms.

Extrapyramidal symptoms include acute dystonias, akathisia, Parkinson's syndrome and tardive dyskinesia. These symptoms are common manifestations of neuroleptic drugs. Other drugs inducing similar clinical characteristics include the tricyclic antidepressants, monoamine oxidase inhibitors, and selective serotonin reuptake inhibitors.<sup>1</sup>

Although it is known that beta-adrenoceptor antagonists are effective in the treatment of extrapyramidal symptoms especially akathisia,<sup>2</sup> there has been no report of such symptoms induced by abrupt withdrawal of these drugs.

### Case report

A 30 year-old lady presented with agitation, restlessness, nausea, and spasmodic contraction of jaw muscles causing involuntary deviation of the lower jaw to the left. She described feeling of "being pulled down by the gravity". She had never experienced such symptoms before. Thorough physical examination with special focus on the nervous system was unremarkable except for the involuntary contraction of jaw muscles and a fine tremor in her extremities.

The patient had been on long-term propranolol 10mg twice daily for a mitral valve prolapse. She had stopped using her drug two days before this problem due to misbelief that she may become addicted to the drug. She also had a history of using amitriptyline 25mg before sleep for insomnia, but had stopped using this drug long before. She had no other significant drug history.

The patient was managed with 10mg intramuscular diazepam and 10mg oral propranolol and was symptom free in two hours. She was instructed to continue her propranolol as usual.

Propranolol has been used for the treatment of neuroleptic induced extrapyramidal manifestations especially akathisia.<sup>2,3</sup> Other extrapyramidal manifestations such as tardive dyskinesia and pseudoparkinsonism have also been well managed with propranolol.<sup>4,7</sup> It has also shown

effectiveness in ameliorating levodopa-induced ballistic and choreic dyskinesia in Parkinson's disease.<sup>8</sup> Reports on use of other beta-adrenoceptor antagonists are more controversial but trends are toward their efficacy and safety.<sup>9,10</sup>

Extrapyramidal symptoms have commonly been associated with acute or chronic administration of neuroleptic drugs. There have been reports of a substantial number of cases with similar clinical characteristics associated with the tricyclic antidepressants, monoamine oxidase inhibitors, and selective serotonin reuptake inhibitors.<sup>1</sup> There has been no report of extrapyramidal symptoms following withdrawal of propranolol. This reported patient is a case of acute extrapyramidal manifestations consisting of dystonia (spasmodic contraction of jaw muscles causing involuntary deviation of the lower jaw to the left) and akathisia (agitation, restlessness, and feeling of "being pulled down by the gravity") following abrupt discontinuation of propranolol. She responded well to oral propranolol and intramuscular diazepam. The coincidence of propranolol withdrawal and these symptoms, the finding of no other causes or events to explain, and the patient's excellent response to propranolol are convincing evidence that these extrapyramidal symptoms were, at least in part, related to propranolol withdrawal. More reports may establish this relation.

Tricyclic antidepressants such as amitriptyline are also associated with extrapyramidal symptoms.<sup>1,11</sup> These symptoms are often dose-related, and respond to antiparkinsonian agents or propranolol. In some cases, they can disappear even though the same dose of tricyclic antidepressant is continued. Although she had been on a low dose of amitriptyline and had discontinued this medication long before, prolonged use of amitriptyline may have had a predisposing role in the development of these symptoms.

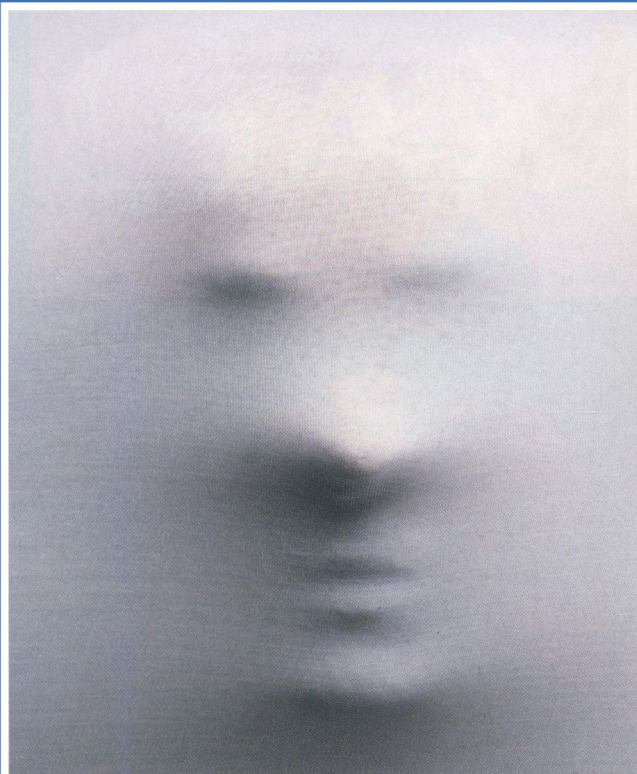
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