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Letter to the editor

Heavy cigarette smoking and polydipsia induced by neuroleptic medication?

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The complex relationship between schizophrenia, neuroleptics, heavy smoking and polydipsia has long been recognized (de Leon et al, 1995), but most of its aspects remain unclear and no direct causal mechanism has been identified (de Leon et al, 1994). I report on a case in which cigarette smoking and polydipsia together seem to be precipitated by neuroleptics or clozapine.

The patient, a 38-year-old man had been an inmate of the psychiatric hospital since 20 years of age for a form of undifferentiated schizophrenia with bizarre delusions, psychomotor agitation, incoherent speech and sporadically aggressive behaviour. He had been treated since admission with mean doses of high-potency neuroleptics of 800/1,000 mg CPZ equivalents. Very soon in his course he became oppositional and restless, started smoking more than 60 cigarettes and drinking about 10 L of water per day; sodium blood levels ranged between 110 and 120 mmol/L. In the last 5 years several attempts were unsuccessfully made to substitute, reduce or withdraw traditional high-potency neuroleptics, including a switch to clozapine which was discontinued after 6 months as it showed no significant improvement. In August 1995, while he was on clotiapine 240 mg and levomepromazine 300 mg daily, he suffered a severe vagal shock as a consequence of decreased gastrointestinal motility and polydipsia. This medical emergency required that neuroleptics be stopped immediately and he was put on diazepam, 25 mg tid iv, then po. Within 48 h his physical and psychic conditions dramatically improved. He rapidly recovered from restlessness, stopped drinking pathologically and reduced smoking spontaneously to less than 20 cigarettes per day. His serum sodium levels rose to 134 mmol/L. His mood and behaviour improved, though he remained delusional. During the following year he was kept on the same doses of diazepam and attained satisfactory levels of psychological functioning; he went through two episodes of psychomotor agitation, each needing the temporary addition of clotiapine 80 mg tid. On both occasions he rapidly reverted to his previous level of restlessness, cigarette smoking and water intake. After his second readmission, lithium carbonate 900 mg daily and carbamazepine 800 mg daily were added to diazepam 75 mg daily and proved successful in controlling agitation. He is currently smoking 20 cigarettes per day and drinking normally.

Two tentative explanations can be made for this case, the first of which I am aware showing a likely causal relationship: 1) neuroleptics may have produced in this patient a state of severe akathisia in which stereotyped behavioural sequences such as smoking and drinking increased their frequency; 2) the patient may have counterbalanced some unpleasant subjective side effects of neuroleptics by smoking and both nicotine and the neuroleptics may have synergically boosted the secretion of ADH by the pituitary's producing polydipsia/hyponatremia. Heavy smoking and polydipsia are hazardous complications of chronic schizophrenia: if other cases are found following the same pattern as this, a washout from neuroleptics and a trial with high-potency benzodiazepines could be recommended.

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