

A case of nicotine withdrawal delirium

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Abstract

Nicotine withdrawal is not a well recognized cause of delirium. A few published cases are on post-operative, terminally ill cancer or neuro-intensive care unit patients. Because of the high incidence of morbidity and mortality of delirium it is important to identify and treat delirium promptly and effectively. We report a case of delirium after sudden cessation of smoking in a heavy smoker, with schizophrenia, hospitalized for stabilization of psychiatric illness.

Keywords: Delirium, Nicotine, Withdrawals.

Introduction

Tobacco use disorders constitute a major health problem worldwide. An unpleasant nicotine withdrawal syndrome occurs upon cessation of tobacco use. There are few non-English case reports,^{1,2} mostly in post-operative,³ terminally ill cancer⁴ or neuro-intensive care unit⁵ patients.

Because of the high incidence of morbidity and mortality of delirium, it is important to identify and treat delirium promptly and effectively. Nicotine withdrawal syndrome is not a well recognized cause of delirium. We report the case of delirium after sudden cessation of smoking in a heavy smoker, with schizophrenia. The patient was hospitalized for stabilization of psychiatric illness.

Case Report

A 64-year-old Caucasian male resident of an assisted living facility with past psychiatric history of chronic paranoid schizophrenia was transferred to the emergency room for psychiatric evaluation of recent disorganization and auditory hallucination. During initial evaluation he reported auditory hallucination but denied visual hallucinations, memory impairments, suicidal or homicidal ideations and there was no evidence of any delusions. He was offered inpatient hospitalization for stabilization of his symptoms which he accepted and duly signed the consent for voluntary inpatient psychiatric

hospitalization.

By convention, capacity to make a particular medical decision at a particular time requires the patient to meet four criteria:

- 1) The patient is aware of the general circumstances of the encounter.
- 2) The patient articulates a stable preference. Note that this requires not only a preference but a physical ability and willingness to articulate it.
- 3) The patient is able to articulate the risks and benefits of the proposed procedures, and of not undergoing the proposed procedures.
- 4) The ability to manipulate relevant data rationally.

Our patient was fully aware of the general circumstances of the encounter, articulated a stable preference, he was able to manipulate relevant data rationally and was able to articulate the risks and benefits of the proposed procedures, and of not undergoing the proposed procedures. So, he had the capacity to make decisions regarding inpatient hospitalization and there was no need to involve the family.

His past medical problems included hyperlipidaemia, well-controlled chronic back pain and chronic constipation. His outpatient medications included olanzapine, mirtazapine, trazodone as needed, naproxen, simvastatin, docusate and bisacodyl. (As Trazodone was as needed (Patient did not receive any); interactions through cytochrome p450 enzyme system may cause confusion due to sedation. Our patient was awake and alert although the olanzapine, a sedating antipsychotic, dose was increased. His confusion responded quickly to the nicotine replacement.)

His laboratory investigations, including complete blood count, electrolytes, erythrocyte sedimentation rate, vitamin B12, folate, blood alcohol level, urine drug screen which includes cannabis, cocaine, Phencyclidine, Methamphetamine, Benzodiazepines, Morphine and Methadone, urine analysis, renal, thyroid and liver function tests, all were within normal limits.

On mental status examination, the patient was poorly

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groomed but cooperative. His speech was slow in rate and volume but was of normal rhythm. He had psychomotor retardation. His mood was "slightly depressed" with restricted affect. He was alert and oriented to time, place, person and situation with average intelligence. His thought process was coherent, logical and goal directed, but insight and judgment were deemed to be limited. On physical and neurological examination, the only significant abnormality observed was 3/4" by 1/4" brown-black cigarette burns on second and third digits of right hand.

The patient denied recent alcohol or illicit drug use. He reported a smoking history of at least 40 pack years. He reported currently smoking on average a cigarette per hour for at least the past five years. He had not brought his cigarettes with him. His outpatient medications were restarted at regular dosages but he declined nicotine replacement options of nicotine lozenges or a patch saying "it does not work for me".

During morning rounds, about twelve hours after hospitalization, he reported restlessness and poor sleep. He refused meals the whole day and only drank fluids after encouragement. His bedtime olanzapine dosage was increased but despite the increase he continued to be anxious, restless and could not sleep.

Next morning, about thirty six hours after hospitalization, he reported severe back ache of "10/10" in severity which had been well controlled on naproxen so far. He remained isolated in his room and refused to come out the whole day. Later the same day he was found to be disoriented to time, place and person. He believed he was at his brother-in-law's house. He asked staff "where his brother-in-law was?" and wanted to ask him to buy cigarettes for him.

He was started on nicotine polacrilex gum every hour. After about four hours he was found to be calmer. He was oriented to person, place and time. Next day he seemed more active in the daily groups, met the chaplain and was able to read the Bible. He denied pain and had improved appetite with eating full meals, the total calorie intake of 2300 calorie in a day. He was discharged back to the facility the next day with his presenting symptoms well-

controlled.

Here, we report a case of delirium presenting with fluctuation of cognitive domains of attention and concentration with arousal disturbance about 36 to 48 hours after abrupt cessation of smoking. The dramatic improvement after nicotine replacement further strengthens our claim of nicotine withdrawals as the cause of delirium in this patient.

In literature nicotine withdrawal delirium has been reported mostly in terminally ill cancer patients, mechanically ventilated critically ill patients,⁶ Neuro-ICU patients⁷ and patients with severe metabolic encephalopathy. To best of our knowledge this is the first case of delirium secondary to nicotine withdrawal after the abrupt smoking cessation without any comorbid general medical conditions.

Conclusion

In summary, although nicotine withdrawal is highly unlikely to be the sole cause of delirium, but it should be considered as a possible factor in any patient with an agitated delirium. A history of heavy smoking prior to the onset of the delirium warrants a trial of a nicotine replacement.

Disclosure

Authors have no conflict of interest to disclose.

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