Budesonide Irrigation–Induced Mania in an Elderly Woman

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Available evidence suggests that budesonide nasal irrigation is a safe and effective treatment for chronic rhinosinusitis, despite not being formally evaluated in controlled trials.[1–3] Irrigation devices, as opposed to nasal sprays, result in better distribution to the nasal cavity and sinuses, which may enhance the anti-inflammatory benefit of corticosteroids.[1,4] A 2010 study involving 10 patients[5] found that budesonide irrigation does not significantly decrease serum cortisol and 24-hour urinary cortisol levels, suggesting limited systemic absorption. Corticosteroid-induced psychiatric symptoms are commonly seen with systemic therapy and include mania, depression, psychosis, and cognitive deficits as well as more minor disturbances.[6] There are no reported cases of mania induced by corticosteroid nasal irrigation in the literature.

Case Report

Ms X is a 70-year-old married woman who had been receiving psychiatric care for over 40 years for depression and anxiety. At the time of this incident, psychiatric medications included escitalopram and quetiapine. She had no history of hypomania, mania, or psychosis.

In the summer of 2022, Ms X was diagnosed with facial melanoma and underwent successful excision followed by radiation. Specifically, this treatment involved endoscopic septectomy, anterior and posterior ethmoidectomy, and left middle turbinate resection, followed by 3,000 cGy of radiation over 5 fractions. In subsequent otolaryngology follow-up, the patient's nasal mucosa was consistently described as healthy.

Her psychiatric symptoms remained stable for several months following this treatment. In October 2022, she was started on low-dose budesonide nasal irrigation (0.5 mg twice daily) to address rhinosinusitis, which was most likely a sequela of radiation therapy. The patient reported using this medication exactly as prescribed. Within 4 weeks, Ms X was brought to the psychiatry clinic by her wife, owing to concerns about rapidly emerging bizarre behaviors. Ms X reported decreased need for sleep (0–3 hours/night); increased goal-directed activity (frantic household cleaning); bizarre, grandiose thoughts ("I have figured out the meaning of the universe!"); extreme distractibility; and disinhibited reckless behavior (spending thousands of dollars online). Mental status examination revealed loud, garish makeup inconsistent with baseline; exaggerated mannerisms; loud, pressured speech, which was hard to interrupt; and a labile affect, with the patient at times laughing and crying simultaneously. Thought process form and content were non-linear, tangential, rambling, and positive for grandiose delusions and ideas of reference. She denied hallucinations and did not seem to be responding to internal stimuli, and insight and judgment were very poor. Attention and concentration were severely impaired.

The treatment plan for this manic episode included discontinuing budesonide and escitalopram, continuing quetiapine, and adding clonazepam to aid sleep. Brain magnetic resonance imaging and paraneoplastic panels were unremarkable, and a working diagnosis of budesonide-induced mania was made.

Ms X was followed closely (twice-weekly in-person appointments with interim telehealth visits), and with these interventions, she displayed steady, gradual improvement over the next 6 weeks. After 6 weeks, she had returned to her baseline. With the close chronological proximity of initiation of budesonide nasal irrigation, it is suspected that it caused mania in this patient, with symptom resolution following discontinuation. Other diagnoses considered include escitalopram-induced mania and bipolar disorder, but given the timeline and patient's age, these were determined to be less likely.

Discussion

This case indicates that corticosteroid nasal irrigation may have the potential to induce psychiatric symptoms, including mania. While no documented cases of mania induced by nasal irrigation exist, multiple cases of mania following inhaled steroid use have been reported. These cases exist in both pediatric[7] and adult[8–12] populations. This case emphasizes the importance of screening for psychiatric disturbances in patients taking any form of corticosteroids and also may warrant more thorough study of the safety of nasal irrigation treatments.

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