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Methadone-Induced Hyperhidrosis Treated With Oxybutynin

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Objectives: This case report aims to help healthcare providers and methadone clinic patients to recognize one of the less recognized adverse effects of methadone, hyperhidrosis, and to suggest oxybutynin as a possible solution.

Methods: A 35-year-old man on methadone maintenance therapy presented with excessive sweating, which began promptly after methadone was introduced. Urine toxicology was conducted every 2 weeks to rule out other illicit substances that may have contributed to the sweating.

Results: Oxybutynin (5 mg PO QID) resulted in cessation of the methadone-induced hyperhidrosis within 2 days of starting the medication.

Conclusions: Methadone-induced excessive sweating is an adverse effect of the medication that reportedly affects up to 45% of those prescribed methadone, and oxybutynin is a potent treatment for methadone-induced excessive sweating.

Key Words: hyperhidrosis, methadone, oxybutynin

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The most common and effective pharmacological intervention for opioid dependence is methadone maintenance treatment (Brady et al., 2016). One of the lesser-known and less recognized adverse effects of methadone use is excessive sweating or hyperhidrosis, which is often confused with withdrawal symptoms (Al-Adwani and Basu, 2004).

Oxybutynin is an anticholinergic medication that is usually used to control urinary difficulties by decreasing muscle spasms of the bladder. Recently, it was also shown to effectively reduce the generalized or localized forms of hyperhidrosis (Campanati et al., 2015; Schollhammer et al., 2015). The authors acknowledge that this is the first case report related to methadone-induced hyperhidrosis treated with oxybutynin with a satisfactory response.

METHODS AND RESULTS

The patient was a 35-year-old single male with no prior psychiatric history who was maintained on 100 mg of methadone by mouth daily. Before approaching our methadone clinic, the patient was injecting an average of 10 bags of heroin per day (approximately 3 g of heroin) for the past 6 years and denied any other illicit substance use. The initial drug test was positive for only opiates, which was followed by weekly urine tests that indicated only methadone was in his system. Our urine toxicology test evaluates the following substances: opiates, cocaine, methadone, benzodiazepine, amphetamine, tetrahydrocannabinol, and phencyclidine. His medical condition was significant for only hepatitis C, with mildly elevated levels of alanine aminotransferase and aspartate aminotransferase of 100 and 157, respectively. The patient had no other medical conditions and did not take any medications other than methadone. After beginning the treatment with an initial 30 mg dose of methadone, we increased the dose by 5 mg every 2 days up to a dose of 100 mg, when the patient no longer reported most of his withdrawal symptoms. One notable continuing symptom reported by the patient was intolerable sweating, which only began as soon as he started the methadone treatment. The patient denied ever having this symptom before beginning methadone. His sweating was so excessive that he had to change his wet clothes numerous times per day and suffered from negative reactions at his workplace. There were no other clinically significant features. He then consulted his internist, who placed him on 5 mg of oxybutynin QID, which resulted in the cessation of the hyperhidrosis within 2 days of starting the medication.

DISCUSSION

After successfully treating patients using biperiden, Catflisch et al. (2003) attributed the cause of excessive sweating to modulation of the central thermoregulatory mechanism via muscarinic receptor stimulation. In our case, oxybutynin appeared to effectively antagonize this adverse effect, supporting the view that at least some of the adverse effects of methadone are due to its impact on the muscarinic receptor.

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One important complication to consider when starting oxybutynin for patients taking methadone is urinary retention because it is a shared adverse effect of both methadone and oxybutynin. Other anticholinergic medications, such as hyoscine butylbromide (40 mg daily) have also been used to treat opioid-induced sweating (Mercadante, 1998).

Another theory is that sweating that occurs during opioid intake is a result of opioid stimulation of mast cell degranulation with the release of histamine. Al-Adwani and Basu (2004) described the successful management of opioid-induced hyperhidrosis by also adding an antihistamine, such as desloratidine (5 mg/d).

Normally, once a certain drug is suspected to cause excessive sweating, the natural clinical course is typically drug substitution or discontinuation. However, if the patient's medical course, such as taking methadone, does not allow for this option, then the addition of a pharmacological agent to reduce the sweating may be the only option. The choice of drug for treating methadone-induced hyperhidrosis should include important variables such as the frequency of the seating, the efficacy of the drug of the individual, and any medical comorbidities, such as dementia, that may hinder taking anticholinergic medications.

When sweating occurs, it is often interpreted as a withdrawal symptom rather than a result of methadone use. The importance of differentiating hyperhidrosis as an adverse effect as opposed to a withdrawal symptom should not be overlooked. Patients undergoing withdrawal usually present with other associated symptoms, including a runny nose, stomach cramps, and body aches. In such cases, a methadone dose increase may be the best management.

It is not uncommon for methadone clinic patients to be involved in other illicit drug use while receiving treatment (Raffa et al., 2006), with cocaine use ranked highest followed by opiates, benzodiazepines, and amphetamine. Therefore, it is important to conduct frequent urine screenings to support the clinician's effort to monitor the patient for the associated adverse effects and/or withdrawal symptoms of other illicit drugs and adopt appropriate early interventional measures.

CONCLUSIONS

This case indicates that excessive sweating in patients undergoing methadone maintenance treatment may be an adverse effect of treatment, rather than adverse effect of withdrawal, which should be considered during diagnosis. There is also a need to educate methadone clinic patients and physicians about considering oxybutynin as a possible treatment for methadone-induced hyperhidrosis. In the future, we recommend further randomized controlled treatment trials for testing the efficacy and effectiveness of oxybutynin for methadone-induced hyperhidrosis.

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