Case Report

# Psychotic symptoms in heroin withdrawal: A case report

**Surabhi Sharma[1], Prerak Kumar[2], Nitin Raut[3], Shiv Prasad[4]**

*From [1]Junior Resident, [2]Senior Resident, [3]Clinical Specialist, [4]Associate Professor, Department of Psychiatry, Lady Hardinge Medical College, New Delhi, India*

## ABSTRACT

Opiate withdrawal-induced psychotic symptoms are not so common clinical finding in our practice. Here, we present the case of heroin withdrawal in a 25-year-old married male patient. The patient was hospitalized after exhibiting psychotic symptomatology (irritability, delusion of parasitosis, and auditory and visual hallucinations). This psychotic symptomatology was reported by the patient after he stopped heroin intake suddenly. Psychotic symptoms were in the fluctuating course and were not continuously present throughout the day, started approximately 12–14 h after the last intake. In this case report, we describe a rare case of opioid withdrawal-induced psychotic symptoms where the response was seen with antipsychotic risperidone.

**Key words:** Fluctuating course, Heroin, Opioid withdrawal, Psychosis

Opioid withdrawal is a distressing physical and psychological syndrome that occurs after abrupt cessation or dose reduction of opioids. Acute withdrawal symptoms are rhinorrhea, lacrimation, generalized body pain, nausea, and yawning seen on the abrupt discontinuation of substance within 3–5 days of regular opioid use [1]. In general, psychotic symptoms are rare with opioids withdrawal but few studies reported its associations with synthetic opioids such as tramadol, oxycodone, and buprenorphine withdrawal [2,3]. Opiate agonists have stimulating properties on mu receptors in the brain to modify dopamine flows and their release, thereby interferes with postsynaptic dopamine action.

Endogenous opioids and endorphins act as inhibitory neuromodulators of dopamine activity in the absence or deficiency of endorphin which may increase the dopamine release that gives rise to the clinical picture of psychosis [4]. Tramadol withdrawal may present with atypical symptoms of psychosis and irritability when the patient abruptly stopped the drug [5]. Although opioids regulate the pathophysiology of psychosis, there might be an antipsychotic effect in some opioids because of action at dopamine and mu receptors but withdrawal deficiency leading to psychosis is still not common with clinical scenarios [6].

We present the case of heroin withdrawal in a 25-year-old married male patient. This case presents us uncommon clinical symptomology of psychotic symptoms after opioid withdrawal, which is not so common in the literature as compared to other substances and thus gives more clarity in terms of dual diagnosis in our routine practices.

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## CASE REPORT

A 26-year-old married male came to the psychiatry outpatient department (OPD) with complaints of running nose, diarrhea, headache, and cramping pain in legs for 3–4 days. The frequency of running nose and diarrhea was 5–6 times a day. The patient came with his mother as an informant and he admitted the use of heroin for 2 years. His Clinical Opioid Withdrawal Scale (COWS) score was 13. He also reported complaints of some insects crawling over his chest. On further questioning, he described the insect color and size. Besides it, he also reported that he heard a voice of a female who lived in his neighborhood, but his mother denied such instances and said no female lived as such.

The patient was admitted to the psychiatry ward and all his vitals came to be normal with a blood pressure of 114/72 mmHg and pulse rate of 68/min. The blood investigations were normal. His electrolytes report showed hyponatremia with a serum sodium level of 131 meq/L without any orientation problems.

The patient was started on tab. buprenorphine 4 mg in divided doses, tab. diclofenac 100 mg on Sos basis, and tab. olanzapine 2.5 mg in night dose in the ward. After 2 days in the ward, his COWS score came to 4. The patient still reported some symptoms such as anxiety and yawning. For psychotic symptoms, he reported that still he can hear the voice of the female and is ordering him to run from the ward and do some rituals for her. Furthermore, he said that the insects are all over his hair and chest. On further

**Correspondence to:** Dr. Prerak Kumar, Department of Psychiatry, Lady Hardinge Medical College, New Delhi, India. E-mail: manjubhaskar123@gmail.com

exploration, the patient explains the female of dark complexion and in blue saree, which he saw mainly in noontime for a few minutes only. After this, the olanzapine was increased to 10 mg. Within the next 3 days, visual hallucinations were not reported, but the patient persisted that the insects were still troubling him by causing itching all over his body.

On seeing this, a computed tomography head was planned to rule out the organic cause of psychotic symptoms but the patient family refused because of poor economic status. At the request of his mother and the patient, the patient was discharged on tab. buprenorphine 2 mg, T. olanzapine 12.5 mg, and T. clonazepam 1 mg for 10 days. After 10 days of follow-up, the patient again reported the delusion of parasitosis, with very few fragmentary hallucinations mainly auditory, and also, the mother reported excessive eating, sedation, with mild dizziness with no more withdrawal symptoms as COWS was 0. After this, the patient's olanzapine was cross-tapered with risperidone, was started on 2 mg risperidone initially and 2 weeks follow-up was advised.

After 2 weeks, the patient reported 50% improvement in the delusion of parasitosis, and risperidone was increased to 3 mg, with buprenorphine 2 mg, clonazepam 0.75 mg, and another follow-up of 2 weeks. On subsequent follow-up, the patient did not report but his mother came in OPD for his medications, she reported that her son showed approximately 75% improvement on risperidone and also talked about his proper compliance on medications.

## DISCUSSION

Although the appearance of psychosis after a sudden withdrawal of opioids is not common as part of a withdrawal syndrome, there are a few cases of psychotic symptoms that have been described in the past literature [7,8]. A study presented the clinical case of a 57-year-old man who had an intrathecal morphine pump for his chronic back pain for 5–6 years and suddenly started to show psychotic symptoms mainly auditory, visual, olfactory hallucinations, disorganized behavior, paranoid ideas, and persecutory delusions after abrupt tramadol withdrawal [9].

Another study conducted by Senay *et al*. among 420 patients treated with tramadol reported some atypical symptoms in opioid withdrawal (hallucinations, suspiciousness, anxiety, panic attacks, and delirium) apart from common symptoms after tramadol withdrawal [2]. Maremmani *et al*. [10] in his research found common relation between multiple drugs of abuse and psychosis, but the association is unclear in cases of opioids. Weibel *et al*. [7] and Karila *et al*. [8] reported clinical cases of psychotic symptoms with buprenorphine withdrawal symptoms presented as aggression, suicidal thoughts, hearing voices, intense anxiety, and abrupt onset within a few days after the sudden withdrawal of buprenorphine in a dose range of 6–8 mg/day.

Various opioid drugs such as morphine, fentanyl, oxycodone, and pentazocine used in cancer pain management are associated with hallucinations mainly auditory disturbances in the past literature [11]. Other studies in the research showed that the pentazocine withdrawal after overdose showed symptoms of paranoid delusions, visual, and gustatory hallucinations. They reported that psychotic symptoms are mainly because of agonism of pentazocine on sigma opioid receptors [12].

Our patient developed auditory type hallucinations with heroin use, which is sparse in the previous literature. Bruera *et al*. reported three cases of patients developing organic hallucinosis with opioids used for chronic pain management [13]. There are antipsychotic effects in some opioid drugs. In one study, the remission rate of psychotic symptoms was 70% after a single dose of buprenorphine, which was similar in our case as the patient's symptoms partially improved after few doses of buprenorphine [8].

Very few studies related to heroin withdrawal psychotic symptoms are present in the literature, we report this case as the rarity of psychotic symptoms found with heroin withdrawal and other opioids as shown in the previous studies [3]. Drugs such as buprenorphine and methadone are good agents for opioid withdrawal maintenance as well as relapse prevention. Naltrexone for relapse prevention is fruitful as in many studies, its effect is proven, and the use of antipsychotics is beneficial in clinical scenarios [14].

## CONCLUSION

This case highlights the importance of early use of antipsychotics in rare cases of opioid withdrawal accompanied with psychotic symptoms which is a rare entity. The psychotic vulnerability assessment of the individual, assessing other comorbidities, and family history of the patient should be kept in mind to avoid the emergence of distressing acute psychotic symptoms in rare associations with substances like opioids as in our case. Opioid's pathophysiology and their antipsychotic mechanism is also a more clinical exploring thing for us.

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