

Opium Addiction: Practical Issues in ICU

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Opium addiction is very much prevalent in the western part of Rajasthan, which is a desert area. As per a house-to-house survey conducted in the 45 rural areas of Barmer, Jaisalmer, and Bikaner districts of Rajasthan, it has been found that the overall addiction rate is 79% in Jaisalmer, 8.4% in Barmer, and 6.9% in the Bikaner districts of Rajasthan, respectively.¹ The prevalence of opium addiction is directly proportional to the age and highest percentage among males of 40 to 50 years. Opium is otherwise called "Doda" in the local language of western Rajasthan. Opium is closely associated with the local customs as well as the rituals in western Rajasthan.

It is prudent to take the proper addiction history from the patient referring to a hospital from western Rajasthan because opium addiction creates a problem with the patient's recovery and hampers the treatment protocol. Malviya et al. conducted one study in Mahatma Gandhi Hospital in Jodhpur from 2004 to 2006 regarding the perioperative complications and recovery profile in opium addict patients.² They found a more extended hospital stay and analgesic requirement in opium addict patients than the control group.

The morbidity and mortality in patients with opium addiction are mainly related to opium withdrawal. Due to the acute illness, there is the discontinuation of daily doses of opium, which leads to symptoms like tachycardia, dysphoria, insomnia, sweating, etc. In addition, it affects the patient from weaning from mechanical ventilation and misleading the diagnosis if good history is not taken.

Many drugs are available for the cessation of opium withdrawal symptoms like methadone,³ buprenorphine,⁴ levo-alpha-acetylmethadol,⁵ and controlled-release morphine.⁶ But, tincture opium preparation with alcohol and water containing 1% morphine is also tried in some health centers for substitution.⁷ It is a common practice favoring a lesser dose of opium than methadone and buprenorphine among the healthcare practitioners of western Rajasthan.

We here describe two short case reports regarding opium addiction and the complications associated with it in the intensive care unit (ICU). The first case was a 65-year-old male patient with a known chronic obstructive lung disease and addiction to crude opium extract presented with a history of fever and increased shortness of breath from before. The patient was a suspected case of coronavirus disease 2019 (COVID-19) pneumonia based on chest radiography and shifted to COVID-19 suspect ICU. The patient was intubated and mechanically ventilated. After the negative reverse transcriptase polymerase chain reaction report, the patient shifted to a non-COVID ICU. He was diagnosed with acute exacerbation of chronic obstructive pulmonary disease with lobar pneumonia with hypercapnic respiratory failure. After starting appropriate empirical antibiotics, his condition improved, and it was planned to wean him from mechanical ventilation. However, whenever the patient

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was given a spontaneous breathing trial in the morning hours, the patient developed tachycardia, perspiration, and breathlessness, and arterial blood gas showed hypercapnia. These symptoms were observed during the morning as well as evening hours. After proper inquiry, it was found that the patient used to consume opium extract at that particular time of the day. Initially, the patient started with methadone for opium withdrawal, but the symptom was not relieved in 2 to 3 days. Then, the patient was given half of the dose of opium extract he used to take at home. The symptoms reduced after the administration of the preparation, and he was weaned from the ventilator.

Another case was a 50-year-old male patient with no known comorbidity presented with fever, altered sensorium, and decreased urination after lower limb cellulitis. The patient was a known opium addict and used to consume a high dose of opium extract (locally known as AMAL) twice to thrice daily. He was diagnosed with sepsis due to cellulitis, wound necrosis, and acute kidney injury. The wound was debrided, and an appropriate empirical antibiotic was started. After the clinical improvement, the patient was extubated. He then developed signs and symptoms of opium withdrawal such as insomnia, dysphoria, yawning, perspiration, etc. He was initially started on methadone but developed sedation. The patient was reintubated because of hypercapnia. He was then started with half of the dose of the crude opium preparation collected from the patient's attendant.

Opioid withdrawal is not an uncommon problem in the ICU due to discontinuation of chronic drug addiction or iatrogenic use. A scoring system, that is, clinical opioid withdrawal scale (COWS), has been used to monitor the symptoms of opiate withdrawal and used for the determination of the severity of illness and opioid dependence.⁸ The score comprises different parameters like resting pulse rate, gastrointestinal upset, sweating, tremor,

restlessness, yawning, pupil size, anxiety or irritability, bone/joint pain, running nose, tearing, gooseflesh skin, etc. A score of more than 36 is considered to be severe withdrawal symptoms. COWS is also helpful for the monitoring of the response of drug therapy for withdrawal.

There are many pharmacological methods available for the management of opioid withdrawal in critical care setup. Due to the μ -opioid receptor agonistic and kappa receptor antagonistic properties, buprenorphine is always preferred for the treatment of opioid withdrawal symptoms. Methadone, which is a μ -opioid agonist, is another choice of agent for the above purposes. Both of the drugs are equally efficacious in supervised withdrawal as per many studies.⁹ When COWS score is more than 12, buprenorphine is generally administered at a dose of 2 to 4 mg sublingually. But methadone or buprenorphine therapies are not popularized among healthcare practitioners as dose adjustments, as mentioned earlier, are very difficult and time-consuming, and the patients are noncompliant with opium de-addiction therapy. Moreover, crude preparation causes immediate relief of withdrawal symptoms. Another group of drugs like alpha-2 agonist (clonidine and lofexidine) is also administered to relieve the sympathomimetic symptoms of withdrawal, but the efficacy is inferior to buprenorphine and methadone.

Parenteral drug addiction of any formulations has some serious pathological and psychological impacts, such as the risk of transmissible infections [human immunodeficiency virus (HIV), hepatitis B, hepatitis C virus (HCV)], infective endocarditis, spinal infections, poor intravenous access due to venous thrombosis, cellulitis, drug overdose, physical or psychological dependence, etc.¹⁰ After the legalization of cannabis for medical or recreational use in Canada and certain USA states, serious public health issues have emerged due to drug addiction.¹¹ Though rare, cases of Erythema ab igne due to cannabinoid hyperemesis syndrome are rising among cannabis addicts.¹² There was a case report of neck abscess secondary to drug injection in supraclavicular fossa as "pocket shots."¹³ Similar issues have evolved with opioids due to their increased popularity in palliative care and acute pain services. Parenteral opioid preparations are abused commonly in urban parts of India, whereas natural preparations of opioids are still a part of the tradition and culture in rural India.

Patient's attendants mainly provide the crude opium preparation to the healthcare staff for the administration in ICU as there is no such opium preparation available in the pharmacy. Although opium tincture has been used in the literature to treat withdrawal symptoms, it is not readily available in India.

There are many controversies associated with opium use in ICU.

- The medicolegal concerns associated with providing crude opium preparation procured from the patient attendant are that there might be the possibility of foul play by the patient's attendant against the patient.
- In crude opium preparation, the exact composition of opiates is not known.
- There is always a risk of contamination of opium preparation and risk of infection.

- There should be free availability of standardized opium preparation with the known concentration of opioids for therapeutic use.

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