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Role of Buprenorphine in an Adolescent with Opioid Abuse

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INTRODUCTION

Along with methadone and naltrexone, buprenorphine is one of three medications for opioid use disorder (MOUD) treatment options available for opioid use disorder (OUD).[1] Although approved by the U.S. Food and Drug Administration (FDA) for use in patients aged 16 and older, it can be prescribed by less than one percent of pediatricians and few child psychiatrists. Subsequently, adolescents with OUD are more likely to be treated by detoxification than MOUD.[1] The following case report demonstrated how buprenorphine treatment can be initiated effectively in a hospitalized adolescent patient with OUD.

CASE REPORT

A 15-year-old female with a history of severe OUD, generalized anxiety disorder, major depressive disorder, and trauma was admitted to a children's psychiatric hospital for suicidal ideation after her parent's discovered oxycodone in her room. Her opioid use consisted of daily inhalation of 60 to 90 mg of crushed M-30 pills for the preceding eight months, known to contain varying amounts of oxycodone and fentanyl. During this time, she had experienced one episode of withdrawal and subsequently returned to daily use. The patient had been experiencing suicidal ideation for the past three to four years, and opioid use suppressed those thoughts. Additional substances and routes reported by the patient included smoking marijuana from ages 13 to 14 and vaping nicotine from age 13 to presentation.

Psychiatric history included a hospitalization one year prior to presentation from which she was discharged on escitalopram but discontinued its use after six months. Family history was significant for bipolar disorder in her mother, opioid use in an older brother, and substance use disorder, in remission, in both her mother and father. Social history was significant for two close friends who also were opioid users.

At the time of admission, the patient was experiencing both nicotine and opioid withdrawal symptoms of bone pain, diaphoresis, restlessness, headache, mild tremors, nausea, rhinorrhea, and abdominal pain. She began treatment with clonidine, a lorazepam taper, and nicotine replacement. On hospital day two, the addiction psychiatry service received a telehealth consult for assistance in managing the patient's withdrawal. Her last opioid use was four days prior to the day of consultation, and she was continuing to experience the symptoms that were present on admission. Buprenorphine 2 mg was initiated, administered as a half-tablet (1 mg) four times daily due to concerns that a higher dose may worsen her withdrawal. This regimen did not provide significant alleviation; buprenorphine was titrated to 2 mg three times daily on hospital day six, and clonidine was discontinued due to hypotension. She continued to experience mild withdrawal symptoms, but by discharge she was reporting significant improvement.

After nine days in the hospital, the patient was discharged on buprenorphine 6 mg daily and escitalopram 10 mg daily, with recommendations to follow with the addiction clinic. Buprenorphine would be converted to buprenorphine/naloxone at her first outpatient appointment. However, her family opted instead to send her to an inpatient substance abuse rehabilitation program where she continued to receive buprenorphine and was doing well.

DISCUSSION

Prescription opioid and heroin use is most prevalent between the ages of 18 and 25, with the age at first opioid use decreasing.[2] Age at first opioid use and rates of dependence and severity are correlated inversely. Between 2001 and 2014, 26.8% of adolescents and young adults were treated with either buprenorphine or naltrexone within six months of receiving a diagnosis of OUD, but the percentage of youth receiving pharmacotherapy decreases directly with age.[3] Among patients aged 13 to 15, only 1.4% received MOUD. Of adolescents and young adults enrolled in Medicaid who overdosed on an opiate between 2018 and 2019, only 1.9% were treated with medication within 30 days after overdose.[4] These figures contrasted with the percentage of adults with OUD who receive MOUD: 26.3% of adults admitted for treatment of heroin use, compared to 2.4% of adolescents.[1]

A clear gap existed in the treatment of adolescent OUD. MOUDs are evidence-based, and there is an opportunity to increase their use among adolescents with OUD. The American Academy of Pediatrics recommended incorporating pharmacotherapy treatment for OUD in primary care settings.[5] The age of FDA approval presented a barrier to adolescents receiving buprenorphine therapy, and appropriate medications may be more available to adolescents if the age of approval is lowered. Treating OUD at younger ages likely would reduce addiction burden and disease morbidity across the lifespan.

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