A unique presentation of Ogilvie syndrome: Ketamine withdrawal

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ABSTRACT

Introduction: Ogilvie syndrome is a well-defined gastrointestinal pathology that can be caused by underlying infection, medications, electrolyte imbalances, or surgery. However, there are additional precipitants that need to be elucidated. Here, we describe a case of a young adult male withdrawing from ketamine that subsequently developed a pseudo-obstruction. Case Report: A healthy 19-year-old male who presented to our institution with nausea, vomiting, abdominal pain, and distention. Subsequent imaging showed diffuse dilatation of fluid-filled large and small bowel without mechanical obstruction, consistent with a diagnosis of pseudo-obstruction. Interestingly, the patient was an active ketamine user and described snorting the drug daily for almost one year. He was forced into a period of cessation after not being able to find the drug and later developed these symptoms. Conclusion: With the increasing clinical use of the controlled substance as both an analgesic and sedative, more research is needed to help safely care for these patients. To our knowledge, this is the first described case of ketamine withdrawal precipitating an Ogilvie syndrome.

Keywords: Ketamine abuse, Ketamine withdrawal, Ogilvie syndrome, Pseudo-obstruction

INTRODUCTION

Ketamine was reportedly first used in humans in 1965 and released for clinical use in 1970. Similar to phencyclidine (PCP), it is a dissociative agent that acts as an antagonist at the N-methyl-D-aspartate (NMDA) receptor [1]. Used recreationally for over 50 years, there is still a significant gap in the literature regarding ketamine abuse and withdrawal. This case is about a teenager who abuses ketamine daily and upon cessation, developed Ogilvie syndrome.

CASE REPORT

A 19-year-old male with no past medical, surgical, or family history presented to the emergency department with chief complaint of nausea, vomiting, and watery diarrhea over the past three days. He additionally endorsed diffuse abdominal pain and distention. The patient denied any recent travel, antibiotic use, or sick contacts. Upon further questioning, he did admit to daily intranasal ketamine abuse over the past three years. This ketamine was bought from a street dealer in powder form after it had been synthesized in liquid form, crystalized, and then crushed. He reported his last use was seven days prior to admission. He additionally reported smoking marijuana 1–2 times per month. Of note, he denied additional drug use including cocaine or opiates.

Of note, this had happened to him before. About one year ago, he reported that he was unable to find the drug and was forced into a one-week abstinence period where he developed similar symptoms: nausea, vomiting, diffuse abdominal pain, and distention. These symptoms all resolved promptly after he resumed use.

In the emergency department, the patient was hemodynamically stable. A complete blood count and
complete metabolic panel were within normal limits. A computed tomography (CT) scan with intravenous contrast of the abdomen and pelvis with intravenous (IV) contrast revealed a diffuse dilatation of predominantly fluid-filled large and small bowel, up to 7.9 and 4.2 cm, respectively, without obvious mechanical obstruction consistent with an acute pseudo-obstruction. A gastrointestinal panel including but not limited to Rotavirus, Adenovirus, Campylobacter, Clostridium difficile, Escherichia coli, Cryptosporidium, Shigella, Salmonella, Vibrio, and Norovirus were all negative.

The patient was admitted to the hospital, made nil per os (NPO) and followed with serial abdominal exams. He was started on fluid resuscitation, antiemetics, and was given ketorolac for analgesia. Approximately 48 hours after presentation, the abdominal distention had improved and subsequent abdominal X-ray showed resolution of the dilation. With the improvement of his symptoms, the patient was started on a clear liquid diet, which was advanced as tolerated. He was subsequently discharged on hospital day two after refusing substance use disorder counseling.

DISCUSSION

Ogilvie syndrome is an acute pseudo-obstruction of the colon related to paralytic ileus of the large bowel. It is thought to be related to over activity of the sympathetic nervous system resulting in the loss of muscular tone in the colon from interruption of the S2 – S4 parasympathetic nerve fibers [2]. According to the 2013 National Survey on Drug Use and Health in the United States, an estimated 2.3 million people aged 12 years or older had used ketamine in their lifetime and furthermore, a recent survey from the University of Michigan showed 3% of high school seniors had used the drug at least once that year [3]. Ketamine blocks glutamate at the NDMA receptor similar to PCP. Symptoms of abuse include but are not limited to excessive salivation, tachycardia, hypertension, and muscle rigidity [4]. Most of the “psychotomimetic” NDMA antagonistic effects regarding ketamine have been described including hallucinations, confusion, difficult concentration, and anesthesia. This, however, is the first case in the literature to our knowledge characterizing the effects of ketamine withdrawal precipitating an Ogilvie syndrome. The relationship is important, considering the expanding use of ketamine in the clinical setting for both anesthesia and analgesia.

CONCLUSION

To our knowledge, this is the first case in the literature of ketamine withdrawal precipitating an acute pseudo-obstruction. Additionally, ketamine abuse is not well defined and subsequent withdrawal is even less so. This case report aims to bolster the existing data and understanding of side effects of a commonly used drug in both the clinical and recreational setting.

REFERENCES


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Author Contributions
Peter Foster – Conception of the work, Design of the work, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved
Alyssa Toia – Acquisition of data, Analysis of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved
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