A Newsletter for the Members of the Utah Chapter - Spring 2025
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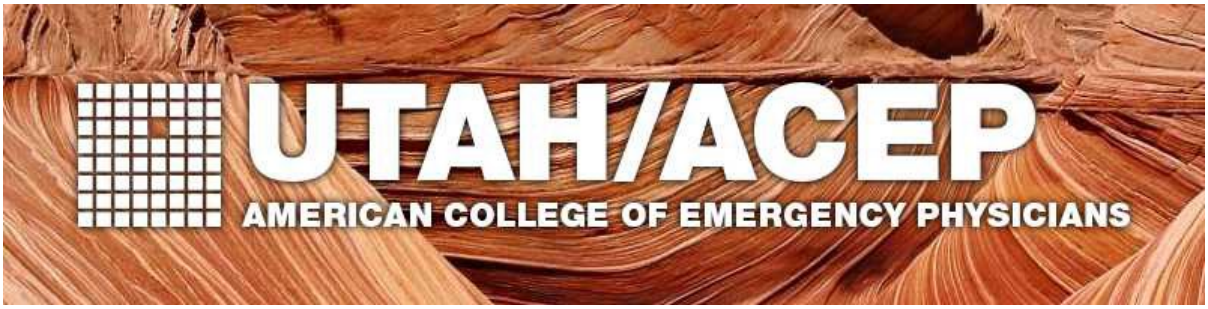

In this edition:

News from ACEP:

Unusual Respirations after Ketamine Administration

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Introduction:
Ketamine is a widely used dissociative agent, commonly used in emergency department (ED) conscious sedation during painful procedures. It is generally seen as a safe agent for sedation in these settings without serious effects on cardiorespiratory function (such as hypoventilation or hypotension) that can occur with the use of other agents.[1] In recent years, ketamine has been utilized as an agent in the chemical restraint of agitated patients in both emergency department (ED) and prehospital settings.[2,3] Ketamine has been shown to have a more rapid onset of successful sedation compared to haloperidol with lorazepam.[4] In the setting of combative behavior, the difference between sedation in 5 to 15 minutes compared to sedation in over 30 minutes is significant. Although patient safety has been a paramount concern for all hospitals, staff safety has become an equally important topic in recent years. According to a recent report from the Association of American Medical Colleges, verbal threats and violent acts toward hospital staff increased by 63% from 2011 to 2018; moreover, nurse surveys over the past year found a doubling of the rate of self-reported workplace violence in 2022.[5] Together, this rationalizes use of a rapid, safe, and effective medication to ensure patient and staff safety, properties that characterize ketamine. We report a case in which ketamine used as a sedative in a combative patient resulted in abnormal respirations and hypoxia.

Case Report:
A 41-year-old male with a history of schizoaffective disorder and polysubstance use disorder presented to the emergency department asking to be restarted on his psychoactive medications. He was without active suicidal or homicidal ideation but had evidence of paranoid delusions. He denied recent illness, including fever, chills, sore throat, cough, dyspnea, chest pain, palpitations, abdominal pain, nausea, vomiting, urinary symptoms, headache, and substance use. His medical, family, and social history were otherwise unremarkable. While in the emergency department, the patient became acutely agitated despite behavioral interventions. He was given oral transmucosal olanzapine, 5mg, with transient improvement in agitation, but became severely agitated and combative with staff soon thereafter. He assaulted multiple hospital staff members and because of this, required chemical sedation with 300 mg (3mg/kg) of ketamine intramuscularly (IM.) He showed ongoing combative behavior, raising concerns for staff safety, so 100 mg of additional IM ketamine was administered approximately 5 minutes later. Despite this, he remained combative with staff, so an additional 100 mg of ketamine IM was administered 5 minutes later, which achieved adequate sedation. Laboratory studies showed leukocytosis to 19,000, normal comprehensive metabolic panel and urinalysis, and a toxicology screen positive for stimulant amines and opiates. EKG showed sinus tachycardia without other changes.

Following ketamine administration, the patient's breathing became irregular, and he was noted to be hypoxic by pulse oximetry. He was moved to a resuscitation bay for close observation and oxygen supplementation. He was lethargic with increased tone in all 4 extremities but no clonus. He remained afebrile during this episode but was tachycardic into the 120s. He was found to have rapid shallow respirations up to 60 times per minute followed by periods of apnea with desaturation into the 70s.(See Figure 1.)

During this time, the patient demonstrated prolonged inspiration, and brief expirations. His inspiration to expiration ratio during this time ranged between 2:1 and 3:2. Venous blood gas showed respiratory acidosis with pH 7.3 and pCO_2 61. He failed to improve with supplemental oxygen, jaw thrust maneuvers, Larsen's maneuver[6] and encouragement to slow his breathing, so he was endotracheally intubated to protect his airway and provide ventilatory support.

After intubation, his chest x-ray was normal, and a non-contrasted head CT did not demonstrate any acute processes. He was admitted to the medical intensive care unit for further management. His encephalopathy improved throughout his hospitalization. He was extubated on the next day and seen by psychiatry who made recommendations for psychiatric medications. He was considered medically cleared for psychiatric hospitalization on his second day of hospitalization.

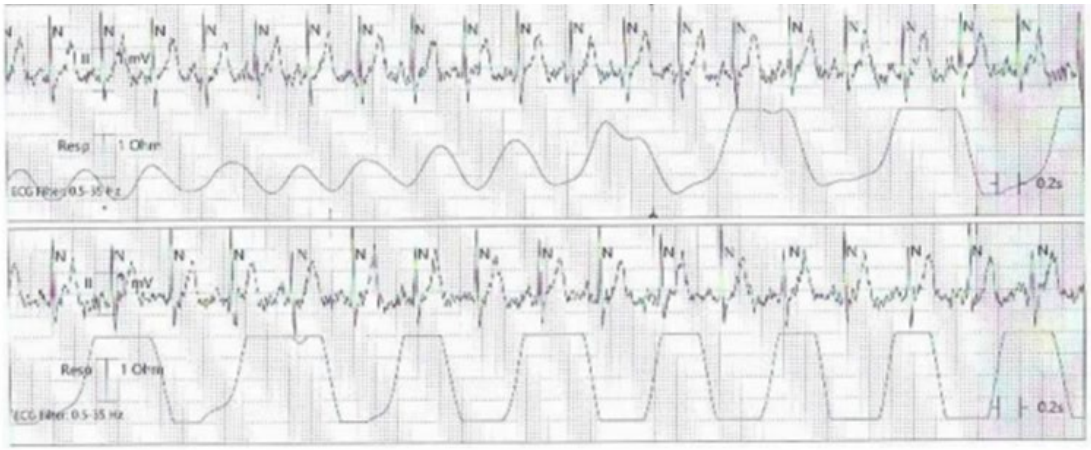

Figure 1: Rapid, shallow respirations followed by deeper respirations

Discussion:

Ketamine-induced respiratory complications are widely reported in the literature, including apnea and laryngospasm.[7] This case represents the first reported human case of apneustic respiration from ketamine. Apneustic respirations are characterized by a pattern of deep regular inspiration with inspiratory pauses and incomplete exhalation. This respiratory pattern is best characterized in veterinary medicine[8] and often occurs in cases of CNS injury such as strokes or hemorrhage.[9] However, apneustic respirations have also been demonstrated within fentanyl, a mu-opioid receptor agonist, and stimulant amine intoxication in animal models.[10] The patient here had a urine toxicology report that was positive for opiates and stimulant amines. This, in combination with the olanzapine and escalating doses of ketamine, makes it difficult to identify a sole source for this atypical response. However, fentanyl has become a popular drug additive due to its high potency and relatively low-cost[11] making this drug combination more likely.

Additionally, due to the emergent nature of sedating a combative patient, it is common in the ED to sedate a patient without a complete history or laboratory evaluation, allowing unforeseen drug interactions to occur.

Conclusion:

Ketamine is a widely used agent in pediatric and general EDs and increasingly in prehospital settings due to its generally safe properties. We present a case of apneustic respirations and hypoxia resulting in endotracheal intubation. It is possible these events were due to the patient's drug use prior to ED admission, the initial olanzapine administered, a relatively high dose of ketamine in the ED, or a combination of these. However, this effect has been noted in animal models. It should be considered as a possible side effect in humans when using this medication, especially in situations where other medications may add to this risk.

Acknowledgments:

The authors thank our emergency department pharmacy staff for their discussions with us about this case.

Disclosure:

The authors reports no conflicts of interest or financial conflict in this work.

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Showing the World Utah EM
Sean Slack, DO, FACEP

We're only 4 months away from hosting the annual ACEP Scientific Assembly in Utah for the first time ever, September 7th-10th! The UCEP Board of Directors have been working hard with national leadership to help make this an exceptional event and we are calling out to all of you to help make this possible. Our hope is to have as many emergency medicine physicians as possible from around the state in attendance so we can showcase our state and fantastic medical community.

CME is always a highlight of ACEP and this year is no different. There are innumerable sessions throughout the week with several outstanding featured lectures, hands-on skills labs and short lectures. A few that I look forward to attending are the Nancy J Auer Lecture on How *Critical Care Was Won: Frontiers in EM Resuscitation*, the *ecapeED Trauma Room* skills lab and *Code Critical: Emergency Medicine at the Crossroads of Heathcare Breakdown*. These are just of few of what will be a jam packed week of learning. Check out the full lineup and sign-up at www.acep.org/sa.

While I don't practice directly with all of you, we are fortunate in that we often care for patients who access multiple health systems across the state. Occasionally you hear the dreaded "I went to X ED and they didn't do anything for me…". What I usually find out is that the physician at said hospital provided excellent emergency care! At ACEP '25, we look forward to gathering physicians from around the state where we can meet in-person, engage with each other and find collaborative ways to improve the practice of emergency medicine in Utah. Keep an eye on your inbox for more to come from UCEP!

For groups looking to hire, be sure to check out the emCareers Job Fair on September 7th from 5-7pm. This is a great opportunity to showcase your practice and hire from a motivated pool of applicants from around the country. Other meeting highlights include an EM:RAP Live! recording session, the ACEP25 Block Party and Keynote Speaker, olympic gold medalist Scott Hamilton.

Mark your calendars and spread the word! Encourage your colleagues to register for conference and for those who haven't been UCEP members in the past, this is a perfect time to join as part of the conference registration process and get a discounted price. There is truly something for everyone and this is sure to be a special time to represent UCEP and all of the physicians, APC's, RN's, techs and ancillary staff who make Utah a leader in providing outstanding emergency care for our patients.

Look forward to seeing you there!

Know Your Rights: Immigration Enforcement in Hospital Facilities
Brendan Milliner, MD, FAWM

In this time of aggressive and indiscriminate immigration enforcement, it is important for us as emergency physicians to understand the basics of our obligations and rights under the law. Following the current administration's disavowal of the Biden-era 'protected areas policy' shielding hospitals from immigration actions, we and other healthcare providers may encounter immigration officers carrying out enforcement actions in our workplaces, potentially targeting patients, staff, or family members. It is important that we be prepared for this possibility by understanding what is legally permissible or not permissible in encounters with immigration officers, and by following best practice guidelines from legal experts. In March the University of Utah Asylum Clinic, of which I am a faculty director, hosted a 'Know Your Rights' event with the ACLU of Utah, and I wanted to pass along a few key points to UCEP members.

Personally, I feel that as physicians our primary responsibility is to our patients. While in an ideal world, we could trust the immigration enforcement system to be just and avoid causing unnecessary harm, the past few months have demonstrated that our current reality is far from this ideal.

Immigration Enforcement in Hospitals – The Basics

- ***Do immigration officers need a warrant to conduct enforcement actions inside hospitals or other healthcare facilities?***

Yes, in most situations. The law differentiates between **public** and **non-public** areas within the hospital. ICE and other officers are legally allowed to operate in public areas such as waiting rooms, external hallways and cafeterias without a warrant. However, to access non-public areas such as inpatient units, patient rooms, or offices, the law requires a warrant.

Health care facilities can help distinguish **public** from **non-public** areas by using explicit signage or requiring visitors to check in with a front desk worker or security guard.

- ***Is there a specific type of warrant needed to enter a non-public area of the hospital?***

Yes. The law requires a physical copy of a **judicial warrant**, signed by a federal or state judge, rather than a deportation order or arrest warrant signed by an immigration judge or officer. You should always ask an agent to produce a warrant.

Staff members do not have to consent for agents to enter a non-public area and are not required to permit such access without a judicial warrant.

- ***As a physician, are you required to provide information to ICE agents if asked?***

If ICE agents present a valid warrant for an individual, you should carefully review the scope of the warrant and its validity. Staff members are not required to assist ICE beyond what is required by the warrant.

For example- If the warrant provides that ICE may search the emergency room, staff has no obligation to assist any further than granting ICE access to the emergency room. Without a warrant you are under no obligation to provide such information, and HIPAA protects patient information including immigration status.

<u>Things to do prior to and during an immigration encounter:</u>

- **Establish a designated point person who will interact with agents in the event of an encounter.** This helps to simplify communications and avoid confusion.

- **Maintain a hospital practice to keep patient information out of sight.** If an officer sees patient information in a public area of your facility, this can establish probable cause to enter a private area (the so called ‘plain view’

doctrine).

- **Always be polite when interacting with officers.**

- **Ask agents to identify themselves, and keep a record of this information, as well as other details of the encounter.** Your record can be important for any litigation that might arise after the encounter. You are allowed to record law enforcement or ICE officers while they are performing their duties in plain view so long as you do not otherwise interfere.

- **Know Your Rights.** Everyone has the 5th amendment right to remain silent and the 4th amendment protects you from unreasonable government searches and seizures.

Things NOT to do during an immigration encounter:

- **Do not impede an officer carrying out a valid warrant.**

- **Never attempt to physically block officers.** Simply state that you do not consent to whatever action they are attempting to take that you feel is inappropriate.

- **Do not encourage any individual to move or take a specific action to avoid arrest.** For example, do not encourage patients or family to move from a public to a non-public area of the hospital, as this could be considered obstruction of law enforcement.

- **Never sign anything without first consulting with a lawyer.**

While I hope this advice is never needed in our state, it is always better to be prepared than to be caught off guard. If you have any questions or comments about our interactions with immigration enforcement, please contact me at brendan.milliner@hsc.utah.edu or Molly Karasick of the ACLU of Utah at mkarasick@acluutah.org.

The opinions in this article are my own, and do not necessarily reflect those of the UCEP board or my employers.

FROM NATIONAL ACEP

American College of Emergency Physicians®

ADVANCING EMERGENCY CARE

ACEP Resources & Latest News

ACEP Urges Congress to Reject Harmful Medicaid Cuts
This week, ACEP joined 42 national medical organizations in a letter opposing proposed Medicaid changes that would result in devastating coverage losses and reduced access to care. Read more.

ACEP-Supported Legislation Would Bring Fairness, Due Process to Physicians
Protecting clinical autonomy empowers emergency physicians to always be able to put patients first. That is why ACEP continues to fight for the bipartisan, bicameral 'Physician and Patient Safety Act' to guarantee due process rights for all physicians...Read more.

ACEP Pushes Back on Efforts to Cut Student Loan Forgiveness
ACEP is pushing back hard on efforts to change the Public Service Loan Forgiveness (PSLF) program and other federal student load programs. Read more.

ACEP Advocacy Leads to New Boarding Legislation
A new ACEP-developed bipartisan bill to address the boarding crisis has been introduced in the House of Representatives, with a Senate companion soon to follow. Read more.

Congress Takes Strong Step Toward Better Protections for Health Care Workers
A new bipartisan bill strengthens protections against violence for emergency physicians and care teams, a longtime priority for ACEP. Read more.

New RAND Report: Insurance Company Tactics Threaten Emergency Care Sustainability and Patient Access
Emergency physicians across the United States are facing increasing financial and operational pressures threatening their ability to provide lifesaving care, according to a new report authored by RAND and supported by the Emergency Medicine Policy Institute (EMPI). Read more.

ACEP Launches Emergency Department Accreditation Program (EDAP)
The American College of Emergency Physicians (ACEP) is launching a new Emergency Department Accreditation Program (EDAP) to recognize emergency departments that meet the highest standards for emergency medicine, promote a safe work environment and provide exceptional patient care. Read more.

ACEP Response to ACGME Proposed Changes to EM Program Requirements
ACEP is fully committed to raising the bar for emergency medicine education and ensuring that our future colleagues are prepared to meet the challenges ahead. Read more.

CMS Clarifies Residency Funding Proposal
ACEP met with the Centers for Medicare & Medicaid Services (CMS) to discuss the ACGME's proposed changes to emergency medicine residency program requirements to share our perspectives and gain clarity on how CMS will approach changes to funding emergency medicine residencies. Read more.

ACEP, NAEMT Announce EMS Week 2025
The American College of Emergency Physicians (ACEP) and the National Association of Emergency Medical Technicians (NAEMT) will recognize EMS Week, May 18-24, 2025, to celebrate emergency medical services professionals. Read more.

VisualDx Partners with American College of Emergency Physicians to Enhance Measles Diagnosis and Treatment
The American College of Emergency Physicians (ACEP) and VisualDx, a medical informatics and AI technology company, are partnering to deliver a comprehensive tool for physicians to address the measles outbreak. Read more.

Upcoming ACEP Events and Deadlines

- **Revolutionizing ED Workflows from Triage with AI***
  May 28, 2025
  3:00 PM – 4:00 PM Central Time
  The future of emergency care starts at triage. Discover how integrating Artificial Intelligence can hyper-optimize your ED workflows, cutting wait times, improving accuracy, and freeing up your team for critical tasks. Join us to learn how AI is transforming the ED front door. *This event is for ACEP Members Only.* Register.

- **ACEP25 Scientific Assembly**
  September 7-10, 2025
  For the first time, ACEP's annual meeting will be in the beautiful city of Salt Lake City, UT. The world's largest emergency medicine educational conference brings together the global EM community. The Pitt actor Noah Wyle and Olympic gold medalist Scott Hamilton headline a can't-miss speaker lineup at the Sept. 7-10 event in Salt Lake City. Register with promo code HikeyBikey and save $100.

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