

Background

- Suicide is the third leading causes of death in adolescents.
- Significant increase in number of overdose deaths, hospital admissions, and emergency department (ED) visits has occurred.
- Most common substances for overdose are acetaminophen, antidepressants, and non-steroidal anti-inflammatory drugs.
- There is a shortage of literature regarding overdose of gabapentin.

Objective

- Recognize signs and symptoms of gabapentin overdose.
- Understand the importance of monitoring blood glucose levels in patients with gabapentin overdose.
- Practice caution in prescribing and monitoring for misuse of gabapentin.

Case Presentation

History of Present Illness:

- Our patient is a 16-year-old female.
- She presented to the ED with medication overdose, alcohol use, and suicidal ideations.
- She took 49 of her mother's gabapentin 300 mg (14.7 g) each pills.
- She drank three alcoholic beverages containing 5% alcohol.
- The family contacted poison control who directed them to the ED.

Past Medical History: depression and anxiety

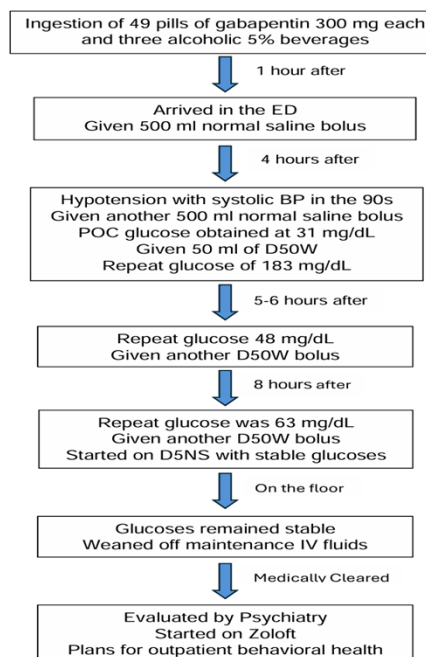
Medications: not on any prescribed medications

Physical Exam: reported to be sleepy but otherwise unremarkable

Lab Studies:

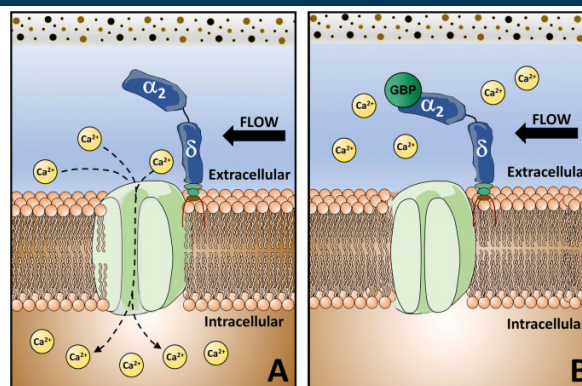
- Electrocardiogram normal sinus rhythm
- Serum glucose 93 mg/dL
- Acetaminophen level < 1.00 mcg/ml
- Ethanol level 96 mg/dL
- Human chorionic gonadotropin negative
- Other significant labs: leukocytosis 14.00 K/mcL, potassium 3.2 mEq/L, lactate 3.2 mmol/L

Clinical Course



Time to peak: 3-4 hours
Half Life: 5-7 hours
BP, blood pressure; POC, point-of-care

Mechanism of Action



Gabapentin binds to voltage gated calcium channels causing calcium influx and stimulating insulin release.

<https://link.springer.com/article/10.1007/s11914-022-00750-x>

Discussion

- Gabapentin is commonly prescribed in adults and is increasingly prescribed for chronic pain in pediatrics.
- Common neurological side effects of gabapentin include drowsiness, dizziness, and ataxia.
- Cases of hypoglycemia have been described in adult literature but not in pediatrics.
- Our patient exhibited drowsiness and hypotension, which may overlap with the signs of hypoglycemia.

Limitations

- There was co-ingestion of three alcoholic beverages containing 5% alcohol with an ethanol level of 96 mg/dL.
- Alcohol has not been shown to cause hypoglycemia in older children.
- Our patient had no nausea/vomiting and good intake; however, she required glucose containing fluids for 2 days.

Conclusions

- Gabapentin is well tolerated and increasingly prescribed.
- Persistent hypoglycemia with high doses or co-ingestion with alcohol should be considered.
- Clinicians may be underdiagnosing gabapentin overdoses.
- Clinicians should practice caution with prescribing and monitor for misuse.
- Close monitoring of blood glucose may be warranted to prevent significant hypoglycemia.