

2. The avoidance of administering calcium chloride or calcium gluconate to a patient on cardiac glycosides (e.g., digoxin) as this may precipitate toxicity and associate fatal arrhythmias is felt to be a historical belief and not supported
3. Glucagon has a side effect of increased vomiting at these doses and ondansetron prophylaxis should be considered
4. A single pill can kill a toddler. It is very important that a careful assessment of medications the toddler could have access to is done by EMS and suspect medications brought into the ED
5. Calcium channel blockers can cause many types of rhythms that can range from sinus bradycardia to complete heart block
6. Hyperglycemia is the result of the blocking of L-type calcium channels in the pancreas. This can help differentiate these ingestions from beta-blockers. There may also be a relationship between the severity of the ingestion and the extent of the hyperglycemia
7. Atropine may have little or no effect (likely to be more helpful in mild overdoses)
 - a. Hypotension and bradycardia may be mutually exclusive, and the blood pressure may not respond to correction of bradycardia

Pertinent Assessment Findings

1. Close monitoring of EKG changes and dysrhythmias
2. Serial frequent assessments are essential as these patients often have rapid deterioration with profound hypotension

Quality Improvement

Associated NEMSIS Protocol(s) (eProtocol.01) (*for additional information, go to www.nemsis.org*)

- 9914217—Medical - Calcium Channel Blocker Poisoning/Overdose

Key Documentation Elements

- Repeat evaluation and documentation of signs and symptoms as patient clinical conditions may deteriorate rapidly
- Identification of possible etiology of poisoning
- Time of symptoms onset and time of initiation of exposure-specific treatments
- Therapy and response to therapy

Performance Measures

- Early airway management in the rapidly deteriorating patient
- Accurate exposure history
 - Time ingestion/exposure
 - Route of exposure
 - Quantity of medication or toxin taken (safely collect all possible medications or agents)
 - Alcohol or other intoxicant taken
- Appropriate protocol selection and management
- Multiple frequent documented reassessments

References

1. Ashraf M, Chaudhary K, Nelson J, Thompson W. Massive overdose of sustained-release verapamil: a case report and review of literature. *Am J Med Sci.* 1995;310(6):258–63