Significant morbidity and mortality can occur after accidental or intentional CCB poisoning. Sustained-release preparations can cause delayed-onset toxicity as late as 12 hours after ingestion. The potentially life-threatening effects of CCB intoxication center on the bradycardia, hypotension, and shock. Clinical effects may vary in mild to moderate poisoning, depending on the specific cardiovascular effects of the medication ingested. In massive overdose, specificity is lost, and all agents can cause bradycardia, depressed cardiac contractility, and cardiovascular collapse. Cardiovascular compromise may be compounded by ingestion of other cardiovascular toxins in addition to underlying patient comorbid illness.

Clinical manifestations:
- Glycemic effects: Patients who are obtunded, have poor airway protective mechanisms, and are hypoxemic should undergo endotracheal intubation.
- Neurologic manifestations: myoclonus, dizziness, syncope, focal neurologic effects, and even extracorporeal hemodynamic support. None of the treatments has been studied in randomized, controlled human studies, and their use is based on animal studies, human case reports, and case series.

GI effects:
- GI symptoms caused by CCB ingestion are nonspecific and include nausea and vomiting.

Renal effects:
- Patients to improve blood pressure and tissue perfusion.

Metabolic effects:
- Metabolic acidosis can be caused by poor tissue perfusion and mitochondrial dehydrogenase inhibition.
- Metabolic effects include hyperglycemia and metabolic acidosis.

Differential diagnosis:
- The most common agents in the differential diagnosis of CCB poisoning are ß-adrenergic antagonists, cardiac glycosides, imidazolines, class 1a and 1c antidysrhythmics, cyanide, organophosphates, and tricyclic antidepressants (late).
- Included in the differential diagnosis of CCB poisoning are nontoxicologic entities: acute coronary syndromes, hyperkalemia, myxedema coma, hypothermia, and sepsis.

Specific therapies:
- A 12-lead electrocardiogram should be obtained.
- Arterial blood gas measurement offers a rapid assessment of oxygenation, tissue perfusion, and serum potassium.
- Chest radiograph can demonstrate cardiomegaly and the presence of pulmonary edema.
- Serum calcium levels generally are not affected by CCBs, but serial levels may be necessary if the patient is treated with parenteral calcium salts.
- Serum levels of cardioactive medications with established therapeutic concentrations (e.g., digoxin, procainamide) should be obtained for patients with a suggestive history or physical examination.

Diagnostic testing:
- Treatment of the patient poisoned by CCBs focuses on early recognition of shock and aggressive cardiovascular support.
- A low threshold should be maintained to initiate invasive monitoring techniques (arterial, central venous, and pulmonary catheters) for both administration of treatments and assessment of clinical responses.
- All patients should have a urinary bladder catheter to accurately monitor urinary output.

- Calcium channel blockers (CCBs) are commonly used in the treatment of angina and hypertension. Their use is complicated by adverse side effects, iatrogenic errors, and intentional overdoses.
- Significant morbidity and mortality can occur after accidental or intentional CCB poisoning.

- Calcium channel blockers (CCBs) are commonly used in the treatment of angina and hypertension. Their use is complicated by adverse side effects, iatrogenic errors, and intentional overdoses.
- Significant morbidity and mortality can occur after accidental or intentional CCB poisoning.

- Calcium channel blockers (CCBs) are commonly used in the treatment of angina and hypertension. Their use is complicated by adverse side effects, iatrogenic errors, and intentional overdoses.
- Significant morbidity and mortality can occur after accidental or intentional CCB poisoning.

- Calcium channel blockers (CCBs) are commonly used in the treatment of angina and hypertension. Their use is complicated by adverse side effects, iatrogenic errors, and intentional overdoses.
- Significant morbidity and mortality can occur after accidental or intentional CCB poisoning.

- Calcium channel blockers (CCBs) are commonly used in the treatment of angina and hypertension. Their use is complicated by adverse side effects, iatrogenic errors, and intentional overdoses.
- Significant morbidity and mortality can occur after accidental or intentional CCB poisoning.

- Calcium channel blockers (CCBs) are commonly used in the treatment of angina and hypertension. Their use is complicated by adverse side effects, iatrogenic errors, and intentional overdoses.
- Significant morbidity and mortality can occur after accidental or intentional CCB poisoning.

- Calcium channel blockers (CCBs) are commonly used in the treatment of angina and hypertension. Their use is complicated by adverse side effects, iatrogenic errors, and intentional overdoses.
- Significant morbidity and mortality can occur after accidental or intentional CCB poisoning.

- Calcium channel blockers (CCBs) are commonly used in the treatment of angina and hypertension. Their use is complicated by adverse side effects, iatrogenic errors, and intentional overdoses.
- Significant morbidity and mortality can occur after accidental or intentional CCB poisoning.