

Southern Illinois Regional EMS System

JJ-14 GLUCAGON

1. Class:
 - 1.1. Pancreatic Hormone, insulin antagonist.
2. Description:
 - 2.1. Glucagon is a protein secreted by the alpha cells of the pancreas. When released, glucagon results in blood glucose elevation by increasing the breakdown of glycogen to glucose (glycogenolysis) and stimulating glucose synthesis (gluconeogenesis). The drug is only effective in treating hypoglycemia if liver glycogen is available and therefore may be ineffective in chronic states of hypoglycemia, starvation, and adrenal insufficiency. In addition, glucagon exerts positive inotropic action on the heart and decreases renal vascular resistance. For this reason, glucagon also is used in managing patients with beta-blocker and calcium channel blocker cardiotoxicity who do not respond to saline infusions or other conventional therapy.
3. Onset and Duration:
 - 3.1. Onset: Within 1 minute.
 - 3.2. Duration: 60-90 minutes.
4. Indications:
 - 4.1. Persistent hypoglycemia despite glucose supplementation.
 - 4.1. Calcium channel blocker or beta-blocker toxicity.
5. Contraindications:
 - 5.1. Hypersensitivity (allergy to proteins).
6. Adverse Reactions:
 - 6.1. Tachycardia.
 - 6.2. Hypotension.
 - 6.3. Nausea and vomiting.
 - 6.4. Urticaria.
7. Drug Interactions:
 - 7.1. Effect of anticoagulants may be increased if given with glucagon.
 - 7.2. Do not mix with saline.
8. How Supplied:
 - 8.1. Glucagon must be reconstituted (with provided diluent) before administration. Dilute 1 unit (1mg) white powder in 1ml of diluting solution (1mg/ml).
9. Dosage and Administration:
 - 9.1. Hypoglycemia:
 - 9.1.1. Adult:
 - 9.1.1.1. 0.5-1mg IM; may repeat in 7-10 minutes.
 - 9.1.2. Pediatric:
 - 9.1.2.1. For > 20kg, 0.5-1mg IM.

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(continued)

9.2. Calcium Channel Blocker or Beta-Blocker Toxicity:

9.2.1. Adult:

9.2.1.1. 3mg initially, followed by infusion at 3mg/hour as needed.

9.2.2. Pediatric:

9.2.2.1. Safety and efficacy have not been established.

10. Special Considerations:

10.1. Pregnancy Category B.

10.2. Glucagon should not be considered a first-line choice for hypoglycemia.

10.3. Intravenous glucose will need to be administered if the patient does not respond to a second dose of glucagon.

10.4. Do not use the provided diluent to mix continuous infusions.