ANAPHYLAXIS MANAGEMENT

OUTPATIENT SETTING

First-line Treatment

- EPINEPHRINE, IM; auto-injector or 1:1000 solution
  - Weight 10–25kg: 0.15mg epinephrine autoinjector, IM (anterior-lateral thigh)
  - Weight>25kg: 0.3mg epinephrine autoinjector, IM (anterior-lateral thigh)
  - Epinephrine (1:1000 solution) IM, 0.01mg/kg per dose; max 0.5mg per dose (anterior-lateral thigh)
  - May need to repeat epinephrine dose every 5–15min

Adjunctive Treatment

- Bronchodilator (β_2-agonist): ALBUTEROL
  - MDI (Children: 4–8 puffs; Adults: 8 puffs) *or*
  - Nebulized solution (Children: 1.5mL; Adults: 3mL) every 20min or continuously as needed
- H_1 antihistamine: DIPHENHYDRAMINE
  - 1–2mg/kg per dose; max 50mg IV or PO (oral liquid is more readily absorbed than tablets)
  - Alternative dosing may be used with a less-sedating second generation antihistamine
- Supplemental oxygen therapy
- IV fluids in large volumes if patient presents with orthostasis, hypotension, or incomplete response to IM epinephrine
- Place the patient in recumbent position if tolerated, with the lower extremities elevated

HOSPITAL-BASED SETTING

First-line Treatment

- EPINEPHRINE, IM (as above, outpatient setting), consider continuous epinephrine infusion for persistent hypotension (ideally with continuous non-invasive monitoring of blood pressure and heart rate); alternatives are endotracheal or intra-osseous epinephrine

Adjunctive Treatment

- Bronchodilator (β_2-agonist): ALBUTEROL
  - MDI (Children: 4–8 puffs; Adults: 8 puffs) *or*
  - Nebulized solution (Children: 1.5mL; Adults: 3mL) every 20min or continuously as needed
- H_1 antihistamine: DIPHENHYDRAMINE
  - 1–2mg/kg per dose; max 50mg IV or PO (oral liquid is more readily absorbed than tablets)
  - Alternative dosing may be used with a less-sedating second generation antihistamine
- H_2 antihistamine: RANITIDINE
  - 1–2mg/kg per dose; max 75–150mg PO and IV
- Corticosteroids
  - PREDNISONE: 1mg/kg; max 60–80mg PO *or*
  - METHYLPREDNISOLONE: 1mg/kg; max 60–80mg IV
- Vasopressors (other than epinephrine) for refractory hypotension, titrate to effect
- GLUCAGON for refractory hypotension, titrate to effect
  - Children: 20–30mcg/kg
  - Adults: 1–5mg
  - May repeat dose or followed by infusion of 5–15mcg/min
- ATROPINE for bradycardia, titrate to effect
- Supplemental oxygen therapy
- IV fluids in large volumes if patient presents with orthostasis, hypotension, or incomplete response to IM epinephrine
- Place the patient in recumbent position if tolerated, with the lower extremities elevated

THERAPY AT DISCHARGE

First-line Treatment

- EPINEPHRINE, auto-injector prescription (2 doses) and instructions
- Education on avoidance of allergen
- Follow-up with primary care physician
- Consider referral to an allergist

Adjunctive Treatment

- H_1 antihistamine: DIPHENHYDRAMINE every 6hrs for 2–3 days; alternative dosing with a non-sedating second generation antihistamine
- H_2 antihistamine: RANITIDINE twice daily for 2–3 days
- Corticosteroid: PREDNISONE daily for 2–3 days

NOTES

These treatments often occur concomitantly, and are not meant to be sequential, with the exception of epinephrine as first-line treatment.

REFERENCES

Adapted from Boyce JA, Assa'ad A, Burks AW, et al. Guidelines for the Diagnosis and Management of Food Allergy in the United States: Summary of the NIAID-Sponsored Expert Panel Report. *J Allergy Clin Immunol* 2010; 126(6):1105–18. http://www.niaid.nih.gov/topics/foodAllergy/clinical/Documents/FAGuidelinesExecSummary.pdf

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