

SECTION: M-10

PROTOCOL TITLE: ADULT ALLERGIC/ANAPHYLAXIS

REVISED: May 1, 2012

GENERAL COMMENTS: This protocol covers allergic, anaphylactic, and anaphylactoid reactions of all severities.

BLS SPECIFIC CARE: *See adult General Medical Care Protocol M-1*

- Epi-Pen protocol (if, "Epinephrine Auto-Injector," Optional Module completed.)
- If optional module not completed follow assisted Epi-Pen protocol:
 - Confirm prior to administration
 - Is Epi-Pen prescribed to the patient (Right Patient?)
 - Is it an Epi-Pen of the correct dose (Right Dose?)
 - Epi-Pen Adult: 0.3 mg
 - Epi-Pen Junior: 0.15 mg
 - Is the Epi-Pen an intramuscular (IM) auto injector (Right Route?)
 - Is the Epi-Pen expired?
 - What is the medication's appearance?
 - It should be clear and colorless
- Re-evaluate patient's sign and symptoms every 5 minutes following administration
 - Evaluate for presence adverse effects of epinephrine.
 - Chest pain
 - Headache
 - Palpitations
 - Anxiety/tremors
- Repeat in 10 minutes if no improvement
- EMS transport is indicated if Epi-Pen administered either by patient or by EMS
- If signs of bronchospasm are present:
- Assist the patient with his prescribed "rescue inhaler." Use a spacer if the patient is prescribed one and has it available
 - Assisted Inhaler: 2 puffs or a specific number of puffs as prescribed by patient's MD
 - Repeat every 5-10 minutes or as prescribed by patient's MD
 - Hold for HR >150/min
- As an alternative, the patient may be allowed to use his/her own nebulized medication. The QRU will offer to hook up oxygen in lieu of a room air "condenser" and run at 6-8 lpm with the patient's hand held nebulizer (HHN). The patient must prepare it him/herself

Protocol M-10

ADULT ALLERGY/ANAPHYLAXIS

ILS SPECIFIC CARE: See adult General Medical Care Protocol M-1

- Treat hypotension aggressively with IV crystalloid up to 1000 cc. Hold for s/s of CHF/pulmonary edema or CHF History

ALS SPECIFIC CARE: See adult General Medical Care Protocol M-1

Sympathomemetics

- Epinephrine 1:1000
 - IM: 0.3-0.5 mg
 - Repeat x 1 in 10 minutes if s/s do not significantly improve
- Epinephrine Infusion for persistent hypotension (<80 mm Hg systolic) and severe refractory s/s
 - Mix 1 mg in either 100 cc buritrol or 250 cc NS,
 - IV: 2-10 mcg/min, titrate for effect
- Epinephrine Neb (*for laryngeal edema only*)
 - 5 mg (5 cc) epinephrine 1:1,000 nebulized undiluted.

Bronchodilators

- Nebulizer Treatment
 - Albuterol 2.5 mg (0.83% in 3 cc)
 - Ipratropium Bromide (Atrovent) 0.5 mg (0.02% in 2.5 cc)
 - May repeat as needed using Albuterol only. May use equivalent solutions of above medications such as *DuoNeb* as available

Antihistamines

- Benadryl (Diphenhydramine)
 - IV, IM, IO: 25-50 mg
 - PO: (If available) 25-50 mg (for mild cases)
- Zantac (Ranitidine) To be used in conjunction with Benadryl
 - IV, IM, IO: 50 mg
 - PO: (If available) 150-300 mg (for mild cases)

Antiemetic:

- Zofran (ondansetron) IV/IM/IO
 - 4 mg
 - Repeat one time in 15 minutes, if needed
- Benadryl (diphenhydramine) IV/IM/IO
 - 25-50 mg

Benzodiazepines:

- For concomitant vertigo-type symptoms.
- Valium (diazepam) IV/IO
 - IV 2.5mg every 10 minutes as needed.
 - Maximum: 10 mg
- Versed (midazolam) IV/IM/IO
 - 0.5 mg every 10 minutes as needed
 - Maximum: 2.5 mg

PHYSICIAN PEARLS:

For cases of Vertigo, both anti-emetics listed above should not be used congruently. The preferred treatment is Valium in combination with Zofran

CAUTION: All patients receiving inhaled beta agonists and/or anticholinergic medications should be observed for a least one-hour following treatment for return of symptoms.

Epinephrine Auto injector: EMTs can administer the epinephrine Auto-Injector if it has been prescribed to the patient. In addition, EMTs may administer an auto injector that HAS NOT been prescribed to the patient IF they have successfully completed additional training as required by the Department of Health and Welfare, Bureau of EMS and their agencies medical director.

Ranitidine: Ranitidine is an adjunctive therapy to Benadryl (with or without epinephrine) in anaphylaxis & severe allergic reactions. It is not a stand-alone intervention.

Common Presentations: The most common symptoms are urticaria and angioedema, occurring in approximately 88% of patients. The next most common manifestations are respiratory symptoms, such as upper airway edema, dyspnea, and wheezing. Gastrointestinal symptoms occur most commonly in food-induced anaphylaxis, but can occur with other causes as well. Oral pruritus is often the first symptom observed in patients experiencing food-induced anaphylaxis. Abdominal cramping is also common, but nausea, vomiting, and diarrhea are frequently observed as well. Remember that a reaction may be monophasic, biphasic, or even protracted in duration. Laryngeal edema is more common in the protracted (57%) or biphasic (40%) cases. Cardiovascular symptoms of dizziness, syncope, and hypotension are less common, *but it is important to remember that cardiovascular collapse may occur abruptly, without the prior development of skin or respiratory symptoms.*

PITFALLS: It is commonly believed that all cases of anaphylaxis present with cutaneous manifestations, such as hives or mucocutaneous swelling. But in fact, as previously mentioned, up to 20% of anaphylactic episodes may not involve these signs and symptoms on presentation for emergency care. Moreover, a survey of children with food-induced anaphylaxis showed that 80% of fatal reactions were not associated with cutaneous manifestations. *Therefore, a thorough assessment and a high index of suspicion are required for all potential allergic reaction patients.*

In one study (Sampson et al) many cases of fatal food-induced anaphylaxis occurred in a biphasic clinical pattern. In these, mild oral and gastrointestinal symptoms occurred within 30 minutes of food ingestion. These symptoms resolved, only to be followed 1–2 hours later by severe respiratory symptoms and hypotension. *Due to the potential for this presentation, it is critical that patients with food-induced anaphylaxis presenting for emergency care be closely observed a minimum of 4 hours following their recovery from the initial event.*

Individuals at greater risk for a fatal reaction include those with asthma, atopic dermatitis (eczema), prior anaphylactic history, and those who delay treatment.

Protocol

M-10

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ADULT ALLERGY/ANAPHYLAXIS