Anaphylaxis: Emergency treatment

- **INTRODUCTION**

Anaphylaxis is a serious, systemic, mast cell-mediated event that can be fatal if not promptly recognized and treated.

The goal of therapy is early recognition and treatment with epinephrine to prevent progression to life-threatening respiratory and/or cardiovascular symptoms and signs, including asphyxiation and shock.

INITIAL ASSESSMENT AND MANAGEMENT

- **Call for help**
- **Assess airway, breathing, and circulation**
- **Remove inciting cause (if possible)**
- **Position the patient**
- **Administer oxygen**
- **Establish IV access**
- **Continuously monitor**
- **Epinephrine injection**
- **Airway management**
- **Intravenous fluids**
- **Considerations during pregnancy**
- **Laboratory testing**

PHARMACOLOGIC TREATMENTS

- **Epinephrine**
  - **Dosing**
    - ✓ **Initial IM dosing**
    - ✓ **Assessing response and redosing**
  - **IV epinephrine by slow bolus (use with caution)**
  - **IV epinephrine continuous infusion**

  - **Preparing infusion solutions**
  - **Routine (1 mcg/mL)**
  - **Concentrated (4 mcg/mL)**
  - **Infants and young children (10 mcg/mL)**
  - **Initial infusion rates**

  - **Epinephrine nasal spray**

PHARMACOLOGIC TREATMENTS

- **Epinephrine Nasal Spray**
  - **Mechanisms of action**
  - **Adverse effects**
  - **Efficacy**
- **Glucagon for patients taking beta-blockers**
- **Adjunctive agents**
  - **H1 antihistamines**
  - **H2 antihistamines**
  - **Bronchodilators**
  - **Glucocorticoids**

- **REFRACTORY ANAPHYLAXIS**
  - ✓ **Definition**
  - ✓ **Therapies**
- ✓ **Other vasopressors**
- **Extracorporeal membrane oxygenation**

- **DISPOSITION**
  - **Duration of observation**
- **Discharge care**
  - **Allergen avoidance and general instructions**
  - **Anaphylaxis emergency action plan**
  - **Self-administered epinephrine**
  - **Adjunctive medications**
  - **Follow-up care**

PITFALLS

- Anaphylaxis is variable and unpredictable. It may be mild and resolve spontaneously due to endogenous production of compensatory mediators.

- Failure to rapidly perform a cricothyrotomy in a patient with severe upper airway edema in a "can't intubate, can't oxygenate" situation may result in anoxic encephalopathy and/or death.

- H1 and H2 antihistamines, bronchodilators, and glucocorticoids are second-line, adjunctive therapies for anaphylaxis and should only be used for residual symptoms after adequate epinephrine treatment

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RISK OF RECURRENCE

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- Comorbidities, such as asthma, other chronic pulmonary disease, and cardiovascular disease, should be optimally controlled as they can increase the risk of fatal anaphylaxis.

INFORMATION FOR PATIENTS

- **What is anaphylaxis?**
- **What are the symptoms of anaphylaxis?**
- **How is anaphylaxis treated?**
- **Call for an ambulance**
- **Should I see a doctor or nurse?**
- **How can I prevent getting anaphylaxis again?**
- **What will my life be like?**