# What a Shock! Anaphylaxis Rapid Recognition and Treatment



Jane Shufro, BSN, RN, CPAN
Post Anesthesia Care Unit
Brigham and Women's Faulkner Hospital, Boston, MA



Impact on the PACU

Interdisciplinary team approach by

Two nurses assigned to patient

significant lab test: Serum

• CXR and routine blood work plus

• Observation required for 6-12 hrs

Implications for the

care for patient

or until admitted

Tryptase

anesthesia and nursing to provide

#### The Problem

- The number of individuals who suffer severe systemic allergic reactions is on the rise in the US
- The incidence of anaphylaxis during general anesthesia is reported to be rare *but*:
  - Perioperative anaphylaxis is more severe
  - The perioperative mortality rate is 3-6 % which is three times the general incidence
  - 2% of individuals who survive anaphylaxis intraoperatively will have brain damage

### Anaphylaxis during surgery

- Recognition of an allergic reaction that occurs during anesthesia is complicated by several factors:
  - Hypotension produced during anesthesia (by propofol or other induction agents)
  - Sympathectomy associated with spinal/epidural anesthesia
  - Inability of anesthetized patient to communicate early symptoms such as itching
  - Coverage of the patient by surgical drapes that may obscure detection of cutaneous signs

#### Case Study

Time Line: 7:37 AM Case started 8:05 AM Surgery aborted

#### What Happened?

#### Pre-Op Assessment

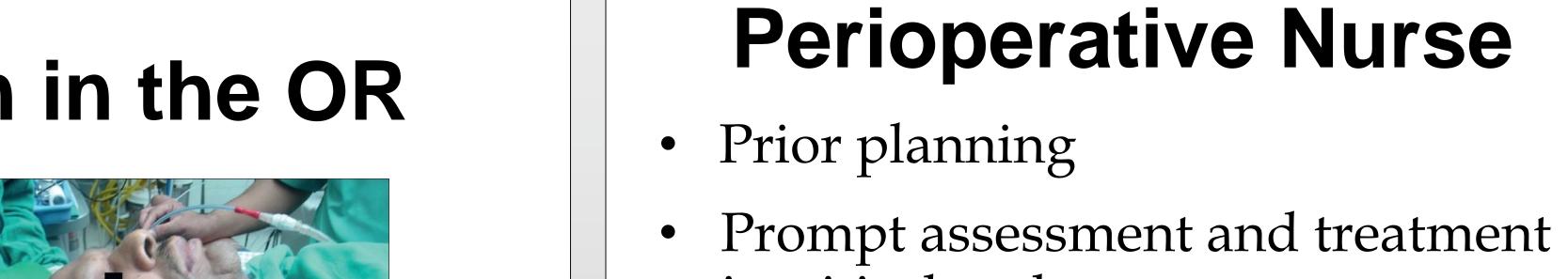
- Young adult patient with no known allergies; planned day surgery
- Prior medical history: Hypertension,
   Obstructive Sleep Apnea, Obese
- Previous general anesthesia without adverse event
- Procedure: Planned Lap Band Removal

#### Intraoperative Course

Patient received:

- Midazolam, Fentanyl
- Cefazolin, Rocuronium, and Succinylcholine

Medications listed in red are known agents responsible for anaphylaxis during surgery.



- is critical to the outcomeConsider differential diagnosis of
- anaphylaxis

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- Awareness of biphasic reaction of anaphylaxis can last up to 38 hours
- Epinephrine is the drug of choice
- Consider appropriate level of care

## Advancing the practice

Development of a PACU forum called "Fall into Success" that provides opportunities to share our experiences with colleagues on our hospital intranet site.

Contact Info: jshufro@partners.org

### Suspected Anaphylactic Reaction in the OR

#### 8:05 AM:

- Rapid hypotension 75/40; O2 sat 90%
- Red, raised rash noted under drapes 8:15 AM:
- Discontinuation of all anesthetic drugs
- Epinephrine 40 mcgs IV drip at 1 mcg/min
- Also received methylprednisone, phenylephrine, diphenhydramine, famotidine, dexamethasone; fluid bolus

9:00 AM Central line placed

#### 9:30 Admitted to PACU

- Unresponsive; intubated
- Epinephrine drip 0.25 mcg/min via central line
- Propofol drip at 10 mg/hr
- Edema of lips and eyes, enlarged tongue

#### Significant lab value

Lab test: Serum Tryptase

- Mast cell specific protease
- Used to clarify diagnosis
- Peaks one hour after anaphylactic reaction
- Must be drawn within four hours of reaction



Used with permission. Archna, K. (2011). A Critical Incident Report. *Indian Journal of Anesthesia*. 55(5).