

SUSPECTED ANAPHYLAXIS DURING ANAESTHESIA

**ANAPHYLAXIS IS A LIFE THREATENING CRISIS**

- Prompt diagnosis requires early recognition of signs & symptoms.
- Early treatment with adrenaline & fluid replacement is crucial
- Severe anaphylaxis can lead to cardiovascular collapse and death

**Immediate Management**

- ABC approach (Airway, Breathing, and Circulation)
  - Stop the procedure and inform the surgeon.
- Remove all potential causative agents and maintain anaesthesia, if necessary, with an inhalational agent.
- **CALL FOR HELP** and crash cart, note the time.
- Maintain the airway and administer oxygen 100%. Intubate and ventilate with oxygen if necessary.
- Elevate the patient's legs if there is hypotension.
- If appropriate, start cardiopulmonary resuscitation immediately according to Advanced Life Support algorithm
- **Adrenaline i.v.**  
1 to 10  $\mu\text{g/kg}$  (0.01 to 0.1 ml/kg of 1:10 000 solution ie.100  $\mu\text{g/ml}$ ), titrate to  
BP. Repeat prn.
- Several doses may be required if there is severe hypotension or bronchospasm. Consider starting an intravenous infusion of adrenaline.
- Give = 20 ml/kg crystalloid at a high rate (large volumes may be required).

## Secondary management

- Hydrocortisone i.v. 2-4 mg/kg (max 200mg)
- If the blood pressure does not recover despite an adrenaline infusion, consider:
  - IV phenylephrine 10 µg/kg
  - IV noradrenaline (0.3 x body weight into 50 ml N/S); titrate according to BP
  - IV vasopressin (bolus 0.03 units/kg then 2 units/h); titrate according to BP
- Treat persistent bronchospasm with an i.v. infusion of salbutamol. If a suitable breathing system connector is available, a metered-dose inhaler may be appropriate. Consider giving:
  - IV Aminophylline 10 mg/kg over 1 hour (max 500 mg) or,
  - o IV Magnesium sulphate 50% (500 mg/mL): 50 mg/kg to max 2g over 20 minutes

## Immediate Investigations

- Mast cell tryptase samples  
Take three blood samples in plain tubes (brown top)
  1. immediately after the reaction has been treated (within 1 hour of the reaction), and;
  2. up to 6 hours after the reaction
  3. 24 h after the reaction

It is essential to *state the time on samples (and time from onset of reaction)* and record this in the notes.

Send sample to KKH lab (ext 1383) where serum will be stored until it can be sent to TTSH clinical immunology lab (63578464) for measurement of serum tryptase.

**Later Investigations:**

- Any patient who has a suspected anaphylactic reaction associated with anaesthesia should be investigated fully.
- Inpatient referral to an allergist.
- Ensure detailed analysis and proper documentation of events surrounding the suspected anaphylactic reaction.

**References:**

1. Suspected anaphylactic reactions associated with anaesthesia, revised edition 2009. Association of Anaesthetists of Great Britain and Ireland.
2. Australian and New Zealand Anaesthetic Allergy Group Anaphylaxis Management Guidelines. Last modified on: 21 April 2016 <http://anzaag.com/Mgmt%20Resources.aspx>