

# 3-1 Anaphylaxis v.2

- Unexplained hypotension
- Unexplained tachycardia or bradycardia
- Unexplained severe bronchospasm
- Angioedema
- Cardiac arrest where other causes are excluded
- Cutaneous flushing in association with one of more of the signs above

## START

- 1 Call for help and inform theatre team of problem. Note the time.
- 2 Call for cardiac arrest trolley, anaphylaxis treatment pack and investigation pack.
- 3 Remove all potential causative agents and maintain anaesthesia.
  - Consider chlorhexidine impregnated catheters as a possible cause.
- 4 Give 100% oxygen and ensure adequate ventilation:
  - Maintain the airway and, if necessary, secure it with tracheal tube.
- 5 Elevate patient's legs if there is hypotension.
- 6 If systolic blood pressure < 50 mmHg or cardiac arrest, start CPR immediately.
- 7 Give drugs to treat hypotension (Box A):
  - **Hypotension may be resistant and may require prolonged treatment.**
  - Give adrenaline bolus and repeat as necessary.
  - Consider starting an adrenaline infusion if repeat boluses required.
  - If hypotension resistant, consider alternate vasopressor (e.g. metaraminol).
  - Consider vasopressin if hypotension remains resistant to treatment.
  - Consider glucagon in  $\beta$ -blocked patient unresponsive to adrenaline.
- 8 Give i.v. crystalloid at high infusion rate. (Adult and child, 20 ml.kg<sup>-1</sup> initial bolus).
- 9 Give hydrocortisone as part of resuscitation. Do not delay this step (Box B).
- 10 If bronchospasm is persistent, consider → 3-4
- 11 Take blood sample (5-10 ml clotted blood) for **serum tryptase** as soon as feasible.
- 12 Give chlorphenamine as soon as feasible (Box B).
- 13 Plan transfer of the patient to an appropriate critical care area.

### Box A: DRUGS AND DOSES TO TREAT HYPOTENSION

- Adult: i.v. 50 µg (0.5 ml of 1:10 000 solution) [i.m. dose 0.5 mg]
- Paediatric: i.v. 1.0 µg.kg<sup>-1</sup> (0.1 ml.kg<sup>-1</sup> of 1:100 000 solution) [1:100 000 solution made by diluting 1 ml 1:10 000 up to 10 ml]
- If no i.v. access, intraosseous dose same as i.v.
- Glucagon dose: 1 mg repeated as necessary
- Vasopressin: 2 units, repeated as necessary (consider infusion)

### Box B: OTHER DRUGS

- Hydrocortisone i.v. doses:
  - Adult: 200 mg
  - Child 6-12 years: 100 mg
  - Child 6 months-6 years: 50 mg
  - Child <6 months: 25 mg
- Chlorphenamine i.v. doses:
  - Adult: 10 mg
  - Child 6-12 years: 5 mg
  - Child 6 months-6 years: 2.5 mg
  - Child <6 months: 250 µg.kg<sup>-1</sup>

### Box C: CRITICAL CHANGES

Cardiac arrest → 2-1

### Box D: OTHER REFERENCE INFORMATION

- Ensure subsequent repeat testing for serum tryptase.
- Liaise with hospital laboratory about timing and analysis of samples.
- Liaise with department anaphylaxis lead regarding referral to a specialist allergy or immunology centre to identify the causative agent referred (see [www.bsaci.org](http://www.bsaci.org) for details).
- Inform the patient, surgeon and general practitioner.
- Report to MHRA ([www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard)).
- NAP6 online resource:  
<http://www.nationalauditprojects.org.uk/NAP6-Resources#pt>