

Anaphylaxis Protocol¹²

OPTIONS (for variation)

- Anaphylaxis
- PEA reversible cause toxin
- PEA hypoxic bradycardia
- VF arrest if untreated hypotension

For Participant

Scene so far

70 yr old lady Fractured neck of femur left hip 2 days earlier.

Surgery delayed due to need for CT of hip to confirm diagnosis.

Patient normally well on Amlodipine for hypertension (10 yr), osteoarthritis right knee and has been referred for possible surgery but not seen yet, and mobility 200 yards.

Past surgical history: D&C 20 yrs ago no problems

No allergies

Airway; normal anatomy, no reflux or other problems.

Breathing; no significant chest disease.

BP well controlled. On care pathway HR 80 BP 130/75

Reasonably hydrated .

Bloods normal

ECG normal

Patient refuses spinal; her daughter had one for C Section and 'has never been right since'.

Consents to GA and nerve block (3 in 1 block & lat cut n. of thigh).

Induction: propofol & fentanyl

LMA size3 inserted

Nerve block performed without problem

BP 95/65 HR 70

Antibiotics added to the drip

Patient taken into theatre

Maintenance

Breathing Sevoflurane in oxygen enriched air.

Parecoxib administered

MONITOR NOW ALARMS!!

Minute Volume less than 3 litres

The Practical section:

(For Facilitator)

- Ask; 'What do you do?'
- Give vital signs on request

Airway

No reason to think LMA displaced (if checked)

¹ Suspected Anaphylactic Reactions Associated with Anaesthesia August 2003 AAGBI

² Clinical Guidelines on Allergy in Anaesthesia Miakhur et al 2004

No obstruction in tubing seen (if checked)

Breathing

Poor Chest movement

Tidal volumes on monitor ~170ml

If chest auscultated; wheeze heard bilaterally

If asked; Capnograph trace sloped but EtCO₂ unaltered (6.5-7kPa)

If hand ventilation attempted; difficult to bag

Circulation

BP 90/45 HR 75

If asked; No rash

- Ask; 'What do you do now?'

If response is; 'Give bronchodilators'

- How much of what?
- Dose of Salbutamol i.V 250 µg or 3µg/kg

If response is; 'Intubate'

- Ask; 'What drugs do you want to give?' Suxamethonium or Cisatracurium or vecuronium
- Grade II view some oedema

Result; slight improvement in chest sounds and tidal volume but minute volume still low and chest still wheezy.

If response is; 'Give adrenaline'

- Ask; 'How much of which concentration?' (and go to next section)

Repeat observations (if adrenaline not given):

Airway

Unaltered

Breathing

Tidal volume 185ml

Wheeze bilaterally

Rate 25

- If asked; saturation 87%
- If asked; Carbon dioxide end tidal lower

Still hard to ventilate

Circulation

BP 70/25 HR 119

If asked; flushed with an urticarial rash

(If have treated with adrenaline at this stage

Still wheezy but tidal volumes better.

Saturation 87%

Whilst patient improves ensure lungs are ventilated otherwise hypoxic cardiac arrest will supervene)

Ask; 'What do you want to do now?'

If response is; 'Give adrenaline'

Ask; 'How much of which concentration?'

- Epinephrine dose; 0.5mg to 1mg iM (1 in 1000) repeated every 10 minutes
Or 50ug to 100 ug iV (1 in 10000) every minute

If epinephrine not given send into PEA arrest; patient stops breathing and no pulse palpable.

Ask; 'What else do you want to do?'

- If iV fluids given – current fluids have got antibiotics in, if these are continued then worsen scenario to arrest.
- If fluids not removed then no improvement.
- Should be given either new crystalloid or colloid

Ask; 'If you have colloid up at time of arrest what would you do?'

Answer; Change to crystalloid (? Other colloid) as this a potential cause of anaphylaxis.

Drugs doses;

Chlorphenamine 10-20mg iv

Hydrocortisone 100- 500mg iv

Further treatment

Record the following;

- Time & Date Incident
- Description of incident timelines printout if available.
- Operation including all lines and catheter
- All staff

Do the following;

- Take Blood for Tryptase as soon as possible.
- And again 1-2 hours later.
- Needs to be frozen as soon as possible

Finally

- Explain to patient.
- Refer to MRI specialist unit.
- Record in notes and on EPR.
- Inform GP.
- CSM yellow card.
- 'Medicalert' Bracelet.
- Epi pen?

Equipment

Annie with LMA and drip in situ, (drip bag with additive label) and monitoring if available and programmable. Et tube, gum elastic bougie, laryngoscope, face mask.

Drugs available: Adrenaline 1 in 1000, Adrenaline 1 in 10,000, Saline or Colloid, Salbutamol, Chlorphenamine, Hydrocortisone.