

## **Anaphylaxis Protocol/2**

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). Also has osteoarthritis right knee and has been referred for possible surgery but not seen yet. Mobility reduced to 200 yards.

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

### Examination

Airway - normal anatomy, no reflux or other problems.

Breathing - no significant chest disease, no recent URTI

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

Respiratory hydrated

### Investigations

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)

### Intraoperatively

Induction: propofol & fentanyl

LMA inserted size 3

Nerve block performed without problems

BP 95/65 HR 70

Antibiotics added to 1L IV Hartmanns

Patient breathing spontaneously and taken into theatre

### Maintenance

Sevoflurane in oxygen enriched air.

Parecoxib administered

**MONITOR 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)

<sup>1</sup> Suspected Anaphylactic Reactions Associated with Anaesthesia August 2003 AAGBI

<sup>2</sup> 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 EtCO<sub>2</sub> unaltered (6.5-7kPa)

If hand ventilation attempted; difficult to bag

Administer 100% oxygen

### **Circulation**

BP 90/45 HR 75

### **Disability**

Seadated

### **Exposure**

If asked; No rash

- Ask; 'What do you do now?'

If response is; 'Give bronchodilators'

- What would you give and what dose?
- Dose of Salbutamol iv 250 µg or 3µg/kg

If response is 'Intubate'

- Ask; 'What drugs do you want to give?' Suxamethonium or Cisatracurium or Vecuronium

- If intubate - Grade II view some oedema

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

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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, respiratory rate 25

If asked; saturation 87%

If asked; Carbon dioxide end tidal lower

Still hard to ventilate

**Circulation**

BP 70/25 HR 119

**Exposure**

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?'

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Epinephrine dose; initial dose of 50 µg (0.5ml of 1:10000 solution) several doses may be required if there is severe hypotension or bronchospasm. If several doses of epinephrine are required, consider starting an IV infusion of epinephrine (epinephrine has a short life)

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

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 (or other colloid) as this a potential cause of anaphylaxis

Secondary management

Administer Chlorphenamine 10 mg iv  
Administer hydrocortisone 200 mg 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?

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### 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 10,000, Saline or Colloid, Salbutamol, Chlorphenamine, Hydrocortisone.