CPCR and The Crash Box

This lecture discusses CPCR (cardiopulmonary cerebral resuscitation) in detail. It goes through the process of CPCR, monitoring during CPCR and post resuscitation care. It then takes a look at the crash cart & what should be included.

Learning Outcomes:

- Understanding of CPCR and what to do in the emergency situation
- Confidence in practicing for the emergency situation
- Confidence in assisting in the emergency situation
- Knowledge of what to include within the crash cart, and why.

Course Notes:

**CPCR: cardiopulmonary cerebral resuscitation**

- Aspects of CPCR –
  - Airway
  - Breathing
  - Circulation (basic life support)
  - Drugs
  - ECG (advanced life support)

- Monitoring during CPCR

  Palpation of pulse – eg; femoral – but does not equate to adequate blood pressure or perfusion

  ET CO2 monitoring (end tidal CO2 monitoring) – provides a marker of blood flow during CPCR. Higher readings or sudden increase in reading suggests ROSC (return of spontaneous circulation)

  ECG monitoring – changes in underlying rhythm often dictate type and timing of interventions

  Blood gas findings – may be misleading and difficult to interpret. Venous blood gases more useful than arterial samples in this setting.

- Post resuscitation care:

  - Likelihood of recurrent arrest is high, especially if the underlying cause is not identified and treated.
  - Post resuscitation syndromes (due to low blood flow and ischaemia/reperfusion injury)
    - CV instability (arrhythmias, myocardial dysfunction, hypotension
    - Acute renal failure
    - Loss of integrity of GI mucosal barrier (shock gut)
    - SIRS, ALI and ARDS
    - DIC and MODS
Transient cerebral dysfunction is common although permanent neurological injury is rare in patients that survive to discharge
- Iatrogenic injury (rib fractures, pneumothorax)

Treatment during post resuscitation period:
- Fluid therapy to maintain cardiac output, blood pressure and systemic oxygen transport.
- Inotropic or vasopressor support as necessary (eg: dopamine, vasopressin)
- Oxygen administration
- Blood transfusion if required
- Cerebral protection – mannitol, head elevation, maintenance of normal blood pressure and oxygen delivery.
- Monitor for hypoventilation (requires blood gas machine) and use ventilator if necessary.

The crash cart/ box:
- Set up
- Toolbox vs trolley
- Easy to move around, open up in an emergency
- Clearly labelled shelves, boxes
- Draw up drugs in syringes ready to administer in a hurry
- Easy to read sheet with commonly used drug doses

Contents of Crash Cart:
- ET tubes and ties
- Laryngoscope
- Tracheostomy tubes
- Ambu bag
- Syringes and needles
- I/V cannulas and tape
- Dog urinary catheter for i/t drug administration
- Drugs