

Subarachnoid Haemorrhage Re-bleed

Set-up:	
Lines/access:	RIJ CVC, left radial arterial line, single peripheral cannula
Infusions:	Sedatives (propofol & opiate), 1L crystalloid 100mls/hr
Airway:	ETT
Ventilator:	V-SIMV 500/8 FiO ₂ 0.5 Rate 14 breaths/min
Other:	EVD (transduced and clamped)

Clinical Setting:

- I: You are the ICU registrar called to see a new admission who is hypertensive
 S: Bedside nurse would like some hydralazine prescribed as the patient isn't meeting their blood pressure targets.
 B: 44F recent arrival from St. Elsewhere with a SAH. Been to theatre for EVD insertion.
 A: Hypertensive, sedated and ventilated. SBP targets of 120-160mmHg
 R: Called you for assistance

Potential Clinical Course:

- Initially A ETT with ties, B RR 10, SpO₂ 98% on FiO₂ 0.50, EtCO₂ 6.1kPa, clear chest to auscultation, C HR 94bpm SR, BP 176/88, D Sedated propofol/fentanyl, coughs on suctioning, EVD set at 15cm, ICP 20mmHg pupils equal E nursed flat
- ICP begins to climb, eventually peaking at 38mmHg with appropriate ICP trace
- Pupils remain equal, but sluggish
- Sits patient up, removes ties
- Gives bolus of sedation, and increases sedation rates
- Gives dose of NMBD
- ICP number remains high, one pupil blows, then second pupil blows
- Patient becomes very hypertensive and bradycardic
- Gives osmotic diuretic
- Examines EVD – clamped. Unclamps.
- Pupils improve, bradycardia improves and hypertension improves
- Calls neurosurgery and hands over patient

Info Sheet For Faculty

- Initial Settings: RR 10
 - SpO₂ 98% on FiO₂ 0.50
 - EtCO₂ 6.1kPa
 - Clear chest
 - HR 94bpm SR
 - BP 176/88
 - ICP 21mmHg
 - Pupils equal but sluggish

- Progress to: RR – whatever the candidate changes it to
 - SpO₂ 98% on FiO₂ 0.50
 - EtCO₂ 4.5kPa – slowly over 2 mins after RR/VTe increased on vent
 - HR 88bpm SR
 - BP 156/77 – on increasing sedatives
 - ICP 28mmHg
 - Left pupil 3mm/ Right pupil 5mm – sluggish

- Progress to: EtCO₂ 3.8kPa
 - ICP 38mmHg – slowly over 3 mins
 - BP 168/82
 - HR 72bpm SR
 - Left pupil 3mm/Right pupil 5mm – sluggish

- Progress to: EtCO₂ 3.6kPa
 - ICP 47 – over 30 seconds
 - BP 204/112 – over 2mins
 - HR 43bpm SR – over 2mins
 - “Blow” one pupil, then the other

- Once rescue therapy given: osmotic diuretic/thiopentone bolus/EVD unclamped:
 - BP 153/76
 - HR 77bpm SR
 - Left pupil 3mm/Right pupil 5mm – sluggish

Faculty Roles:

Bedside Nurse 1:

- You are thrilled that this is the first patient you are caring for unsupervised since starting on the unit
- You have just received the patient from the theatre team – you know that she has had a subarachnoid haemorrhage and has been transferred under neurosurgery for a DSA and coiling in the morning. Her SBP targets have been set at 120-160mmHg, and she is currently exceeding that
- You suggest some hydralazine

Bedside Nurse 2:

- You only arrive when called for by the registrar/nurse for assistance
- You are a senior critical care nurse
- You take direction well, but lack impetus
- When you arrive, if the candidate is not coping well, address the targets written on the “Daily Plan” on the bedside chart

HILLO: 5, 12