APLS: Illness Scenario 11

This is a Teaching Scenario. Some flexibility in how it progresses is possible according to individual learner needs.

History {initial candidate briefing prior to arrival of child}

4 year old girl referred in by her GP with a history of lethargy, fever and vomiting for the past 24 hours.
Estimated weight 15kg.

Initial impression {provide information as candidate assesses child and applies monitoring}

Child moaning and flushed on arrival. She is not speaking and lying very still.

Additional History & Observations

HR 144, RR 42, CRT <2. Feels hot to touch (temp 39.7). SpO_2 95% in air. BP 109/71. PERL.
If child is exposed a petechial rash is noted on the trunk. If looked for, neck stiffness and Kernig's sign are present.

Clinical Course {to be given to candidate as they progress}

As the assessment progresses the child stops moaning and upper airway obstructive sounds develop with decreasing O_2 sat. Airway opening manoeuvres and oropharyngeal airway are required to clear airway and improve O_2 sat.

INSTRUCTORS INFORMATION

Key Treatment Points ☑

Airway & Breathing	Airway opening and oropharyngeal airway. High flow O2 via face mask commenced early Titrate O2 therapy to SpO2 94-98% when stable Arrange for intubation	
Circulation	IV access Bloods for FBC, U&Es, BGL, VBG and cultures.	
Specific Therapy	Recognition of likely meningitis without septic shock. IV Broad-spectrum antibiotics. Consult ICU	

Diagnosis: Meningococcal meningitis without septic shock.

Learning objectives

At the end of this session participants should be able to:

- Apply the structured approach to assessment, management and diagnosis of meningitis and coma
- Recall and classify the potential causes of decreased conscious state
- Recall and apply the principles of management of meningitis in their own practice

Potential Issues to be Discussed/instructor resources

- Meningitis and encephalitis. Used with permission and endorsed by the Paediatric Improvement Collaborative

https://www.rch.org.au/clinicalguide/guideline_index/Meningitis_encephalitis/

- Causes of meningitis
- Indications and contraindications for Lumbar Puncture
- Signs of raised ICP
- Fluid management in meningitis with shock
- See below for use of steroids

Emergency treatment of meningitis (7th Ed pg 102)

Reassess ABCDE

Specific assessment should be made of the severity of raised ICP, as many of the clinical signs of meningitis arise from this. Give IV ceftriaxone or cefotaxime (child under 3 months) or another suitable antibiotic if meningitis cannot be excluded and this has not yet been given. Empirically treat a child with raised ICP and meningitis and defer or do not perform a lumbar puncture. Ensure blood cultures and PCR have been taken, as these may help in the diagnosis

Treat a febrile child with reduced conscious level or focal neurology with aciclovir and a macrolide to cover herpes simplex virus and mycoplasma encephalitis

It is generally recommended that dexamethasone be administered (not under 2 months of age) before or with the first dose of antibiotics and no more than 6 hours later, when bacterial meningitis is confirmed or strongly suspected to reduce the rate of severe hearing loss and other long-term neurological sequelae (150 micrograms/kg up to a max. of 10 mg four times a day).

APLS: Illness Scenario 12

This is a Teaching Scenario. Some flexibility in how it progresses is possible according to individual learner needs.

History {initial candidate briefing prior to arrival of child}

A 13 month old boy brought in by ambulance with a 2 day history of vomiting, diarrhoea and drowsiness. He had been vomiting all day and mum called an ambulance in the evening when she was having trouble keeping him awake.
Guide weight 10kg

Initial impression {provide information as candidate assesses child and applies monitoring}

Very drowsy, pale child. HR 70, RR 20, T 36, SaO_2 94% in air, BP 120/80. CRT 2.

Additional History & Observations

Mum has given him nothing but water for the last 24 hrs. No recent injuries reported by Mum.

Clinical Course {to be given to candidate as they progress}

Snoring and gurgling - clears with airway opening manoeuvres and O2 sat improves. Assessment of disability reveals P on AVPU scale. No scalp injury evident. PEARL. Hydration state – skin turgor normal, moist mouth, CRT 2 sec. No signs of shock.

There is bradycardia, hypertension and coma so raised ICP and the need for respiratory support should be considered.
If learner is not recognizing signs of raised ICP then prompt by suggesting "your assistant notices they are hypertensive, bradycardic and only responsive to pain -what are your thoughts?"

VBG: pH 7.32, pCO_2 50 mmHg, pO_2 40 mmHg, HCO_3 19 mmol/L
Na 116 mmol/L, Cl 95, K 3.8, BSL 6.0 mmol/L.

INSTRUCTORS INFORMATION

Key Treatment Points		☑
Airway	Airway opening and support. High flow O2 via face mask commenced early Titrate O2 therapy to SpO2 94-98% when stable Arrange intubation and controlled ventilation.	
Breathing	BVM ventilation with 100% O2	
Circulation	IV / IO access	
Specific Therapy	Serum electrolytes, BSL, FBE CT brain scan should be considered. Management of hyponatremia or consult ICU/retrieval	

Diagnosis:	Acute hyponatremia leading to encephalopathy Gastroenteritis, GIT Na loss, water rehydration

Learning objectives

At the end of this session participants should be able to:

- Apply the structured approach to assessment, management, and diagnosis of coma and raised ICP
- Recall and classify the potential causes of decreased conscious state
- Recall and apply the principles of management of severe hyponatremia in their own practice

Potential Issues to be Discussed/Instructor resources

- Differential diagnosis of acute encephalopathy – infection, intracranial bleed (including NAI), drugs, acute electrolyte abnormality, hypoglycaemia, or other metabolic abnormality,
- Management of hyponatremia, encephalopathy +/- CSE
- Hyponatremia. Used with permission and endorsed by the Paediatric Improvement Collaborative

https://www.rch.org.au/clinicalguide/guideline_index/Hyponatraemia/