Unconscious patient in the scenarios

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Objectives

- Understand the management of the unconscious patient (ABCDE)
- Appreciate that correction of the underlying cause is important but the basic management is the same
- Know the common causes of reduced conscious level
Causes of Unconscious Patient

- Trauma
- Non-Traumatic
  - Haemorrhage
  - Infection
  - Infarction
  - Metabolic / Toxic
  - Seizure
  - Other
What is the commonest cause of Airway obstruction?

UNCONSCIOUSNESS
The Rules

- There can be little or no history
- Keeping the patient alive is more important than the underlying diagnosis
- Every unconscious patient should be approached the same way – ABCDE
- Try to find cause and correct it
Why ABCDE?

- Problems with the **AIRWAY** will kill you before

- Problems with **BREATHING** which will kill you before

- Problems with **CIRCULATION**
With little history, you must be the detective through examination

The clues are in the ABCDE
Airway

How do you know if an airway is obstructed?

- Gurgling
- Snoring
- Stridor
- Apnoea
Treatment of Airway obstruction

- Airway manoeuvres
- Head tilt, chin lift, jaw thrust
Airway Adjuncts

- SIMPLE ADJUNCTS
  - OPA
  - NPA (unless hx ? Basal skull Fracture )

- ADVANCED ADJUNCTS
  - LMA
  - ETT
Breathing

- Is the patient breathing?
- What is the respiratory rate?
- What is the respiratory pattern?
- What is the respiratory effort?
- What is the oxygen saturation and is it on or off oxygen?
Breathing

- What causes a high respiratory rate?
- What causes a low respiratory rate?
Circulation

- Heart rate
- Blood Pressure
- Capillary refill time
- Are peripheries warm or cold?
Types of shock

- Hypovolaemic
  - Haemorrhagic
  - DKA
  - GI upset
- Obstructive
  - PTE
  - PTx
  - Cardiac Tamponade
Types of shock

- Cardiogenic
  - ACS
  - Cardiac Contusion
- Distributive
  - Neurogenic
  - Septic
  - Anaphylactic
DISABILITY

- GCS
- Pupils
- BM
A
B
C
Don’t
Ever
Forget
Glucose!
Exposure

- Temperature
- External signs of trauma
- Rash
- Neck stiffness
FY1 - 30 yr old male, found fitting on ward

- **A** - gurgling
- **B** - RR 40
  - SaO₂ 96% on 15l O₂
  - chest clear
- **C** - HR140 reg
  - BP 150/90
  - CRT 3s
- **D** - GCS E1 M3 V1
  - PERL size 5
- **E** - no rash / no neck stiffness / no external signs trauma / no obvious seizure activity
Initial management

- A - Suction / NPA / OPA
- B - Give O₂
- C - Fluid challenge
- D - Diazemuls 10 mg
Further GTCS

What do you do?

- Diazemuls?
- Lorazepam?
- Phenytoin?

- No improvement on 10mgs diazemuls

What do you want to do now? He is still fitting!
Further GTCS in ED

- Who do you contact?
- What does this patient need?
- Anaesthetise and ventilate?
A
B
C
Don’t
Ever
Forget
Glucose!
BM – 1.1
Management

- Dextrose
25 year old male. Found collapsed in toilets of ward

- **A** - Grunting
- **B** - RR 3 / minute
- **C** - HR 110 reg
  
  BP 120/70
  
  CRT <2s
- **D** - GCS E1 M1 V1
  
  Pupils pinpoint size 1, unreactive
E - multiple track marks

insulin syringe found in toilet
Immediate steps

- A - head tilt / chin lift / jaw thrust
- OPA
- B - bag valve mask ventilation with 15l 0₂
- C - IV access
- D – BM

Drug Rx  naloxone
FY1 - 30 yr old male - collapsed in ward

- A - Patent
- B - RR 45 / minute
  SaO₂ 100% on 15l
  chest clear
- C - HR 170 reg
  BP 70/30
  CRT 6s
- D - GCS E2 M3 V2
  PERL size 5
  BM Hi
- E - no external signs trauma / rash / neck stiffness
ABG

- $\text{H}^+$ 155
- $\text{pO}_2$ 40
- $\text{PCO}_2$ 1.5
- $\text{HCO}_3^-$ incalc
- BE incalc
DKA

- A - Supportive
- B - Supportive
- C - Fluid NaCl 0.9% as per protocol
- D - Supportive

Drug Rx: insulin infusion 6 units / hour
FY1 - 40 yr old female. Brought to ED feeling sick moved to Medical ward

- **A -** Snoring
- **B -** RR 30, SpO₂ 82% air, Chest clear
- **C -** HR 160 bounding, BCT on monitor, BP 70/30, CRT 4s
- **D -** GCS E1 M5 V3, PERL size 7, BM 6
E - Warm and vasodilated

Blue tablets found on floor

Jerking limb movements
Management

- A - Head tilt / chin lift / jaw thrust
- B - 15l O₂
- C - ECG

Fluid challenge

NPA or OPA?
ECG
### ABGs on 15l O2

<table>
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<tr>
<th>Parameter</th>
<th>Value</th>
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<tr>
<td>H+</td>
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<td>4.2</td>
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<td>Na⁺</td>
<td>140</td>
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</tbody>
</table>
**Treatment?**

- $\text{Na}^+\text{HCO}_3^- \ 8.4 \% \ \text{titrated to normalisation of QRS}$
63 year old male teacher. Found collapsed and unresponsive in bathroom by nurse. Last seen well 45 minutes previously

- **A** - Maintained

- **B** - RR14 / min (irregular)
  
  - SaO₂ 99% on 10l O₂ via facemask
  
  - Normal breath sounds throughout chest

- **C** - Good capillary refill
  
  - BP 180/98 mmHg
  
  - HR 110 bpm with ectopics
D and E

- Apyrexial
- GCS (7/15)
  - Eyes – nil (1)
  - Motor response – localises pain (5)
  - Verbal response – Incomprehensible sounds (1)
- Exposure – no signs trauma
## Initial investigations

- **BM**: 5.6
- **ABG** –
  - $H^+$: 43
  - $p\text{CO}_2$: 5.7
  - $p\text{O}_2$: 18.2
  - $\text{HCO}_3^-$: 23
- **ECG** – Rate 110 with prolonged QT
- **CXR** - normal
What now?

- Further history?
- Further examination?
- Further investigations?
- Further management?
Further history

- 2 days ago – occipital headache lasted about 40 minutes and gradually resolved over 1 hour
Further examination

- Neck stiffness
- Fundoscopy – ??? papilloedema
- Pupils – 2mm left 6mm right and reactive to light
- Doll’s eye reflex intact
- Corneal reflex intact
- Tone in limbs normal
- Reflexes symmetrical
- Bilateral extensor plantars
Further investigations

- CT brain and CT angiogram
Imaging
Diagnosis – SAH
SAH Grade Signs, Symptoms & Survival

I. Asymptomatic or minimal headache and slight neck stiffness 70%

II. Moderate to severe headache; neck stiffness; no neurologic deficit except cranial nerve palsy 60%

III. Drowsy; minimal neurologic deficit 50%

IV. Stuporous; moderate to severe hemiparesis; possibly early decerebrate rigidity and vegetative disturbances 20%

V. Deep coma; decerebrate rigidity; moribund 10%
CT-angiogram
Anatomy

ROSTRAL

PCA

SCA

PPA

AICA

PICA

DISTAL

MID

PROXIMAL

CAUDAL
Infarction Intervention: Angiography

PRE-TREATMENT

POST TREATMENT
Basilar Artery Occlusion: INS Current Management

- IV rtPA (alteplase) 66% of standard dose
- Ia rtPA maximum 20mg ± mechanical clot disruption
- IVI eptifibatide 72h minimum
- Re-establish oral aspirin + clopidigrel + statin (e.g., simvastatin 40-80mg) as soon as possible
Clinical progress

- Post-procedure:
  - Deficit unchanged

- Week 4:
  - Speaking intelligibly
  - Swallow returned fully
  - Walking with Physio help (AFO on L leg)
  - Improved eye movements
35 yr old 35 stone male

- Found collapsed on bathroom floor
- No history available
- Arrived with 4 paramedics and 2 firemen
On Arrival

A - patent with OPA

B - RR 16, decreased AE throughout, SaO₂ 87% on high flow O₂

C - HR 120 reg, pulses bounding, peripherally vasodilated, BP 180/100, CRT<2s

D - GCS E2 M4 V2

  BM 7, PERL size 5
- ECG – normal
- CXR – small lungs ++
ABGs on 15l O₂

- H⁺  95
- pCO₂  19
- pO₂  9
- HCO₃⁻  45
- BE  +12
Treatment?

- Sit up!
- Non invasive ventilation?
- Intubation and ventilation?
- Should we reduce oxygen concentration?
Clinical course

- Patient made full recovery after 4 hours of NIV
- Did not collapse, simple fall with ensuing ventilatory failure as could not get up from lying flat
18yr old female found collapsed at home

- 1 day h/o headache
- Conversational but irritable that morning
- 40 minutes later found collapsed
- Standby call “respiratory rate 6 and GCS 3”
Assessment

- A - patent with OPA
- B - apnoeic – BVM 15l O₂
- C - HR 150 reg, BP 60/0, CRT 4s,
  6mm ST depression on monitor
- D - GCS E1 M1 V1, pupils fixed and dilated, BM 6
- E - temp 36.7 C, no neck stiffness
ABG 15l O₂ via BVM

- H⁺ 52.7
- pCO₂ 4.6
- pO₂ 77.5
- HCO₃⁻ 16
- Lactate 4.9
Differential diagnosis?

- SAH
- Bacterial meningitis
- Encephalitis
Treatment

A - support airway
B - BVM resps
   prepare to anaesthetise and intubate
C - fluid challenges of NaCl 0.9% 250ml over 2 minutes and assess response

Drug treatment: ceftriaxone 2g IV
dexamethasone 10mg IV
aciclovir 10mg/ kg IV
Questions?