**SAQ trial exam 2016.1 ANSWERS Third book**

**SAQ 19**

1. Biliary – gallstones – cholecystitis/choledocolithiasis/ pancreatitis (1 mark)

Infectious – viral hepatitis (1 mark)

Toxic – Paracetamol or other hepatotoxic drugs (1 mark)

Sepsis from another focus

Intra-uterine foetal demise

Splenic artery aneurysm

1. Proteinuria >1+ on random (1 mark)

Peripheral oedema (1 mark)

Signs of impaired cerebral perfusion - any of Hyperreflexia/Visual Disturbance/Mental Status Changes/ clonus (1 mark)

Headaches

Vomiting (1 mark)

Acute Renal Failure with Oliguria (1 mark)

Elevated urate

Pulmonary Oedema

Evidence of Haemolysis (LDH, schistocytes, decreased haptoglobin) (1 mark)

1. Placental Abruption (1 mark)

Acute Renal Failure (1 mark)

Subcapsular Liver Haematoma (1 mark)

**\*\*\*Seizures (1 mark) essential to score >= 0**

Intrauterine Fetal Demise (1 mark)

1. Left lateral position – IVC in pregnancy (1 mark)

Supportive care – O2 (1 mark)

Terminate Seizure – midazolam 2.5 - 5mg (1 mark)

**Magnesium 4-6gm loading dose – end point seizure cessation (1 mark) essential**

1. Priorities:
2. Prevent further seizures: Magnesium Infusion 1-2 gm/hr
3. Control Blood Pressure: Hydralazine 5-10mg IV or Labetalol 40mg IV best options (avoid oral drugs ie nifedipine and avoid SNP as only 28 weeks)
4. Urgent Obstetric review for consideration of delivery
5. Betamethasone for lung maturation 12.4gm IMI

**SAQ 20:**

 Something along the lines of (any 3 of)

 Any 3 of:

**Cauda Equina Syndrome**:

Hx: Low back pain, trauma.

Exam: areflexia, saddle anaesthesia, decreased anal tone, urinary retention etc.

**Cord Compression:**

Hx cancer, trauma, IV Drug Use

Exam: hyperreflexia, thoracic back pain, spinal level

**Guillain Barre Syndrome:**

Hx: Ascending weakness, recent GIT illness

Exam: Areflexia, minimal sensory change

**Multiple Sclerosis:**

Hx MS, other focal neurology (?Optic neuritis)

Exam: UMN signs, incomplete neurology

**Transverse Myelitis:**

Hx: post viral illness

Exam: Spinal Level

**Functional:**

Inconsistent Hx and exam

1. At least:

\*\*\*Patient has decision making capacity (1 mark)

AND

\*\*\*Is able to make an informed decision without undue influence/ must be freely given (1 mark)

Also accept:

Detail around ‘informed’: (1 mark)

* Rationale for procedure
* Risks of procedure
* Risks of not having procedure done
* Any alternatives

**SAQ 21:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Formula Used** | **Result*****Not required for marks as this is not a maths test*** | **Clinical Implication in this case** |
| Expected CO2 | 1.5 x HCO3 + 8 | *24.5*  | Severe Respiratory acidosis is present |
| A-a gradient | Alveolar O2 = 713x 1 – 60/0.8 | *Alveolar = 640 gradient = 440.* | Marked A-a gradient – implies ineffective gas transfer – shunt/V/Q mismatch |
| Anion Gap | Na – (Cl + HCO3) | *28* | HAGMA present (likely ketones given lactate not too high, could be renal failure or toxic alcohols) |
| Delta Gap | Change in AG/ change in HCO3 | *28-12/24-11 = 16/13 = 1* | Pure HAGMA |
| Corrected Na+ | Na + (Gluc-5)/3 | *125 + 10 = 135* | No hyponatraemia present |

1 mark total for formula and result, 1 mark for clinical implication

1. Goals:

Achieve synchrony – sedate further +/- drug paralyse patient (2 marks)

Improve Ventilation – increase RR to 16-20 (1 mark)

Improve Oxygenation –

increase PEEP to 10-15cm H20 (1 mark)

Tidal volume to 480-500mls (6mls/kg) (1 mark)

**SAQ 22:**

1. Hospital Exec – they need to know and will help facilitate flow

Pre-hospital – Ambulance – diversion of non tertiary patients to alternate centres

ED groups: Senior Nursing/Triage/Resus – for surge preparedness/capacity issues

ED Medical Staff – ensure all available staff on duty to meet surge demand

Inpatient Units: Infectious Diseases, Intensive Care, Infection Control – likely to be highly involved in managing these patients post-ED

Services: Pathology, Blood Bank - likely surge in workload and testing, need for additional PPE in testing

1. Minimise Handling – triage straight to negative pressure/isolation room

Appropriate Location – each patient needs isolation with individual toilet

Meticulous PPE to avoid exposure risks

Minimise invasive Procedures – minimise testing to avoid exposure risk

1. Direct admission to ward for suitable patients

Discharge of suitable patients home, to waiting room if suitable

Use of alternate areas for ambulant patients (outpatients etc)

Clear waiting room – provide reasonable alternatives to access care

**SAQ 23:**

1. Capture beats

Fusion beats

AV dissociation

Extreme Axis (northwest)

Absence of typical LBBB or RBBB morphology

Very broad QRS

Concordance – Pos or Neg

RSR’ with taller left rabbit ear

Rate appropriate - >120, mostly 150-200

Others – Josephson’s sign/Brugada’s sign are also ok if explained what they are.

1. Age >35

Known Structural Heart Disease

Known Ischaemic Heart Disease

Prior MI

Hx of CCF

Known cardiomyopathy

Family Hx of Sudden Cardiac Deat

1. Consent

Sedate – Fentanyl 50-100mcg + Midazolam 1-3mg

Synchronise

Shock – VT – 100Joules) – 200J is fine

SAQ 24:

1. Long QT
2. Left Ventricular Hypertrophy (S-L criteria); U waves; Sinus bradycardia (rate 54/min)
3. Many here –

Mandatory:

bHCG\*\*\*
BSL\*\*\*

Some sort of electrolytes for K and Mg – VBG not enough alone (no Mg)

Others: FBE (anaemia), TFTs (hypothyroidism), urine (septic screen)

NEVER PAY PHOSPHATE BECAUSE IT’S NEVER IMPORTANT

1. Have to be present:

The patient must be lacking competence to reasonably refuse treatment/ lacking capacity

As demonstrated by a lack of ability to communicate a choice, to understand the relevant information, to appreciate the situation and its consequences and to apply rational judgement to the available information.

Under these conditions a patient can be kept for treatment and treated in line with best medical practice under a duty of care.

This situation is dynamic.

SAQ 25:

1. 5 differentials:

Many here – must have in bold:

* Trauma – fractures – accidental and **NAI**
* Infection – psoas abscess, osteomyelitis
* Post infectious – Post- infectious arthritis (ie post salmonella, campylobacter)
* Inflammatory – **transient synovitis** (most likely)
* Primary Bone – Perthes, SUFE
* Neoplastic – primary bone, haem malignancy
* Abdominal path – appendicitis
* Neurologic – cord/demylenation
* Could have any 4 of:
* **FBE**: for cell lines ?bone marrow process , WCC not particularly useful
* **CRP**: may take 24 to rise, non specific
* **ESR**: can also take hours to rise, usually elevated in Septic arthritis
* **Blood Culture**: too slow to (usually) aid in diagnosis
* **Xray**: low yield in absence of trauma – osteomyelitic changes too slow to be useful
* **USS**: demonstrates effusion, non specific (also seen in transient synovitis)
* **Hip Joint Aspirate**: usual comments re: interpretation of joint fluids in septic arthritis
* **Bone Scan**: Non-specific changes of inflammation
* **MRI**: logisitically difficult – requires GA.
1. Parental satisfaction with management and plan

Clear discharge and follow up plan

Child not requiring admission for any therapy/investigation

Time of day and transport considerations

Social concerns re: isolation/ ability to return if change in condition

1. List 5 factors that will determine whether you or not you will discharge this child.

SAQ 26:

1. Murmur of AR

Signs of pericardial effusion

Evidence of branch dissection

- carotid/vertebral – neurology

- blood pressure differential between arms (indicative of brachiocephalic or subclav involvement

- spinal level from spinal infarct (ASA)

Other – severe hypertension; other risks – Marfans syndrome etc

1. Needs to be:

TTE

Advantages: repeatable, dynamic, does not require patient to lie flat

Disadvantages: intolerance (TOE) misses important areas (TTE)

CT(A):

Advantages: Gives definite diagnosis and aids in repair planning

Disadvantages: Contrast exposure in renal injury, requires supine patient

1. End points: BP – systolic <120, HR < 60 , pain under control

Strategy:

**Analgesia**: Fentanyl 25mcg IV titrated to comfort

**Chronotherapy**: beta-blockers to slow rate (P/T): Metoprolol IV 2.5mg repeat to HR <60

If HR <60, BP still >120, then

**Vasodilate**:

Sodium Nitroprusside 0.3-10mcg/kg/min OR
Hydralazine 5mg IV titrated OR

GTN infusion 5-50mcg/min

SAQ 27

1. Anything from CHALICE/PECARN or CATCH

CHALICE:

HISTORY: Witnessed LOC >5 mins, Amnesia >5mins, Abnormal Drowsiness, >2 vomits, Suspected NAI, Traumatic Seizure

EXAM: GCS <14, suspected Skull injury, Signs of BOS#, Focal Neurology, Bruise>5cm

MECHANISM: High Speed MVA, Fall >3m, Hit by projectile

PECARN:

CATCH: Similar – GCS <15 at 2hrs, Suspected Skull#, Worsening headache, Irritability are the HIGH risk features.

1. Identify yourself and role

Ensure that all relevant communication is clear to ensure no mismatch in understanding

Explain basis of clinical decision – NOT for CT – supported by decision rules

Identify their concerns re: no CT – explore their concerns; attempt reassurance

Offer alternate options – SSW for observation etc