**SAQ ABG**

**Sweet LOL**

**Rebecca Day**

A 75 year old lady is BIBA after being found confused by her daily carers. She lives alone and there is no immediate history available. She appears clinically at least moderately dehydrated

GCS 12

BP 98/70

PR 82

O2sats 97%

RR 10

Her ABG is as follows

pH 7.35

pCO2 50

HCO3 24

pO2 113

Na 137

K 4.6

Cl 98

Glucose 50

Urea 28.7

Ketones 1.4

**Q1. What is the primary diagnosis? List the reasons for your decision (5)**

**Q2. What is the corrected Na – show working (2)**

**Q3. What are the key management priorities? (4)**

Diagnostic criteria for Hyperosmolar Hyperglycaemic state (HHS) vs DKA

**1. Hyperosmolar Hyperglycaemic State**

* Serum glucose >30 usually
* Hyperosmolality > 320
  + 2xNa +Ur +Gluc = 274+ 28.7 +50 = 352

* Hypovolaemia
  + Dehydration and hypotension
* Minimal ketones <3 is normal
* pH >7.3 Bicarb >15 (absence of a significant metabolic acidosis)

(Versus DKA where more acidotic, presence of ketones)

**2. Na = Measured Na + (Measured Gluc – 5.5)/3**

**= 137 + (50-5.5)/3**

**= 151**

**3. Management**

* **Rehydration and correction of hyperosmolality**
  + Normal saline to correct immediate hypotension
  + 0.45% saline to slowly replace H20 defecit over several days
  + Add 5% dextrose when Glucose <14
  + Aim rate of decline of 30 mOsm/hr
  + Aim max Na drop of 10mmol in 24 hrs
* **Insulin**
* Aim for glucose between 10-15.
* Aim for BSL drop 5mmol/hour.
* Constant rate of insulin 0.05-0.1units/kg/hr.
* **Monitor and replace K**
* **DVT prophylaxis – high risk**
* **Deal with precipitant**