Meningitis in Adults

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Case presentation

- Ms. R. O. , 32 year old female
- Brought in by ambulance in semi-conscious state post collapse
- Collateral history from brother revealed:-
  1. Headache x 2/52

Emergency Assessment and Management

Airway and C-Spine	Patent	Nil
Breathing	RR- 11, SPO2- 90% (RA), 98% (O2) Productive cough noted Crepitations in left lower zone	Continue oxygen via simple face mask Head of bed at 45*
Circulation	BP- 107/82, MAP-88, PR-76 Cap refill 2s with hot extremities and bounding pulses S1,S2 regular, 1 large bore IV cannula noted in left cubital fossa	Inserted a 2nd large bore IV cannula in right cubital fossa Blood collected for FBC,RFT,LFT,CMP, Lactate, HIV,Blood Culture 1L R/L started to run over 2hrs
Disability	RBS- 7.9mmol/l GCS: E1, V1,M6 Total 8/15 Left pupil- ~5mm unreactive Right pupil-~3mm, reactive Neck supple,	Nil
Exposure	No obvious trauma noted Febrile	Paracetamol 1g IV Stat Ceftriaxone 1g IV Stat Metronidazole 500mg IV Stat

History

S	Signs and Symptoms	Collateral history: • Headache for 2 weeks with associated weakness • Reportedly had inability to walk and talk • No known history of trauma • No known seizures • Pregnancy and HIV status unknown
A	Allergies	Unknown
M	Medications	Unknown
P	Past Medical History	• Previously seen at a local clinic for the complaints with minimal improvement • Intervention at clinic unclear • No known chronic illnesses
L	Last Meal	Unknown
E	Events	• Dizziness reported prior to collapse, • Inability to walk and talk post collapse • No seizures reported

Problem List

- Altered mental state R/O:-
  - Intracerebral Haemorrhage
  - Space Occupying Lesion
  - Meningitis
  - Electrolyte imbalance

- Hyperthermia, hypoxia - possible sepsis R/O
  - Brain abscess
  - Pneumonia

Investigations

FBC	RFT and CMP	LFT
WBC - 4.1x 10^9/L (4-10)	Na + 147mmol/L(135-145)	T.Prot 78 g/dL (60-80)
Hb – 10.3 g/dL(12-15)	K+ **3.1mmol/L** (3.5-5.5)	Alb. 41.2g/dL
Plt – **42x10^9/L**(150-400)	Urea 4.0mmol/L (2.0-7.0)	T. Bil 9.5mg/dL (1.0-25.7)
	Creat 73µmol/L (53-97)	D. Bil **4.1mg/dL** (0-3)
	Ca2+ 2.26mmol/L (2.2-2.26)	ALP 42U/L (35-110)
	Mg2+ 0.8 mmol/L (0.6-1.10)	GGT 30U/L (11-50)
	PO4- 1.32 mmol/L (0.8-1.55)	ALT 12.6U/L (11-40)
		AST 18.3U/L (10-34)

INVESTIGATIONS CONT.

- UPT – Negative
- Rapid HIV test – **Positive**
- Cryptococcal Antigen **- Positive**

- ECG – normal
- CT brain**-** unremarkable, proceeded to LP
- CXR – unavailable

- (**NB- started on meningitic doses of ceftriaxone pending LP results)**

CSF Results

Appearance	Chemistry	M/C/S	GeneXpert
Slightly turbid	Glucose – 2.75 mmol/L	WBC – 110/mm3	No MTB detected
	Protein – **0.89g/L**	RBC – 5/mm3	
		Yeast cells, cryptococcus neoformans	

Diagnosis

- Cryptococcal meningitis in newly diagnosed HIV
- Suspected Aspiration Pneumonia

Treatment and Follow up

Definitive Management

- Admitted to medical ward and started on:-
  - Amphotericin B 550mg IV
  - Flucytosine1400mg PO QID
  - Fluconazole 1200mg PO OD
  - Diclofenac 50mg PO BD
  - Ceftriaxone1g IV OD
  - Metronidazole 500mg IV TDS

Cont.

- **Supportive Management**
- Therapeutic LP following admission then PRN
- IV fluids 3L in 24hrs (1L R/L, 1L D5%, 1L D5%)
- Oxygen PRN
- Neuro observation (I.e. seizures, worsening GCS, headaches)

Follow up

- Currently still admitted in medical ward
- By day 8 of admission GCS improved to 10/15, PBERL