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YLLSoM Seniors Teaching Initiative
M3 Programmes AY14/15

CASE-BASED SESSION 4

Case 1: 85 year-old gentleman who presented with a fall

Mr Tan, a 85 year old gentleman, presents to the ED immediately after a witnessed fall.

Q1) What are the possible etiologies to the fall that you must rule out. Describe the symptoms and signs that you will ask for of three possible etiologies.

Q2) What are possible complications that you need to evaluate for?

Further history taking from his caregiver reveals:
He was trying to get up from his bed to use the toilet when the fall happened. Mr Tan loss consciousness briefly but regained it soon after. After which he was able to call for help. He complained of pain over the back of his head. He has a past medical history of hypertension, hyperlipidemia and diabetes and is currently on medications for all of them. He also had ischemic stroke five years ago.

History taking taken from the patient reveals:
There was no giddiness or light-headedness prior to the incident. There was no loss of consciousness. He mentioned that he fell because he felt weak. After the incident, there was no nausea/vomiting. He was oriented to time and place and person.

Q3) What would you look out for the in the physical examination?

Physical examination yield the following:

- *Consciousness – Oriented to time, place and person. Slightly lethargic.*
- *Vitals – T 36.5 degrees Celsius, Supine BP 110/70, Standing BP 100/65, PR 85, SpO2 98% RA*
- *General inspection – Hematoma noted over the right temporal region*
- *Neurological examination – Pupils were equal and reactive to light.*
    - *Left upper and lower limb power was reduced: 4/5*
    - *Right upper and lower limbs power normal*
    - *Patient was hyporeflexic and had decreased tone on the left.*
    - *Slight facial droop on right*
    - *Cerebellar examination was grossly normal.*
    - *His speech was coherent. He was able to comprehend information given to him. Eyes were in a neutral position.*
    - *Pronator drift absent*
- *No tenderness or deformities over his extremities were noted*

Q4) Where can the lesion be?

Q5) What are some investigations you would perform? Describe 3 and your rationale.

CT brain was done and the results were normal

Q6) Why must you perform a CT brain scan in this case?

You also checked his full blood count, renal panel and hypocount and the results are as follows:

Parameter	Value	Reference Range
Hb	12 g/dL	12-16 g/dL
MCV	96 fL	96-108 fL
Hct	38%	38-52%
Sodium	120 mmol/L	135-145 mmol/L
Potassium	2.5 mmol/L	3.5-5.5 mmol/L
Urea	6.5 mmol/L	2.7-6.9 mmol/L
Creatinine	99 µmol/L	54-µmol/L
CBG	3.5 mmol/L	7.0-11.1 mmol/L

MRI revealed a hypodense lesion noted on the right brainstem

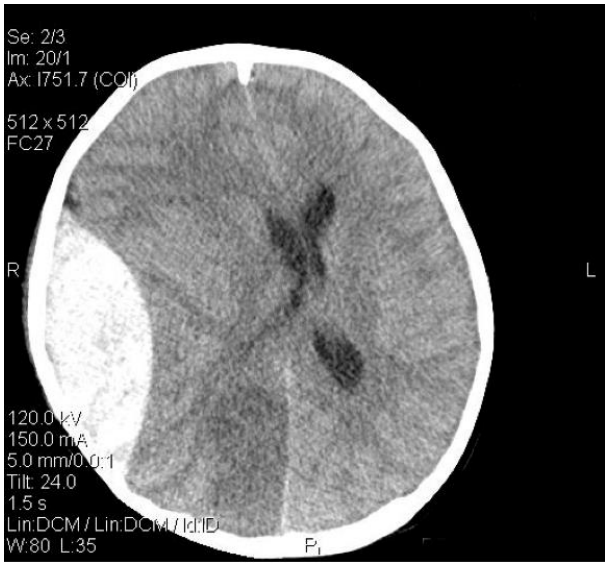
Q7) What are possible differentials for his fall now? Name 4.

Q8) What is an important complication that you must look out for in this patient?

Q9) How would you treat the patient? Describe 4 broad management principles.

After 1 hour, the patient suddenly loss consciousness. His vitals are as follows:
T: 36.9oC, BP: 170/80, HR: 45 bpm, SpO2: 96% RA.
On examination, he had labored and irregular breathing. GCS: 3/15.

A repeat CT brain showed the following:



Q10) Describe 2 abnormalities seen in the scan above.

Q11) What will the definitive management be for this patient?

Q12) What will your advice be for this patient should he recover? Describe 3 that will improve the outcome for this patient in the long run.

Case 2: 65 year-old Chinese gentleman with weakness and numbness of his left arm and both legs

Mr Ng is a 65 year old Chinese retiree presenting with weakness and numbness of his left arm, as well as both his legs.

Q1) What are possible causes that can account for Mr Ng's symptoms? Describe 3 causes.

Q2) What are some important things that you will ask for in the history?

On further history taking, you find that Mr Ng's symptoms have been going on for 8 months. He also experienced some difficulty in walking as he felt unbalanced and undexterous. No respiratory difficulties were noted. His medical and family histories are unremarkable and he is currently not on any medications.

Q3) What are some things you will look out for on physical examination? Describe 4 and elaborate on how it can help you in your diagnosis.

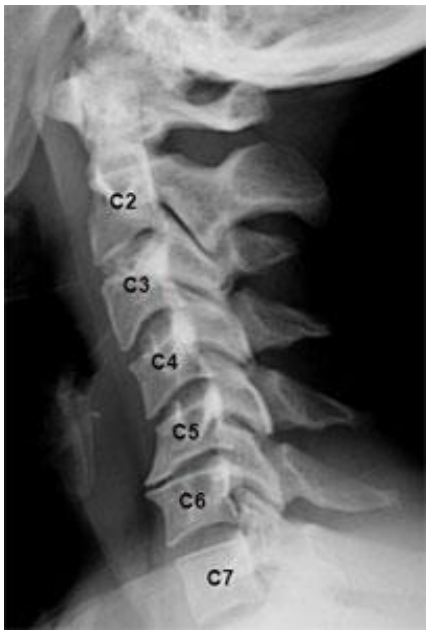
On physical examination, the following was noted:

- *Vitals: Afebrile, BP 120/75, PR 85 bpm SpO2 99% RA*
- *Inspection: General wasting of muscles in his left upper limb. Stooped posture, limited neck mobility*
- *Neurological examination:*
    - *Left UL: Global hypotonia, power 3⁄5, diminished biceps and triceps reflexes. Impaired pain and light touch in all dermatomes*
    - *Bilateral LL: Global hypertonia, power 3⁄5, exaggerated knee jerk and ankle reflexes, positive Babinski response, impaired pain and vibration in all dermatomes*
    - *Gait: Spastic gait was observed*
    - *Pain shooting down left hand on neck extension*
    - *No other neurological deficits or abnormalities*
    - *No localized tenderness of spine*

Q4) In view of the above, suggest three possible differentials that can explain the symptoms above.

Q5) What are some investigations that you will do? Name 2.

Lateral C-spine X ray showed the following:



Q6) What is the most likely diagnosis? Describe your reasoning.

Q7) How will you counsel Mr Ng about the management of his condition?

Case 3: 13 month-old girl with abnormal jerking of her limbs

Baby Sara is a 13 month-old baby who presents with an episode of abnormal jerking of her limbs.

Q1) How would you take a history of this patient?

On history taking, the mother revealed that the child was febrile and had running nose for a day. She became irritable minutes before the seizure episode. During the episode, there was uprolling of eyes, jerking of all 4 limbs and no response to her mom's call. The entire episode lasted for 30s. After that, the child was drowsy and cried, no paralysis of limbs

Antenatal/Birth Hx

- *No fever or any infections during pregnancy*
- *Normal birth, 3.5kg, Apgar Score of 9 at birth and 5 minutes*

PMHx and Drug Hx: Nothing significant

Vaccination Hx: Up to date

Developmental Hx: Normal

Q2) What type of seizure is this? What are other conditions that may mimic seizures? Name 3 conditions.

Q3) What are some etiologies of seizure? Name 5.

Q4) What are some neurocutaneous stigmata you would look out for in the physical examination? Name 4 stigmata and the conditions they are associated with.

Q5) What other things would you look out for in the physical examination?

Physical examinations was performed.

Vitals

- *Temperate: 38.0 degree Celsius*
- *BP: 75/40*
- *PR: 150*
- *SpO2: 100%*

50% for Height, weight and head circumference

Neurological

- *No dysmorphism or neurocutaneous stigmata*
- *No neck stiffness, Kernig's or Brudzinski's sign*
- *Normal tone*
- *Reflexes 2+ Bilateral*
- *Moving all 4 limbs*
- *Normal plantar reflex*

Others: Normal

Q6) What preliminary investigations would you do? Describe 3 and your rationale.

Investigations: No abnormalities found

Q7) What is your working diagnosis? Outline your reasons.

The child was diagnosed with upper respiratory tract infection and febrile seizure by the paediatrician in charge.

She had another episode of seizure in the wards. You were called to see her. The nurses ask you how they should react if another such episode occur.

Q8) What is status epilepticus? Describe how you would manage this medical emergency.

Baby Sara recovered and had no further episodes of febrile seizure. The parents asked if their child has epilepsy, and whether this would affect her development.

Q9) How would you educate the parents on the topic of febrile seizure? Highlight 5 important points regarding the following areas. (Prognosis, management, red flags)

Q10) What is the definition of epilepsy?

Case 4: 70 year-old malay gentleman with a change in personality

Mr Ahmad is a 70 year old Malay gentleman. He stays on his own. He is brought to the clinic by his son, who complains that his father has been behaving increasingly more oddly over the past year. He says that he has noticed his father making mistakes with his personal accounts, and occasionally having times when he speaks unrecognizable words or stares into space. He says that his father of late does not recognise him and thinks that he is someone else. Mr Ahmad has stopped driving because he gets lost and has also bumped his car several times while parking over the past 2 years.

Q1) Classify your differential diagnosis (no need to elaborate on specific causes). What are some cardinal features of these classes? Suggest how these classes may be distinguished.

Q2) State 5 physical signs that you would look for which are not from the neurological system. Justify your answer.

Q3) Suggest 3 bedside tests that would aid your assessment.

Q4) State 5 relevant investigations. Justify your answer.

Mr Ahmad's son also complains that that his flat is cluttered with dishes of uneaten food, and cups of undrunk tea. On questioning, Mr Ahmad describes how many guests have come to his home and he has prepared food for them. However, Mr Ahmad also complains of small children and animals invading his home at times throughout the day.

When Mr Ahmad gets up, you notice that he has a slow unsteady gait. The tone in his limbs is rigid and is fairly symmetrical.

Q5) Suggest 3 most likely differential diagnosis. Suggest how they may be distinguished.

Mr Ahmad is given a referral to neurology. Several months later, you are called to see a patient at night and are surprised to see him again. He had been admitted for a right hip fracture after a fall and is post op day 3 after a right hemiarthroplasty. He is agitated and confused, and has a fever of 40oC.

Q6) What is Mr Ahmad's current problem? What is the aim of treatment?

Q7) What are some possible etiologies in a post operative patient such as Mr Ahmad?

You notice that both of Mr Ahmad's hands have severe tremors and that he is very stiff. The nurse tells you that Mr Ahmad had been given haloperidol the night before by the on-call MO, as Mr Ahmad had been complaining of hearing voices and seeing small animals.

Q8) What condition would you like to exclude?

Q9) Suggest some other differential diagnosis.

Q10) How would you manage this condition?

Case 5: 50 year-old Chinese gentleman with forgetfulness

Mr Wong is a 50 year old Chinese gentleman. He presents to your clinic with the chief complaint of forgetfulness. He says that his job as an investment banker is not going well as he has lost the bank several hundred thousand dollars from poor transactions. You notice that he has problems with pronouncing the words he is saying and his hands tremble when he reaches out to shake yours. Sitting outside in the waiting room is a gentleman called Mr Tan, whom Mr Wong describes as his 'life partner'. Your diligent questioning reveals that he is in a steady relationship with Mr Tan, but had 'a few dalliances here and there' when he was in his 30s. He had painless genital sores during that period but they had resolved on their own.

Q1) What is the most likely diagnosis, and what is the causative organism? What other differentials would you consider?

Q2) What is a characteristic ocular sign?

Q3) What are some confirmatory investigations?

Q4) What is the most appropriate therapy?

Q5) What complications may arise from the therapy?

Q6) What are some other neurological syndromes of syphilis?