Silent struggles: unravelling the complexities

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History

- An 89-year-old, female, with a background history of atrial fibrillation, ischaemic heart disease, heart failure, hypothyroidism, depression and recurrent episodes of syncope on an ILR, presented with loss of consciousness for 20 mins while having a hair- cut at the salon.

History (Contd.)

- She was well before this event. She could recall going into the salon and sitting in the chair.
- As per the hairdresser – She developed sudden onset LOC towards the end of the hair-cut. This episode lasted for 20 mins.
- There was some shakiness noted in the left leg for 10-15 seconds.
- No tongue biting or incontinence.

History (Contd.)

- On arrival of the ambulance crew, she was sweaty and clammy with low BP. Her GCS was 10.
- She was lowered to the floor and legs were raised.
- Later her GCS improved to 14 but remained confused for 1.5 hours.

History (Contd.)

- She denied preceding chest pain, palpitations, dizziness or aura.
- There were no neurological symptoms such as visual changes, UL/ LL sensory or motor symptoms, headache or neck pain.
- Rest of the systemic inquiry was negative.

Past medical history

- Recurrent episodes of transient LOC in 2022.
  - 4 episodes – last episode in June 2022
  - Found to have atrial fibrillation
  - Started on apixaban and bisoprolol initially
  - Due to concern of bradyarrhythmia, bisoprolol was stopped later
  - No specific cause was identified.
  - Hence, a loop recorder was implanted in March 2023
  - Last interrogation was in September 2023 – Fast AF episode (max HR – 176 bpm, lasted for 4.28 minutes) and AF related pause for 3 seconds

Past medical history (Contd.)

- IHD – NSTEMI (PCI to LAD in 2020)
- HF (Echo Feb 2023 : EF – 30-45%)
- Hypothyroidism
- Depression

Medication history

- Apixaban 5mg BD
- Atorvastatin 80mg ON
- Cholecalciferol 800 units OD
- Lansoprazole 15mg OD
- Levothyroxine 100mcg OD

- Allergies - penicillin

Social history

- Lives alone in a two-storied house, no formal POC
- NOK – son, lives nearby
- Independent in ADL and IADL
- Does not use mobility aids and independent with stairs
- Son helps with shopping
- Has a driving license but does not have a vehicle
- Non-smoker and drinks alcohol occasionally

Examination

- General – not pale, no cervical tenderness
- CVS
  - PR – 92, irregularly irregular
  - BP – 150/80 mmHg
  - JVP not elevated
  - HS – normal, no murmurs

Examination (Contd.)

- Neurology
  - GCS – 15, pupils – 3mm, equally reactive to light bilaterally
  - CN, UL and LL – normal neurology
- RS and Abdomen – normal examination

- CFS – 3
- AMTS – 8/10

Differential diagnoses

- Cardiac syncope – tachy/bradyarrhythmia
- Seizure
- Vertebral artery dissection with posterior circulation syndrome

Investigations

- FBC
  - Hb – 160 g/L
  - WCC – 8.33 *10^9/L
  - PLT - 403*10^9/L

- Biochemistry
  - Na – 139 mmol/L
  - Ca – 2.58 mmol/L
  - Mg – 0.86 mmol/L

Investigations

- Creatinine – 88 micromol/L
- ALT – 20 IU/L
- Albumin – 36 g/L
- CRP – 1.2 mg/L
- Lactate – 1.7 mmol/L

- Free T4 - 9.5 pmol/L
- TSH - 32.88 mU/L

Cardiac investigations

- ECG - atrial fibrillation with ventricular ectopics
- ILR interrogation – good battery status, atrial fibrillation, no episodes correlating to syncope

Neuroimaging

- CT head –
  - No acute intra-cranial haemorrhage, extra-axial collection or acute territorial infarct.
  - No intracranial mass lesion or hydrocephalus.
  - Global cortical atrophy with frontal lobe predominance.

Neuroimaging (Contd.)

- CT Aortic Arch and Carotid Both
  - The major intracranial arteries, the vertebral arteries, common carotids, internal carotids and external carotids are patent with no evidence of a dissection.
  - Minor calcification at the carotid bifurcation with no significant stenosis bilaterally.
  - There is a small 2 x 1mm triangular aneurysm at the right M1-2 junction. No imaging features of acute subarachnoid blood.

Management

- Diagnosis – seizure in the background of global cortical atrophy
- Levetiracetam 500 mg BD
- Referred to first fit clinic
- Neurosurgery opinion – unlikely for intervention. Referred to neurovascular MDT

Abnormal TFTs

- Free T4 - 9.5 pmol/L (normal)
- TSH - 32.88 mU/L (high)

Concerns regarding memory

- Son reported short term memory impairment.
- Even though, independent at home, son had concerns.
- Meal preparation : son reported not initiating cooking and needing him to throw items away in the fridge out of date.

- During the hospital admission, she could not recall short term incidents – conversation day prior with the medical team, whether had breakfast in the morning, etc.

Assessment of memory

- AMTS – 8/10
- MOCA – 16/30
- Deficiencies in delayed recall, visuo-spatial function, language and orientation

Adherence to medications

- Free T4 - 9.5 pmol/L (normal)
- TSH - 32.88 mU/L (high)
- Interpretation – poor adherence to thyroxine in the background of cognitive impairment

Delirium

- She developed delirium on the 3rd day of hospital admission.
- Predisposing factors – frailty, dementia, old age, medical co-morbidities
- Precipitating factors – seizure, change in the environment, constipation, UTI

Management of delirium

- Regular laxatives to relieve constipation
- Screened for infections including UTI and electrolyte abnormalities
- Bladder scan – no urinary retention
- Orientation strategies
- 1:1 care to prevent falls during hyperactive stage

Management (Contd.)

- Assessed by the therapy team – occupational and physiotherapy teams to evaluate her care needs
- A new package of care was arranged to help with meal preparation and medications
- A Dossett box was arranged.
- Referred to memory clinic.
- Planned to repeat thyroid functions in 6 weeks.

Take home messages

- Evaluation of LOC in elderly could be challenging.
- CGA is important to identify hidden problems in older adults.
- Medication adherence should be considered always before increasing doses of medications.
- A patient-centred approach with the family and MDT involvement would lead to successful outcomes.

THANK YOU!