

Collapse ? cause!

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MYHT

Question

- ◆ How many of you have encountered a patient with a collapse?
- ◆ How many of you have discharged a patient home with a diagnosis of “collapse ?cause”?

Objectives

- ◆ Discuss patients presenting with a “collapse”
- ◆ Understand how to approach such a patient
- ◆ By the end of the discussion feel more confident in formulating a diagnosis and planning an investigation strategy

What is “collapse”?

- ◆ Loss of postural tone
- ◆ Loss of consciousness?
- ◆ Rapid onset
- ◆ Transient
- ◆ Full recovery?

What do we mean when we say "collapse"

- ◇ Faint
- ◇ Seizure
- ◇ Fall
- ◇ Hypoglycaemia
- ◇ Arrhythmia

Approach to “collapse”

Detailed history – What, when, where, why, witness and wicca!

- ◊ What – description of events in detail with accurate sequencing
- ◊ When – situation in detail including details of time
- ◊ Where – situation in terms place and position(upright or supine)
- ◊ Why – Discuss what the patients views are about possible reasons why this occurred
- ◊ Witness – Eye witness accounts are crucial
- ◊ Wicca – drugs (prescription and non) including alcohol

	Seizure	Syncope
Warning	>50% have some aura, usually hard to describe, like déjà vu or a smell	Felt faint, Lightheaded Blurred/darkened vision
Onset	Sudden, Any position	Only occurs sitting or standing, Avoidable by change in posture
Features	Eyes open, Rigidity, Falls Backwards, Convulses	Only occurs standing or sitting, Eyes closed, Limp, Falls forwards, Minor twitching only (if unable to fall flat)
Recovery	Confused, Headache, Sleepy, Focal deficit ("Todd's palsy")	Pale, Washed out, Sweating, Cold and clammy
Other features	Tongue bite, Loss of bladder control common	Loss of bladder control rare

Key examination and investigation aspects

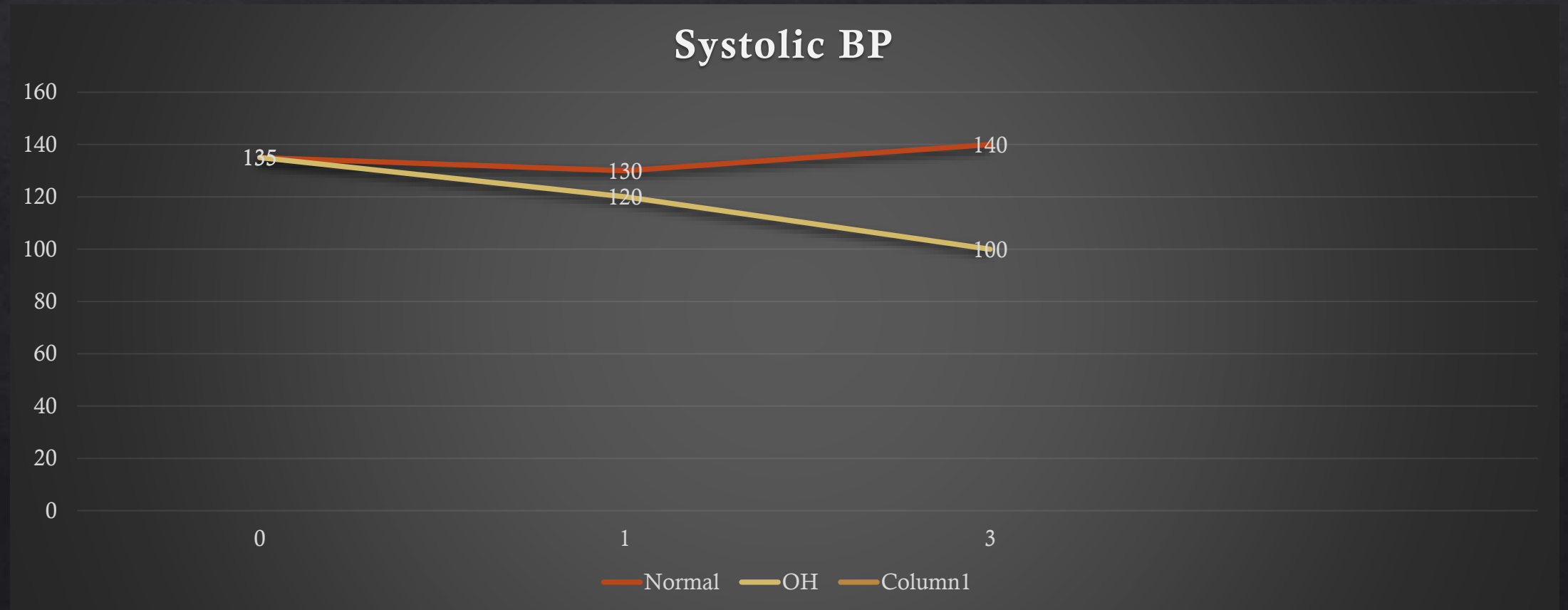
- ◇ Cardiovascular examination
- ◇ Neurological exam including vision
- ◇ Postural BP
- ◇ 12 lead ECG
- ◇ Get up and go test
- ◇ Baseline bloods including FBC, U&E and blood glucose at the least
- ◇ Consider random cortisol or SST if appropriate

CVS and CNS

- ◊ Purpose is to confirm historical diagnosis if suspicious
- ◊ Presence of a murmur could indicate cardiac cause
- ◊ Presence of focal neurological signs could suggest intracranial catastrophe as a cause of “collapse”

Postural BP(0,1,3 method)

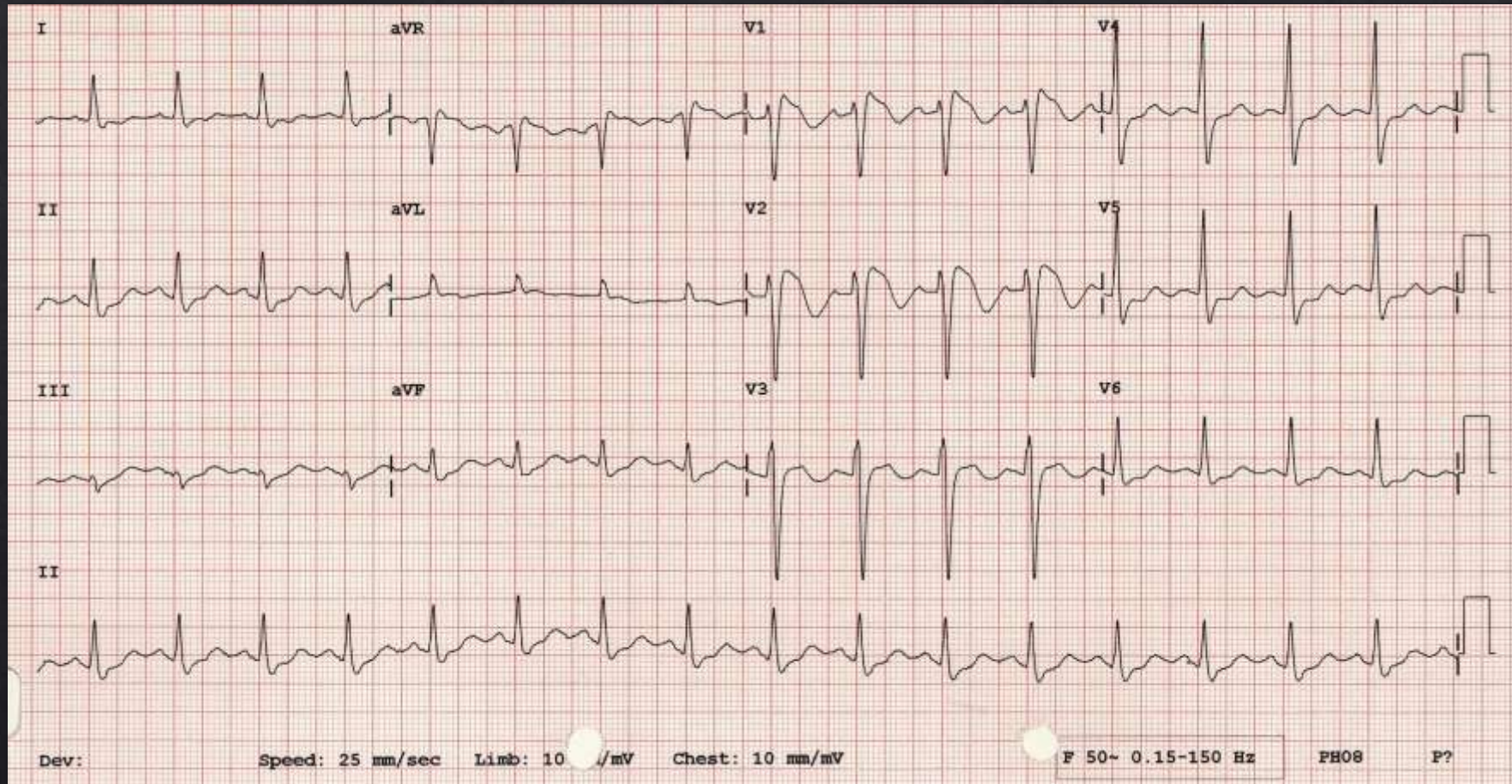
- ◊ Supine for 15-20 mins
- ◊ Reading 0 whilst supine
- ◊ Stand up and repeat BP at 1 min
- ◊ Keep patient up and repeat BP at 3 mins



ECG findings that suggest arrhythmogenicity

- ◇ Bifasicular block
- ◇ Interventricular conduction delay (>0.12 ms)
- ◇ NSVT
- ◇ Prolonged QT
- ◇ LVH features where not expected
- ◇ Brugada pattern
- ◇ Short PR with or without delta waves (pre-excitation)

Brugada pattern



Get up and go test

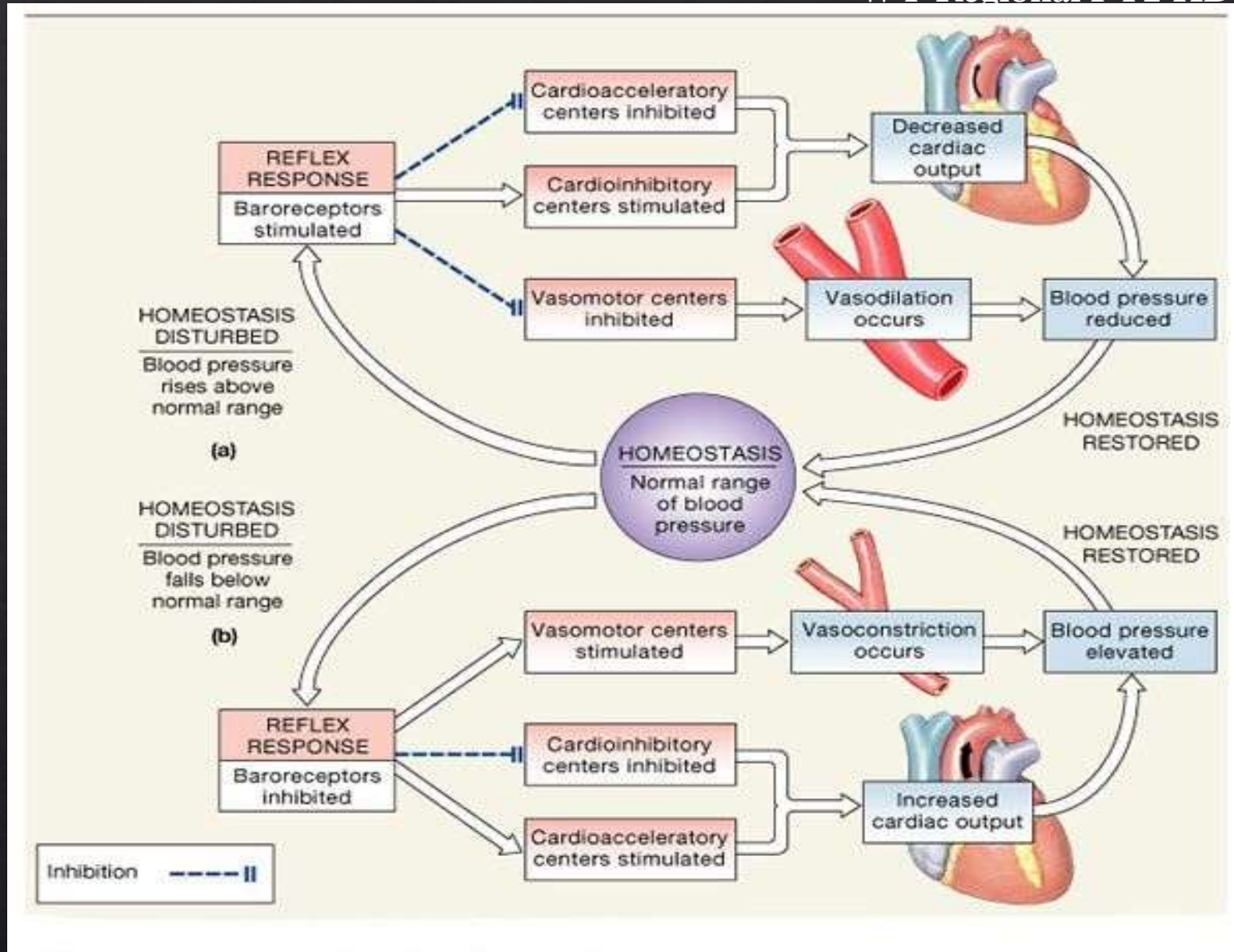
◇ <https://www.youtube.com/watch?v=1AkVr5l7vOs>

Investigations: why and why not!

- ◆ Routine bloods: (FBC/U&E) Anemia, dehydration, hyponatremia, hypoglycaemia etc
- ◆ SST if history and examination suggest adrenal insufficiency
- ◆ 24 hour tape: Only if suspecting an arrhythmia of significance and symptoms occur frequently
- ◆ Echocardiogram : If history suggests cardiac cause or if FH of SCD
- ◆ Tilt test: If etiology remains unexplained and cardiac investigations completed
- ◆ CSM: Only by a competent practitioner and after bruit excluded (Risk of TIA 1/1000)

Syncope (Faint)

- ◆ Derived from the Greek words, *syn* meaning with and the verb *koptein* meaning “to cut”, or, more appropriately in this case, “to interrupt”
- ◆ “Syncope is a transient loss of consciousness (TLOC) due to transient global cerebral hypoperfusion characterized by rapid onset, short duration, and spontaneous complete recovery”



Syncope mechanism

◇ <https://youtu.be/6LcX7fGaUe0>

Varieties of syncope

- ◆ Neuro-cardiogenic syncope: Vasovagal syncope, situational syncope, Carotid sinus hypersensitivity
- ◆ OH syndromes : Primary(MSA, Parkinson's, LB Dementia), Secondary (DM), drug induced (Diuretics, vasodilators, alcohol etc.), POTS
- ◆ Cardiac syncope: Structural(severe AS, HOCM) and arrhythmia related

Risk stratification in syncope

- ◆ San Francisco syncope rule – 7 day serious events
- ◆ OESIL Score – 12 month mortality
- ◆ EGSYS – 2 yr mortality

Seizure

- ◆ Abnormal and purposeless neuronal activity leading to disruption of the brain's normal electrical activity accompanied by altered consciousness and/or other neurological and behavioural manifestations.

Types of Seizures

Generalised:

- ◆ The most common and dramatic, and therefore the most well known, is the generalized convulsion, also called the **grand-mal seizure**. This is characterised by the tonic, clonic and the post ictal phase.
- ◆ Absence seizures cause a short loss of consciousness (just a few seconds) with few or no symptoms. The patient, most often a child, typically interrupts an activity and stares blankly. These seizures begin and end abruptly and may occur several times a day. Patients are usually not aware that they are having a seizure, except that they may be aware of "losing time."

Partial Seizures:

- ◆ Are localised but can progress to involve the entire brain.
- ◆ Generally no loss of consciousness

Non Epileptic Seizures (NES or PNES)

- ◆ Seizure like activity not related to abnormal electrical discharges within the brain.
- ◆ Believed to be related to physical or psychological stressors
- ◆ No benefit from AED
- ◆ EEG normal

Case 1

- ◇ 82 yr old male, hypertensive, on Ramipril 2.5 mg OD, presented with 4 episodes of “collapse” over the last 12 months. First episode occurred in a supermarket. Was alone, had been standing in the queue when he became lightheaded and vision became blurred. Subsequently woke up surrounded by people. 999 called. Felt well when he was brought to ED.

- ◇ 12 lead ECG – sinus rhythm, rate 78bpm
- ◇ Postural BP: 0 – 130/88, 1 – 122/74, 3 – 96/60
- ◇ CVS – soft ESM to carotids
- ◇ CNS – NAD
- ◇ FBC and U&E – normal range

Case 2

- ◇ 15 yr old girl, brought to hospital by mum who was contacted by school for the 3rd time this month to take her home as she was not well. Teachers concerned regarding possible seizures
- ◇ <https://www.youtube.com/watch?v=PHpcVLFSKtY>

- ◇ Patient makes full recovery and is back to normal 5 minutes after these episodes.
- ◇ CT Brain done in ED – normal
- ◇ MRI requested, referral to neurology completed

Summary

- ◇ Approach to a patient with “collapse”
- ◇ Working through a case of collapse and planning investigations
- ◇ Review of syncope and seizures