CARDIAC SYNCOPE AND POTS

RCGP LEARNING

CARDIAC SYNCOPE

Introduction	Structural causes	Non-structural causes

• Around 10% of syncope has a cardiac cause; heart doesn't generate enough cardiac output to maintain brain perfusion.
• Cause - likely structural heart disease in older patients and rarer genetic cardiac conditions in those who are younger.
• Prognosis depends on cause:
  ○ Syncope + advanced HF = 45% one-year mortality.
  ○ Prognosis much better if the cause is treatable.
  ○ Look out for red flags as in syncope basics NUB and refer to cardiology.
	• Ischaemic cardiomyopathy.
	• Valve disease (commonest AS).
	• Dilated cardiomyopathy.
	• Hypertrophic obstructive cardiomyopathy.
	• Aortic dissection.
	• Cardiac tamponade.
	• Obstructive cardiac tumours.
	• Pericardial disease.
	• Pulmonary hypertension.
	
	• More likely if the patient has cardiovascular risk factors.
	• Click links for case studies and more information on causes.
		• Electrical:
		  ○ Tachyarrhythmias (supraventricular, ventricular, PR interval disorders).
		  ○ Bradyarrhythmias (sinus node dysfunction, AV conduction block, pacemaker malfunction).
		  ○ Inherited channelopathies (long/short QT, Brugada, other genetic causes).
		• Iatrogenic (antipsychotics, antiarrhythmics, antidepressants, antihistamines antibiotics). Polypharmacy ↑ risk.

POTS (POSTURAL TACHYCARDIA SYNDROME)

Basic information	Diagnostic criteria	Differential diagnosis
• ↑ HR but no ↓ BP on standing. • Multiple symptoms including light-headedness, palpitations and syncope. Some may not have syncope. • May have acrocyanosis (red/purple swollen hands and feet on standing). • Prevalence 0.1 – 1%, ♀ > ♂, peak age adolescent/young adult. • Basic tests – ECG, FBC, thyroid, ferritin, 9am cortisol. • Misdiagnosis for psychiatric condition common.	• Sustained HR ↑ by ≥ 30 bpm (or ≥ 40 bpm if patient aged 12 – 19) within 10 minutes of standing up. Usually lasts until patient lies flat again. • No drop in BP, or drop of <20/10 mmHg. • Frequent symptoms on standing with rapid improvement on lying down. • Symptoms for at least 3 months. • No other conditions to explain symptoms. • Case study available here.	• Acute hypovolemia (from dehydration or blood loss). • Anaemia. • Orthostatic hypotension. • Endocrinopathy. • Adrenal insufficiency. • Carcinoid tumour. • Hyperthyroidism. • Phaeochromocytoma. • Medication adverse effects. • Panic attacks/severe anxiety. • Prolonged or sustained bed rest. • Recreational drug effects.

MANAGEMENT OF POTS

Think about co-morbidities	Conservative management	Medical management

• PoTS is associated with:
  ○ long COVID
  ○ migraine
  ○ hypermobility/Ehlers-Danlos syndrome
  ○ chronic fatigue
  ○ fibromyalgia
  ○ autoimmune disorders
  ○ mast cell activation disorder.
• Where to refer: https://www.potsuk.org/clinics/
	• Avoid triggers (prolonged standing, dehydration, alcohol, heat, meds that ↑ HR or ↓BP).
	• ↑ fluids to ≥ 3L/day and salt to 2 teaspoons/day.
	• Compression garments.
	• Postural manoeuvres (see orthostatic hypotension NUB).
	• CBT if needed for the psychological issues around having a chronic illness.
		• Ivabradine.
		• Midodrine.
		• Beta blockers.
		• Fludrocortisone.
		• Clonidine.
		• SSRI.
		• Desmopressin.
		• Pyridostigmine.
		• Calcium channel blockers.
		• Octreotide.

Mizrachi et al 2023, Raj et al 2022. PoTS on a Page – PoTS UK.