ACUTE DECOMPENSATING HEART FAILURE

SYMPTOMS AND TREATMENT

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“The new onset or recurrence of symptoms and signs of heart failure requiring urgent or emergency treatment and resulting in seeking unscheduled hospital care.”

Many patients may have a gradual worsening of symptoms that reach a level of severity necessitating urgent care.
CO-MORBID CONDITIONS ASSOCIATED WITH AHF

- Hypertension
- Coronary Artery Disease
- High Cholesterol
- Diabetes Mellitus
- Lung Disease, eg COPD
- Atrial Fibrillation
- Obesity
- Renal Failure
- Anaemia
FRANK-STARLING MECHANISM

Stroke volume (ml)

Normal heart

Heart failure

Left ventricular End Diastolic Pressure (Preload)
SYMPTOMS
CATEGORIES OF SYMPTOMS

- Warm and dry
  - Well perfused
  - No evidence of fluid overload
  - No evidence of decompensating heart failure
- Warm and wet
  - Well perfused
  - Evidence of fluid overload
  - Decompensating heart failure
- Cold and dry
  - Poor perfusion
  - No evidence of fluid overload
  - Poor cardiac output
- Cold and wet
  - Poor perfusion
  - Evidence of fluid overload
  - Decompensating heart failure with a low cardiac output
Breathlessness

- Worsening chronic heart failure
- Chest congestion, pulmonary oedema, pleural effusions
  - Cough
  - Frothy pink sputum
  - Wake up at night breathless/panicky
  - Can’t lay flat

Other causes of breathlessness
- Chest infection
- Pulmonary Embolus
- Anaemia
- Anxiety
- Cancer
- Lung disease
  - Asthma
  - COPD
  - Bronchiectasis
  - Emphysema
PITTING OEDEMA

- CARDIAC CAUSES
- RENAL CAUSES
- LIVER
Ascites
Ascites

- Abdominal discomfort
- Liver congestion/failure
- Nausea
- Feeling full/bloated
- Increase breathlessness
- Decreased mobility
Other symptoms

- Dizziness
- Weight gain (1 kg = 1 litre)
- Reduced mobility
- Palpitations
- Thirst
- Lethargy/weakness
- Chest pain
- Heart Rhythm Disorders
- Renal Failure
- Cachexia
- Cognitive impairment
RIGHT SIDED HEART FAILURE
(Cor Pulmonale)

- Fatigue
- ↑ Peripheral Venous Pressure
- Ascites
- Enlarged Liver & Spleen

- May be secondary to chronic pulmonary problems
- Distended Jugular Veins
- Anorexia & Complaints of GI Distress
- Swelling in Hands & Fingers
- Dependent Edema
LEFT SIDED HEART FAILURE

- Paroxysmal Nocturnal Dyspnea
- Elevated Pulmonary Capillary Wedge Pressure
- Pulmonary Congestion
  - Cough
  - Crackles
  - Wheezes
  - Blood-Tinged Sputum
  - Tachypnea
- Restlessness
- Confusion
- Orthopnea
- Tachycardia
- Exertional Dyspnea
- Fatigue
- Cyanosis
Monitoring

- Daily weights – response to loop diuretic
- Fluid intake – restrict to 1.5 litre per day
  - Thirst
  - Some patients have been advised to drink more!
  - Make sure they drink enough (over 1 litre)
- Renal function – U&Es
  - Low sodium; do not encourage an increase in salt intake
  - Acceptance of some renal dysfunction
- Cognitive impairment
  - Understanding of condition
  - Concordance
- Liver function – LFTs
- Blood pressure; sitting and standing
- Heart rate – ECG
- Symptoms
Treatment

- Oral or IV loop diuretics
  - Bumetanide or furosemide
  - IV furosemide

- Medications
  - Rate control
  - BP control
  - Nephrotoxics (reduction)

- Other diuretics
  - Thiazide or thiazide like medication
    - Bendroflumethiazide
    - Metolazone
  - Mineralocorticoid receptor antagonist
    - Spironolactone

- Patient Understanding and Support
Where do we treat

- At home – oral diuretics
  - HFSNs
- Hospital admission
  - Ward
  - CCU/ITU
- AID-HF (Ambulatory Intravenous Diuretic for Heart Failure)
  - HFSNs
  - Consultant Cardiologist
  - Improves the flow between secondary and tertiary health care
  - Prevents an admission
Cardiogenic Shock

- Hypotension
- Organ hypoperfusion despite adequate fluid resuscitation
- Poor perfusion to peripheries
  - Cold and clammy
- End organ dysfunction; renal, hepatic and central nervous system is common
Deteriorating Patient

- **Respiratory support**
  - CPAP or BIPAP

- **Renal Support/Management of fluid overload**
  - Continuous Renal Replacement
  - Dialysis

- **Cardiac support - medications**
  - Inotropes (Noradrenaline/Dobutamine)
  - Phosphodiesterase inhibitors (Milrinone)

- **Monitored level 2/3 bed**

- **GTN infusion – ward level**
Conclusion

- We can all assist in supporting, educating and helping patients with heart failure.
- Patients with chronic heart failure can gradually deteriorate or acutely deteriorate resulting in a hospital admission.
- Early detection and treatment may prevent this progression.
- Education, monitoring and changes in treatment may prevent a hospital admission.
THANK YOU FOR LISTENING