Cardiff & Vale UHB Primary Care
Optimal Heart Failure Management Guide: General Principles

GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol Caerdydd a'r Fro
Cardiff and Vale University Health Board

Aim

- Aim to establish all patients with heart failure and reduced ejection fraction(HFrEF: ejection fraction <40%) with triple neuro-hormonal therapy (ACEi/ARB, betablockers and aldosterone antagonists.
- The evidence base supports best outcomes are achieved when neurohormonal agents are uptitrated to their maximal tolerated dose

ACEi and ARB - Studies have shown up to 16% reduction in mortality in HFrEF

- ACEi Start at low dose when euvolaemic. Double dose every 2 weeks to reach target dose. Monitor electrolytes with each dose change 10-14 days later.
- ARB use instead of ACEi when severe cough or angio-oedema present
- Contra indications 1. Anuria/ angioedema with previous ACE. 2. Renal artery stenosis. 3. Pregnancy/lactation.
- High risk (refer back to cardiology) 1. Hyponatraemia Na <130mmol. 2. Hyperkalaemia K>5.0 pre-treatment. 3. Renal impairment creatinine >200. 4. Hypovolaemia >10mm Hg postural drop in BP. 5. High dose diuretics (furosemide > 80mg)

- Lisinopril:

Starting dose = 2.5mg od
Target dose = 20-35mg od

- Ramipril:

Starting dose = 1.25mg od
Target dose = 5mg bd

- Candesartan:

Starting dose = 2mg od
Target dose = 32mg od

- Valsartan:

Starting dose = 40mg bd
Target dose = 160mg bd

Beta blockers - Studies have shown up to 35% reduction in mortality in HFrEF

Titration start at low doses when euvolaemic. Double every 2 weeks. Monitor BP, symptoms, heart rate. Check electrolytes & ECG at the start and end of titration. Aim for target dose or failing that highest tolerated dose. Advice to patients 20-30% feel worse during titration. Symptoms may only improve after 6 months.
Notes: 1. Avoid stopping suddenly (rebound tachycardia) 2. Consider switching patients from non-licenced blocker to licenced blocker. 3. COPD without reversibility is NOT a contra-indication to beta blocker therapy.

- Bisoprolol:

Starting dose = 1.25mg od
Target dose = 10mg od

- Carvedilol:

Starting dose = 3.125mg bd
Target dose = 25mg bd (50mg bd if >85kg)

- Nebivolol:

Starting dose = 1.25mg od
Target dose = 10mg od

Spironolactone/Eplerenone - Studies have shown up to 30% reduction in mortality in HF with EF <35%

If still symptomatic and LVEF < 35% Prescribe 12.5-50mg /once daily provided K<5.5. Check electrolytes weekly during titration then at 1 month and 3 months intervals when stable. Stop if K>5.9. If K 5.5 - 5.9, reduce dose by half. Eplerenone may be substituted in the presence of gynaecomastia.

Diuretics

Loop diuretics furosemide 40mg = 1mg bumetanide are used to relieve symptoms and signs of congestion. Adjust the dose aiming for a positive diuresis with a weight loss of approx. -0.5Kg/ day to achieve euvolaemic weight (= non oedematous weight with stable renal function). Aim to reduce the dose of diuretic as far as possible to maintain euvolaemic weight, as higher doses adversely affect prognosis. Monitor U&E 1-2 weeks after initiation and any dose change.

Problem solving

Hypotension

1. Consider specialist advice if BP <80mmHg systolic.
2. Asymptomatic hypotension. No change in dose usually needed.
3. Dizziness, consider reducing doses of diuretics, nitrates, calcium channel blockers.
4. Avoid NSAIDS , alpha blockers and moxonidine
5. Verapamil & diltiazem should not be used in HFrEF

Cough

Consider other causes e.g. respiratory or exacerbation pulmonary oedema.
ACEi cough rarely requires switching therapy to ARB.

Renal dysfunction

1. Beware concurrent use nephrotoxins e.g. NSAIDs, antibiotics, steroids.
2. Consider reducing dose of diuretics and or expect a small rise in creatinine and potassium when ACEi/ARB are started (~20%).
3. Creatinine increases of up to 50% above baseline or to 200mmol/L and a potassium up to 5.9mmol/L are acceptable if patient is closely monitored
4. Where renal dysfunction is excessive halve dose of ACEi/ARB and consider referral.
5. Where creatinine increases by >100% of baseline value or exceeds 350mmol/L and/or K > 6.0 stop ACEi/ARB and consider referral.

- **For advice please contact:** Specialist heart failure nursing team 029 2184 5835 (University Hospital of Wales)
- **Please refer back to cardiology If:**

1. patient remains symptomatic on maximum tolerated treatment.
2. Sinus rhythm and resting heart rate >75bpm after beta blocker titration. Ivabradine should be considered for these patients aiming for a heart rate 60-70.
3. Unable to initiate/ tolerate beta blocker or ACE/ARB.
4. Patients that are not under cardiology and have a known ejection fraction of < 35% or ecg shows LBBB (QRS >120ms).

- **Useful information can be found at:**

https://www.escardio.org/static_file/Escardio/Guidelines/publications/HFGuidelines-Heart-Failure-Web-Tables.pdf