Heart Failure medicines management pathway

NHS York and Scarborough Teaching Hospitals NHS Foundation Trust
Harrogate and District NHS Foundation Trust
NHS North Yorkshire & York Area Prescribing Committee

Manage symptoms:	Offload fluids with **diuretics and SGLT2 inhibitor +/- MRA** as required**.** Once optimised, review dose of loop diuretic and reduce to lowest tolerable dose.	
Prevent:	**Symptomatic CHF with *preserved and mildly reduced ejection fraction***	Symptomatic CHF with ***reduced ejection fraction***
	Initiate a licensed SGLT2 inhibitor	Initiate of all **FOUR** of the following drug groups and optimise CHF therapy by using its maximum licensed and tolerated dose: If HR >100 and in sinus rhythm, start with a **beta-blocker**. If fluid overloaded, despite loop diuretics, start with an **MRA**. If patient does not have any of the above, use an **ACEi** first.

Initiate a licensed **SGLT2 inhibitor**

Check baseline U&Es, BP, HbA1c (delay initiation if volume depleted, systolic BP <95; do not initiate in dialysis patients or if eGFR <20mL/min)**

Initiate **dapagliflozin/empagliflozin** 10mg od

For type 1 diabetes patients, **refer to diabetes team.**
For type 2 diabetes patients: consider dose reduction of insulin and sulfonylureas. **Refer to diabetes team** for advice if:

- There is a history of previous/frequent hypoglycaemia.
- Impaired renal function: The glycaemic effect is dependent on renal function. Additional glucose-lowering treatment may need to be considered if eGFR falls persistently below 45mL/min.

Highlight indication as HF to ensure it's not stopped as part of a routine diabetes review. If already on a different SGLT2 inhibitor (e.g. canagliflozin), this may be continued or switched to dapagliflozin/empagliflozin if appropriate.

Check U&Es and BP at 4 weeks. If eGFR is less than 60mL/min, repeat every 3-6 months. Monitor for fluid depletion; may need to reduce dose of loop diuretic.

Use with caution in the elderly:

- **In frailty score of 6 and above**
- **If treatment initiated, monitor U&Es in 3 days**
- **Consider risk of falls**

Counsel patients on DKA, the sick day rule & side effects.
See Dapagliflozin/Empagliflozin Prescribing Information

Initiate **ACEi**

Initiate **ramipril** 2.5mg od

*Check U&Es & BP at 2 weeks, if patient has LVEF <35%, plan switch to Entresto with specialist advice, otherwise continue increasing towards target of 10mg/day

If switching to Entresto, stop **ramipril** for 48hrs then switch ramipril 5mg to **Entresto** 24mg/26mg bd or ramipril 10mg to Entresto 49/51 bd

*Check U&Es & BP at 2 weeks

If BP & U&Es acceptable, increase **Entresto** towards target of 97mg/103mg bd

Initiate **MRA**

If Cr <200 µmol, K<5.0 mmol
Initiate **spironolactone (or eplerenone if previous anterior MI)** at 25mg (12.5mg if frail)

*Check U&Es & BP at 2 weeks

If Cr <200 µmol, K<5.0 mmol
Increase **spironolactone/eplerenone** to 50mg (25mg if frail)

Potassium binders

If hyperkalemia persists or causes inability to use ACE/ARNI/MRA and patient is symptomatic then obtain advice from cardiology for initiate either **patiromer** or **sodium zirconium cyclosilicate** as per Shared Care Guidelines.

Initiate **beta-blocker**

Initiate **bisoprolol** 1.25mg od

Check HR, BP, side effects at 2-4 weeks.
If HR>50bpm & systolic BP >100mmhg

Double the dose after 2-4 weeks. Then increase by 2.5mg /day every 2-4 weeks until max 10mg od or Heart rate consistently <60

Check HR, BP, side effects at 2-4 weeks.
Ensure HR>50bpm & systolic BP >100mmhg

If HR not controlled (aim resting HR <100; optimal 50-65) or having side effects, obtain advice from cardiology for consider ivabradine or digoxin.

Ivabradine

If in sinus rhythm and heart rate remains >75
Initiate **ivabradine** 5mg bd and up titrate as tolerated to 7.5mg bd
If issues with hypotension, fatigue or sensitivity with bisoprolol: then reduce/stop bisoprolol and combine/replace with ivabradine titrated up to 7.5mg bd determined by heart rate.
Ivabradine cannot be used in AF

*Continue dose increase of ACE, Entresto and MRA if:

Cr <200umol or NO increase >30% from baseline	K<5.3mmol
Euvolaemic; No diarrhoea / vomiting	BP stable; systolic BP>100mmHg
No symptoms orthostatic hypotension; consider split dose	

Continue treatment and monitor U&Es at:
2w→4w→8w→12w→6m
Thereafter 6 monthly U&Es

ACUTE USE OF LOOP DIURETICS FOR EXACERBATIONS

Sudden increase in weight (>1Kg above dry weight sustained over 2 days) +/- increasing by oedema +/- breathlessness.
Increase furosemide by 40mg (or bumetanide by 1mg) following U&Es.
Maintain dose change for 3 days arrange repeat U&Es and review of weight/symptoms.

Check with patient, if:

- Return to dry weight, then return to previous dose to avoid AKI
- No change, maintain for further 3 days
- Ongoing deterioration, then consider alternative intervention – increased dose of loop or addition of thiazide or referral to local HFSN for IV diuretics.

If patient deteriorate again within 2-3 weeks, then consider making the dose increase in loop diuretic permanent.
In the event of hyponatraemia, please thoroughly assess fluid status before stopping any diuretics

AKI

Suspend ACE/Entresto and MRA if creatinine increases by 30% and restart once resolved.

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