Heart failure with reduced ejection fraction (HFREF) treatment pathway – Ashford and St Peter's NHS Foundation Trust

ONLY TO BE USED IF LEFT VENTRICULAR EJECTION FRACTION < 50%

See if ASPH HFNEF Guidance if LVEF greater than 50%

Dear Patient,

You have a new or existing diagnosis of Heart Failure with reduced ejection fraction. This means that your heart muscle is not contracting as efficiently as it should, which can contribute to symptoms of shortness of breath and limb swelling, amongst others. Heart failure is a serious condition and can result in repeated hospital admissions and early death.

However; there are proven medications, lifestyle changes and cardiac treatments that can improve quality and/or duration of life with heart failure.

Heart failure is best management as a partnership between the patient and medical professionals including your General Practitioner, Pharmacist, Specialist Heart Failure Nurse and Cardiologist. Achieving the best heart failure treatment usually requires multiple adjustments of medication. The 'partnership' should aim to achieve maximal tolerable doses of Step 1 & 2 drugs. Patients play an important role by knowing their ideal treatment target, keeping a record of their medication and attending/arranging appointments to have their medication adjusted.

Please visit your GP in the weeks following your discharge to discuss your medications (if your GP does not contact you then you should contact them). Your GP can either start or adjust some of them to improve your care.

Dear Doctor,

(This section of the document may be of interest to patients and carers, but is intended for Primary Care Drs, Nurses and Pharmacists)

Your patient has a diagnosis of Heart Failure with reduced ejection fraction (HFREF).
We have commenced HF therapy, which requires further optimisation. Please start from the appropriate stage of optimisation for the patient.
All patients should have their serum NT-BNP and Left Ventricular Ejection Fraction (LVEF) checked via echocardiography. All patients with symptomatic HF and reduced LVEF (<40 % - see HFpEF guidance for EF 40-50%) should be prescribed:

Step 1: Beta blocker titrated to the maximum tolerated dose at intervals of 1-2 weeks **Recommended** - Bisoprolol to be started at dose of 1.25mg OD titrated to a maximum of 10mg OD. Titrations are in 1.25-2.5mg increments provided resting heart rate is >60/min and standing BP>90mmHg systolic. Bisoprolol may be used if there is renal impairment and mild

to moderate obstructive airways disease, but should be avoided if there is a history of symptomatic beta-blocker induced bradycardia. Nebivolol, Carvedilol and Metoprolol are also used for Heart Failure.

Step 2: ACE inhibitor titrated to the maximum tolerated dose at intervals of 2-4 weeks. ACE Inhibitor should still be used if there is mild to moderate renal impairment (eGFR >30 ml/min) provided renal function is monitored. ACE Inhibitor is usually not used when eGFR<30ml/min unless monitored by a Specialist Heart Failure Service.
Recommended - Ramipril, to be started at dose of 1.25mg OD (at night) titrated to a maximum of 10mg OD. Titrations are in 1.25-2.5mg increments provided standing BP>90mmHg systolic. Enalapril, Lisinopril and Perindopril are also used for Heart Failure.
Please check renal function (U&E) at 1 and 4 months and after each dose adjustment.
If the patient does not tolerate ACE inhibitors an Angiotensin II receptor Blocker is recommended
Recommended: Losartan, to be started at dose of 25mg OD at night titrated up to a maximum of 150mg OD
Titrate dose at intervals of 2-4 weeks and check U&Es at 1 and 4 months. Candesartan (1mg OD to 16mg BD) and Valsartan (40mg OD to 160mg BD) have better evidence, but there have been supply probllems.

Step 3: Mineralocorticoid Receptor Antagonist if the patient is still symptomatic despite steps 1 and 2, titrated to the maximum tolerated dose. Please check U&Es at 1 and 4 months.
Recommended: Spironolactone, to be started at dose of 25mg OD titrated up to a maximum of 50mg OD. Use Eplerenone if there is a history of previous myocardial infarction.

Diuretic therapy - can be used if the patient has signs or symptoms of congestion but shouldn't be used without the above three medications unless they are contraindicated.
Recommended: Frusemide, to be started at dose of 20mg OD titrated up to a maximum of 160mg daily in divided doses. Bumetanide (1mg OD to 3mg BD) is often more potent.

Renal function -Monitoring or renal function is important especially after changes in treatment. The aim of diuretic treatment is to relieve fluid overload and a degree of renal impairment should be accepted provided eGFR is stable >30ml/min and the patient is not overdiuresed i.e. no oedema and hypotensive.

Renal function should be measured 2-4 weeks after any change in medication and then again at 3 months

- Patients should be assessed after dose changes and hospitalisation to prevent overdiuresis
- If treatment is stable and eGFR >30 then check U&E 6 monthly otherwise 3 monthly

- Some patients with cardiorenal and renocardiac failure will have a treatment plan based on lower eGFR as advised by Cardiologist or Renal Physician.

Are medications essential?

Step 1 and 2 medication with adjustment of dose to maximum tolerated is desirable in most patients. There are some exceptions such as allergy or severe adverse reactions to drugs, extreme frailty and Heart Failure with Mid-Range Ejection Fraction (HFMREF EF 40-50%) when patients and their health carers compromise on whether drugs are given and the ideal dose.

New medications

Sacubutril/Valsartan improves outcomes in patients with ejection fraction < 35% who can tolerate medium to large doses of ACEI or ARB. It currently has to be started by a Heart Failure Specialist (Nurse or Dr). After approximately 3 months of monitoring and titration, Primary Care continues prescription and monitoring as detailed in Surrey PAD.

Dapagliflozin and Empagliflozin improves outcomes with ejection fraction <40%. The heart failure specialist should prescribe the Empagliflozin/ Dapagliflozin for at least 1 month. Ensuring that the patient's heart failure is stable (particularly in relation to eGFR) and the patient is benefitting from treatment before transfer of care to the primary care prescriber

If the patient remains symptomatic despite optimal medical therapy, please refer for Specialist HF Nurse assessment (csh.spareferrals@nhs.net) or Cardiology Department, Ashford and St Peter's NHS Foundation Trust. All medication guidelines are taken from the European Society of Cardiology Heart Failure Guidelines 2016 and prescribing suggestions from the Surrey Prescribing Database.

Dr Ian Beeton	Sister Deborah McCarthy	Sister Tracey Bradshaw
Cardiologist	Community Heart Failure Specialist Nurse	Acute Heart Failure Specialist Nurse
ASPH	CSH Northwest Surrey	ASPH

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