GIG CYMRU NHS WALES | Rhwydwaith Cardiaidd Cymru Wales Cardiac Network

Welsh Cardiovascular Society
Cymdeithas Cardiofasciwlar Cymru

Heart Failure in Wales in 2021– a Parallel Approach

Produced by the Welsh Heart Failure Expert Reference Group

"If you want your Heart Failure patients to do well get them on these four medications as quickly as possible and to the highest doses possible"

Symptomatic Heart Failure with Reduced Ejection Fraction

1) For patients with fluid overload consider loop diuretic
2) Consider **B-blocker**. Delay if pulmonary oedema, ascites or marked oedema. Consider Digoxin to rate control in AF.
3) Consider **Sacubitril Valsartan** (NICE EF<35%, ACC EF<=40%). If hypotensive consider low dose ARB as a bridge to an ARNI. For EF 35-50% consider ACE/ARB
4) Consider **SGLT2i** in non diabetics and in Type II diabetes
5) Consider **MRA** (eGFR>30 and K<5.0)

Consider Ivabradine

EF<35%, SR, HR>70 on maximum B-blocker

For Black patients on maximal therapy consider Hydralazine/ ISMN

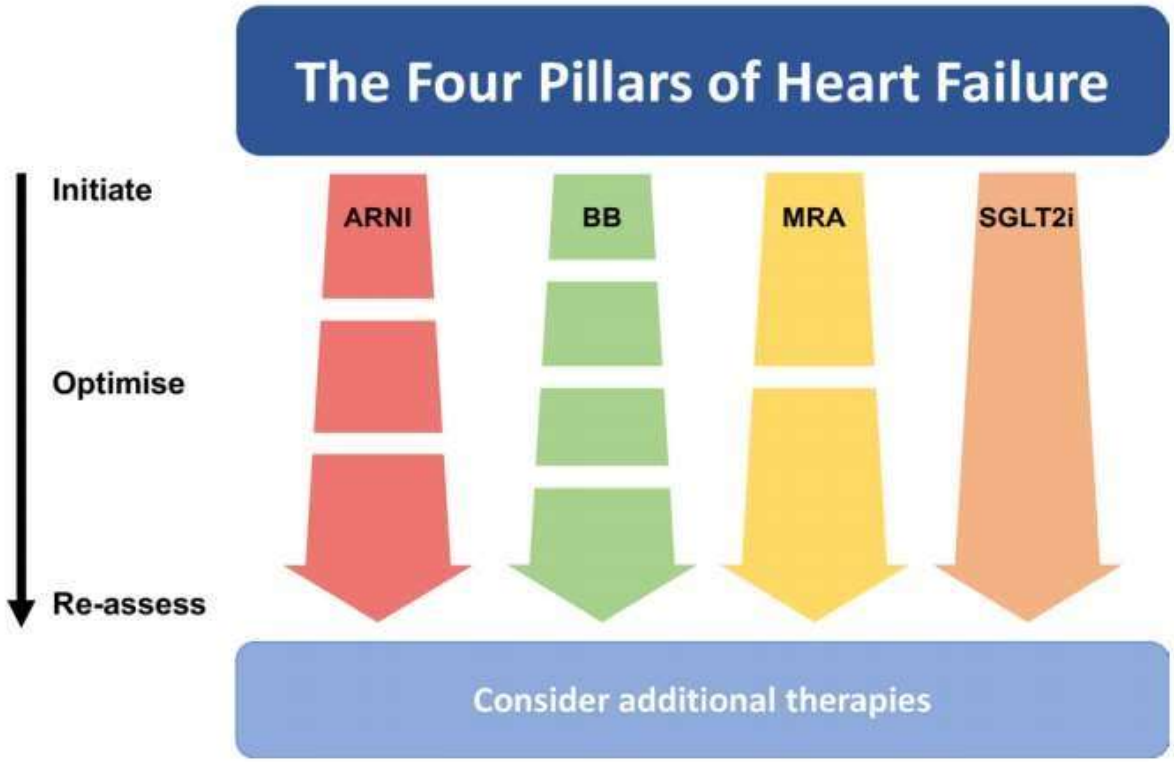
1) Review frequently with assessment of heart rate, blood pressure, renal function, fluid balance and weight until on optimal therapy. (at least 2 weekly review where possible)
2) Consider referral to secondary or tertiary care heart failure service
3) Consider serial NT-ProBNP where clinical assessment is difficult or when using remote assessment
4) Titrate medication in parallel where safe and practical to minimise number of visits
5) Consider further investigation – Holter, MRI, Angiography, other imaging etc.
6) Reassess LV by echo at 3 month interval after completing titration, particularly in device candidates
    a. In patients EF<35% with LBBB and QRS >130ms consider CRT, mainly for symptoms.
    b. In patients with EF <35% consider risk/benefit of ICD therapy.
7) Focus on symptoms and quality of life for the advanced heart failure patient who does not improve with aggressive therapy where palliation is more appropriate.

Adapt drug initiation and titration to the individual patient based on fluid status, heart rate, blood pressure and renal function.

1. Plan parallel initiation and titration of the four most effective disease modifying drugs.
2. Reduce the number of steps to optimal care.
3. Limit reassessments by echocardiography.

Improve symptoms
Reduce hospitalisation
Reduce mortality
Protect renal function

Early relative risk reduction			Initiation and optimization of medication dosing				
Outcomes	Change, %	CDMMT	Day 1	Days 7-14	Days 14-28	Days 21-42	After day 42
CV death or HF hospitalization	-42	ARNI	Initiate at low dose	Continue	Titrate, as tolerated	Titrate, as tolerated	Maintenance or additional titration of the 4 foundational therapies
Death	-25	β-Blocker	Initiate at low dose	Titrate, as tolerated	Titrate, as tolerated	Titrate, as tolerated	Consideration of EP device therapies or transcatheter mitral valve repair
CV death or HF hospitalization	-37	MRA	Initiate at low dose	Continue	Titrate, as tolerated	Continue	Consideration of add-on medications or advanced therapies, if refractory
Death, HF hospitalization,or emergency/ urgent visit for worsening HF	-58	SGLT2i	Initiate	Continue	Continue	Continue	Manage comorbidities



Safe, Effective, Efficient, Timely, Equitable and Person Centred
in line with the
Welsh Government Quality Statement for Heart Conditions

Notes

- Historical guidelines for heart failure management adopt a stepwise linear approach to heart failure treatment based on the chronology of clinical trial publication and assumes that the most effective drugs were developed first.
- Traditional optimisation involved sequentially initiation and titration of up to 10 drugs, which was extremely expensive in terms of resource, time and repeat echocardiography and could take up to 6 months.
- Significant benefits of the newer drugs occur within 30 days of initiation therefore the historical model may result in delay, harm and hospitalisations.
- B-blockers, ARNI, SGLT2i and MRA act as disease-modifying agents, which when combined represent foundation therapy for HFrEF.
- B-blockers are probably the single most effective drug to start early when tolerated, but should be delayed in patients in pulmonary oedema, ascites and severe oedema, and started when there is only mild oedema. B-Blockers are particularly helpful in patients with ischaemic heart disease and arrhythmias.
- SGLT2is have a striking effect in preventing hospitalisation and might be used early, particularly in outpatients.
- If patients are hypotensive, initiating Sacubitril valsartan may be problematic, in which case a low dose of an ARB may be considered as a first step. Hypotension usually resolves after a few days and a switch to Sacubitril Valsartan may be appropriate.
- Sequencing drugs specifically for a patient profile may result in improved outcomes, for example early initiation of an ARNI and SGLT2i could reduce the risk of renal insufficiency or hyperkalaemia seen later with an MRA.
- The addition of a new class at low dose can exert meaningful effect of mortality or hospitalisation that may be greater than that seen by titrating first line drugs.
- In outpatients, drug initiation should be considered after individual assessment with checks of fluid balance, heart rate, blood pressure, renal function and weight. Titration should occur on an appropriate timescale, usually 1-2 weekly.
- In inpatients where all parameters including renal function are assessed frequently, drug titration should be reviewed daily as soon as renal function results are available. All four drug classes should ideally be initiated pre discharge.

References

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