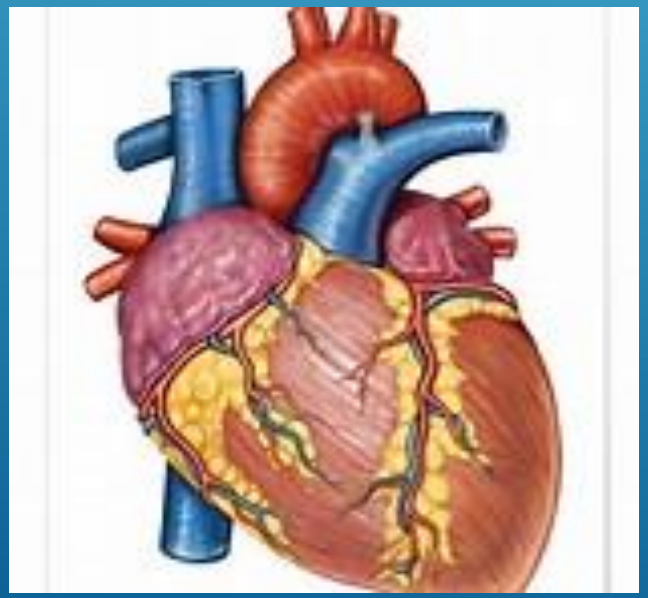
2017 ACC/AHA GUIDELINES UPDATE IN TREATMENT OF HEART FAILURE



Dr. Rupesh Shah

Heart Failure

- Affects about 6 million people in the US.
- Leading cause of hospitalization in the geriatric population.
- Leading cause of death in Americans aged 65 and over.
- One of the most burdensome and expensive health conditions in the medicare population.

GUIDELINES IN TREATMENT OF HEART FAILURE WITH REDUCED EJECTION FRACTION (HFREF)

Goals of Therapy

- Adapting to newer clinical guidelines
- Reducing morbidity
- Reducing mortality
- Incorporating a Prevention Plan

Approach to Management

- Management of contributing factors/conditions
- Lifestyle modifications
- Pharmacologic Therapy
- Device therapy if indicated
- Cardiac rehabilitation
- Preventive Care

Managing contributing conditions

- Hypertension
- Myocardial ischemia or infarction
- Diabetes mellitus
- Thyroid dysfunction
- Infection
- Anemia
- Sleep Apnea

GUIDELINES IN TREATMENT OF HEART FAILURE WITH REDUCED EJECTION FRACTION (HFREF)

Hypertension

Increases hemodynamic load to failing ventricle

Primary cause of CHF

Goal: **Control BP**

Reduce LV afterload

Improve cardiac function

Decrease pathologic remodeling

GUIDELINES IN TREATMENT OF HEART FAILURE WITH REDUCED EJECTION FRACTION (HFREF)

Pharmacologic Management

HFrEF and HTN

Beta Blockers

ACE inhibitors

ARB- angiotensin II receptor blockes

ARNI- angiotensin receptor-neprilysin inhibitor

MRA – Mineralocorticoid receptor antagonist

These agents have shown improved survival in Patients with HFrEF

Pharmacologic Management

HFrEF and HTN

Beta Blockers :

- provided improvement in anginal symptoms from CAD.
- provides rate control

Loop Diuretics, Nitrates and calcium Channel blockers may also provide benefit for BP management.

GUIDELINES IN TREATMENT OF HEART FAILURE WITH REDUCED EJECTION FRACTION (HFREF)

Pharmacologic Management

HFrEF and CAD

- CAD is prominent cause of HF in developed countries
- Ischemic heart disease needs medical management, myocardial revascularizartion, or bypass surgery.
- Consider resvascularization in patient recurrent acute exacerbations of CHF and flash pulmonary edema.

HFrEF and valvular heart disease

-Another cause of HF.

-MR and TR almost always present with dilated cardiomyopathy.

-Worsens the hemodynamic load on the ventricles

-Surgical or Transvalvular interventions

Pharmacologic Treatment for Stage C HFrEF

The clinical strategy of inhibition of the renin-angiotensin system with

- ACE inhibitors (LOE: A / COR: I), or
- ARBs (LOE: A / COR:I), or
- ARNI (LOE: B-R / COR:I)

In conjunction with evidence-based beta blockers, and aldosterone antagonists in selected patients, is recommended for patients with chronic HFrEF to reduce morbidity and mortality.

New clinical trials prompted clarification

Pharmacologic Treatment for Stage C HFrEF

In patients with **chronic** symptomatic HFrEF NYHA class II or III who tolerate an ACE inhibitor or ARB, replacement by an ARNI is recommended to further reduce morbidity and mortality.

ARNI- COR I

LOE B-R

NEW: New clinical trial data necessitated this recommendation.

Pharmacologic Treatment for Stage C HFrEF

ARNI should not be administered concomitantly with ACE inhibitors or within 36 hours of the last dose of an ACE inhibitor.

ARNI- COR III- **HARM**

LOE B-R

NEW: Available evidence demonstrates a potential signal of harm for a concomitant use of ACE inhibitors and ARNI.

Pharmacologic Treatment for Stage C HFrEF

ARNI should not be administered to patients with a history of angioedema.

ARNI- COR III- **HARM**

LOE B-R

NEW: New clinical trial data.

Pharmacologic Treatment for Stage C HFrEF

Ivabradine can be beneficial to reduce HF hospitalization for patients with symptomatic (NYHA class II-III) stable chronic HFrEF (LVEF ≤35%) who are receiving GDEM*, including a beta blocker at maximum tolerated dose, and who are in sinus rhythm with a heart rate of 70 bpm or greater at rest.

COR IIA

LOE B-R

NEW: New clinical trial data.

Treatment of Heart Failure with PRESERVED EF.

HFpEF

2013 Recommendations remain current with the following changes.

Pharmacologic Treatment for Stage C HFpEF

In appropriately selected patients with HFpEF (with EF ≥45%, elevated BNP levels or HF admission within 1 year, estimated glomerular filtration rate >30 mL/min, creatinine <2.5 mg/dL, potassium <5.0 mEq/L), aldosterone receptor antagonists might be considered to decrease hospitalizations.

COR IIB

LOE B-R

NEW: Current recommendation reflects new RCT data.

Pharmacologic Treatment for Stage C HFpEF

Routine use of nitrates or phosphodiesterase-5 inhibitors to increase activity or QoL in patients with HFpEF is ineffective.

COR III No Benefit

LOE B-R

NEW: Current recommendation reflects new RCT data.

Treatment of Comorbidities: Anemia

In patients with NYHA class II and III HF and iron deficiency (ferritin <100 ng/mL or 100 to 300 ng/mL if transferrin saturation is <20%), intravenous iron replacement might be reasonable to improve functional status and QoL.

COR IIB

LOE B-R

NEW: New evidence consistent with therapeutic benefit.

Treatment of Comorbidities: Anemia

In patients with HF and anemia, erythropoietin-stimulating agents should not be used to improve morbidity and mortality.

COR III No benefit

LOE B-R

NEW: Current recommendation reflects new evidence demonstrating absence of therapeutic benefit.

Treating Hypertension to Reduce the Incidence of HF

In patients at increased risk, stage A HF, the optimal blood pressure in those with hypertension should be less than 130/80 mm Hg.

COR I

LOE B-R

NEW: Recommendation reflects new RCT data.

Treating Hypertension in Stage C HFrEF

Patients with HFrEF and hypertension should be prescribed GDMT titrated to attain systolic blood pressure less than 130 mm Hg.

COR I

LOE C-EO

NEW: Recommendation has been adapted from recent clinical trial data but not specifically tested per se in a randomized trial of patients with HF.

Treating Hypertension in Stage C HFrEF

Patients with HFpEF and persistent hypertension after management of volume overload should be prescribed GDMT titrated to attain systolic blood pressure less than 130 mm Hg.

COR I

LOE C-LD

NEW: New target goal blood pressure based on updated interpretation of recent clinical trial data.

Treating Hypertension in Stage C HFrEF

Patients with HFpEF and persistent hypertension after management of volume overload should be prescribed GDMT titrated to attain systolic blood pressure less than 130 mm Hg.

COR I

LOE C-LD

NEW: New target goal blood pressure based on updated interpretation of recent clinical trial data.

2017 ACC/AHA GUIDELINES IN TREATMENT OF HEART FAILURE

Treatment of Sleep Disorders

In patients with NYHA class II–IV HF and suspicion of sleep disordered breathing or excessive daytime sleepiness, a formal sleep assessment is reasonable.

COR IIA

LOE C-LD

NEW: Recommendation reflects clinical necessity to distinguish obstructive versus central sleep apnea.

Treatment of Sleep Disorders

In patients with cardiovascular disease and obstructive sleep apnea, CPAP may be reasonable to improve sleep quality and daytime sleepiness.

COR IIb

LOE B-R

NEW: New data demonstrate the limited scope of benefit expected from CPAP for obstructive sleep apnea.

Treatment of Sleep Disorders

In patients with NYHA class II–IV HFrEF and central sleep apnea, adaptive servo-ventilation causes harm.

COR III **HARM**

LOE B-R

NEW: New data demonstrate a signal of harm when adaptive servo-ventilation is used for central sleep apnea.

Future of Heart Failure Management

- Incorporating more data driven medical treatment options.
- Applying evidence- based guidelines to optimize patient care.
- Decreasing the burden on the healthcare systems and financial resources.
- Incorporating Artificial intelligence in the algorithm based data sets and diagnostic modalities to better predict exacerbations of heart failure.
- As treatment options continue to be validated, more efforts are necessary to improve patient outcomes and patient's quality of life.

Summary

Prevention is better than the Cure!