
بسم الله الرحمن الرحیم

Heart Failure in the Elderly

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Introduction

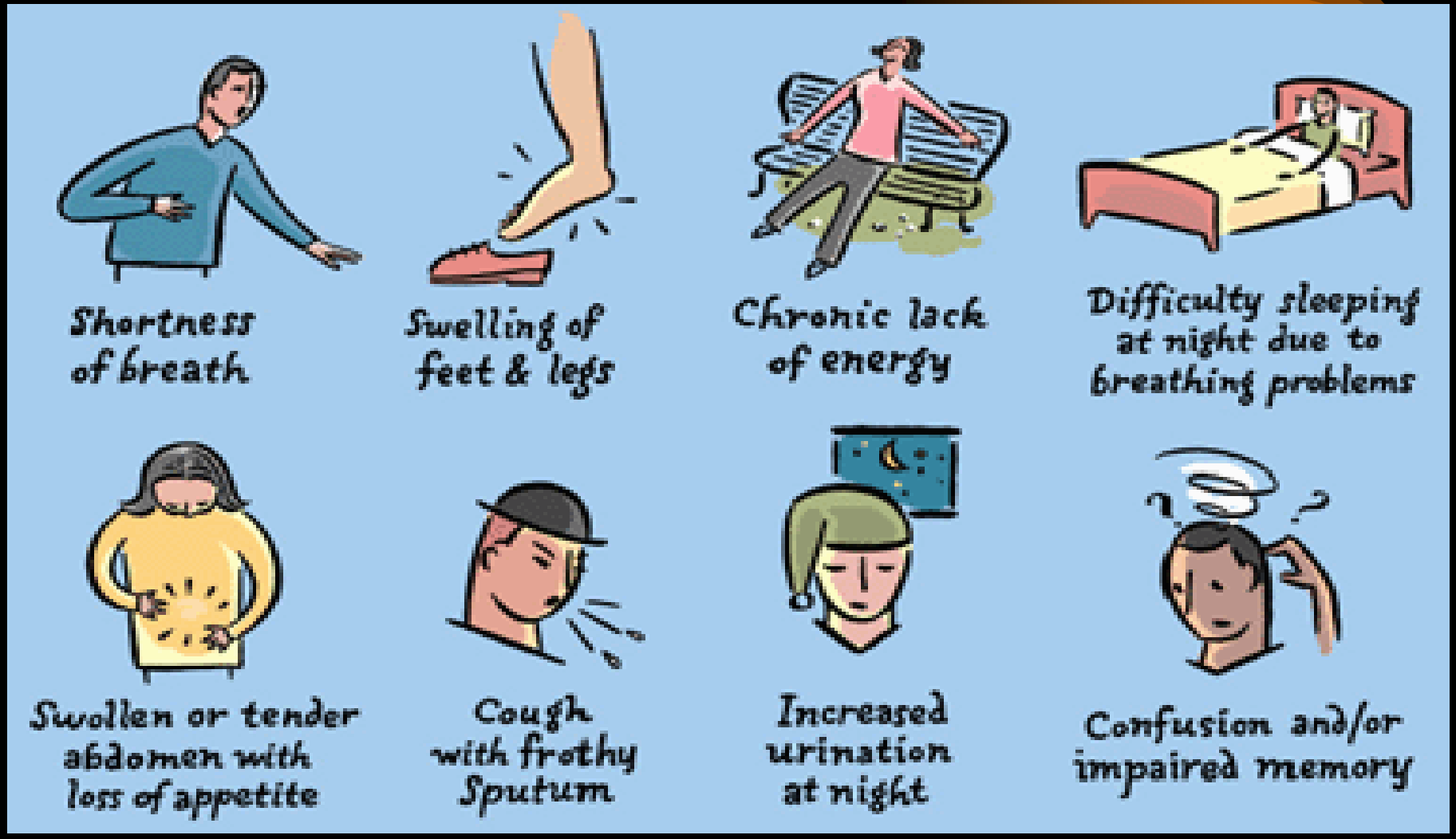
- *75% of heart failure patients who are admitted in hospitals are elderly people.*

- *Heart failure constitutes 20% of elderly admission rates.*
- *Mortality of heart failure is 50% yearly.*
- *80% of CHF mortality is in the elderly.*

Clinical Features of CHF in elderly

- *Symptoms: Exercise Intolerance (shortness of breath, dyspnea,orthopnea,PND)*
- *In elderly: Fatigue / Weakness*
- *N-terminal Pro-BNP is a marker of HF which aids in diagnosis and prognosis./it increases 4-fold in people with HF and >75 y due to decreased renal function*

CHF symptoms

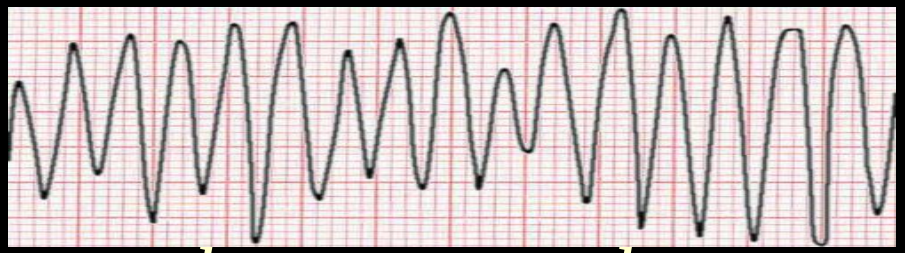


Complications of Heart Failure in elderly

- *Pleural effusion*
- *Atrial fibrillation (most common dysrhythmia)*
  - *Loss of atrial contraction (kick) -reduce CO by 10% to 20%*
  - *Promotes thrombus/embolus formation inc. risk for stroke*
  - *Treatment may include cardioversion, antidysrhythmics, and/or anticoagulants*

Other heart failure complications in elderly

- ***High risk of **fatal dysrhythmias** (e.g., **sudden cardiac death**, ventricular tachycardia) with HF and an EF <35%*



  - *HF leads to severe hepatomegaly, especially with RV failure*
    - *Fibrosis and cirrhosis - develop over time*
  - *Renal insufficiency or failure*

Heart Failure with Preserved Systolic Function in Elderly

- *Constitutes 30% of elderly cases of Heart Failure.*
- *Etiology: Hypertension / Circulatory volume overload /Stiff Heart (Obesity, Hypertension, etc.)*
- *Mechanism: Diastolic heart failure which leads to decreased Stroke Volume and Cardiac Output due to decreased cardiac reserve.*

Heart Failure with Decreased Systolic Function in Elderly

- *Constitutes 70 % of cases of CHF in elderly.*
- *Etiology: Reduced LV contractile force due to Dilated Cardiomyopathy, Infarction, Myocarditis, Rheumatic valvular heart disease,etc.*
- *Symptoms: Exercise Intolerance (shortness of breath, dyspnea,orthopnea,PND.*

Treatment of HF in Elderly

Focus on:

- *control of Blood Pressure (S / D)*
- *Diuretcs in Pulmonary Edema*
- *Control of Ventricular response in atrial fibrillation*
- *Digoxin helps symptomatic relief (0.5-0.9 ng/ml)*
- *ACE Inhibitors / ARB s improve survival.*
- *Rate controlling beta-blockers like Carvedilol reduce mortality of CHF in elderly.*
- *Consider Hyperkalemia with Eplerenone / Aldosterone in Renal Dysfunction.*
- *Consider Orthostatic Hypotension with Hydralasine*

Non-Pharmacologic measures

- *Restriction of dietary Na intake.*
- *Supervised program of cardiac rehabilitation.*

- *PCI or CABG in reversible ischemic LV dysfunction*

- *In those with refractory heart failure despite optimal medical treatment; Consider Cardiac Resynchronisation Therapy (CRT) , if QRS duration >* ***0.14 msec.***

ICD

- *ICD reduces mortality from Sudden Cardiac Death in patients with LVEF ≤ 35 % ; However benefits are lower compared to younger patients due to competing risks esp. in those ≥ 80 years.*

Nontheless 40- 45% of ICDs in US are implanted in patients ≥ 70 y.

ICDs do not improve survival in patients with NYHA class I or IV heart failure.

Life expectancy should be at least 1 year .

CRT

- *CRT improves symptoms, quality of life and survival in severely symptomatic heart failure patients (NYHA class III or IV) despite optimal medical therapy*

Who

have dyssynchronous LV contraction mostly due to LBBB (QRS ≥ 150 ms).

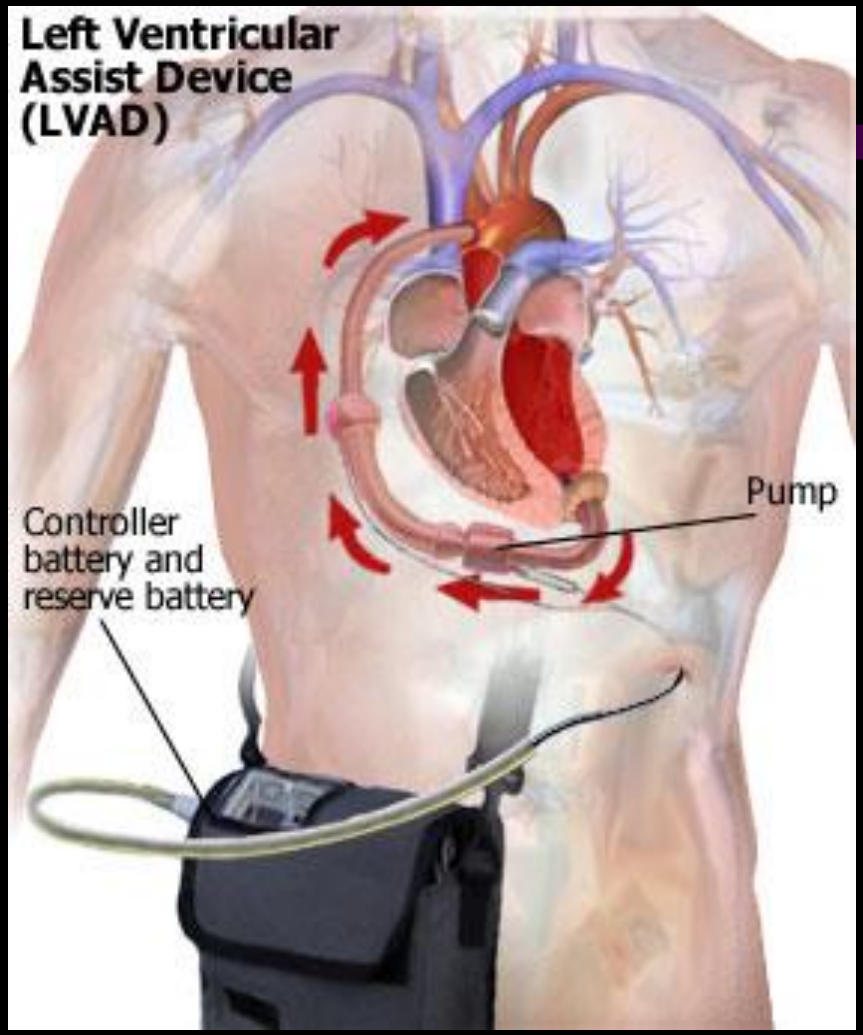
They constitute 30 % of patients with systolic heart failure.

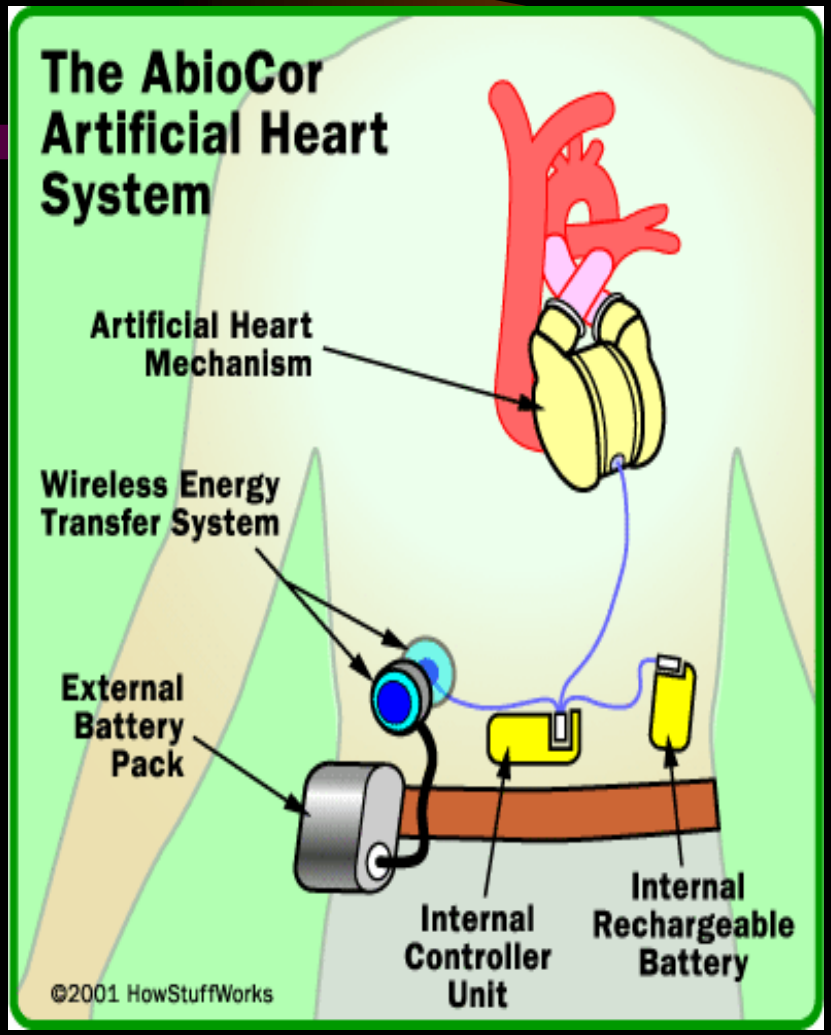
Resynchronization of LV contraction increases Stroke Work, LVEF, and Cardiac Output.

Left Ventricular Assist Device

- *LVAD improves symptoms and QOL in those with severe systolic failure*
- *Originally it was used as a bridge to Cardiac Transplantation.*
- *Now it is increasingly used for destination therapy as the safety and efficacy of these devices continue to improve with advancing technology esp. in many centers who have extended the upper age limit for cardiac transplantation to 75 y.*
- ***Cardiac Transplantation** is reserved for patients with refractory end-stage HF, inoperable CAD and cardiomyopathy*

Left Ventricular Assist Device & Artificial Heart



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