


HEART FAILURE MANAGEMENT

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DEFINITION

- Heart failure (HF) is a clinical syndrome that occurs
- in patients who, because of an inherited or acquired
- abnormality of cardiac structure and/or function,
- develop a constellation of clinical **symptoms** (dyspnea
- and fatigue) **and signs** (edema and rales) that lead to
- frequent hospitalizations, a poor quality of life, and a
- shortened life expectancy.



Acute heart failure (AHF) is among the most common causes for hospitalization in patients older than 65 years in the developed world.

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- As noted, the overall prevalence of chronic heart failure continues **to grow**.
 - However, recent data suggest that the age-adjusted rate of hospitalization for HF has begun to decrease. In a study using U.S. Medicare claims data from 1998 to 2008, age-related incidence of hospitalization for HF declined for all race and gender groups.

Preserved Versus Reduced Ejection Fraction

On the basis of available registry data, 40% to 50% of patients hospitalized have **HFpEF**.

The in-hospital mortality of patients with HFpEF appears to be lower compared with that of patients with HFrEF, but postdischarge rehospitalization rates are similarly high for both groups. Patients with AHF and HFpEF are more likely to be rehospitalized for and to die from noncardiovascular causes than patients with AHF and reduced EF, reflecting their more advanced age and greater burden of comorbidity.

Age,gender,race

AHF disproportionately **affects elderly** people, with a mean age of 75 years in large registries. •

AHF affects men and women almost equally, but there are important differences by gender. In the ADHERE Registry, women admitted for AHF were older than men (74 versus 70 years) and more frequently had preserved systolic function (51% versus 28%) : •

Race

African American: •

Younger •

more likely to have LV systolic dysfunction (57% versus 51%) •

with a lower mean EF (35% versus 40%), •

hypertensive etiology for HF (39% versus 19%), renal •
dysfunction, and diabetes compared with the non-
African American group but lower mortality

Comorbidity

- 2/3 HTN
- 50% CAD
- 1/3 HLP
- STROKE, PAD, CKD: COMMON
- 40% DM
- 25-30% COPD
- AF

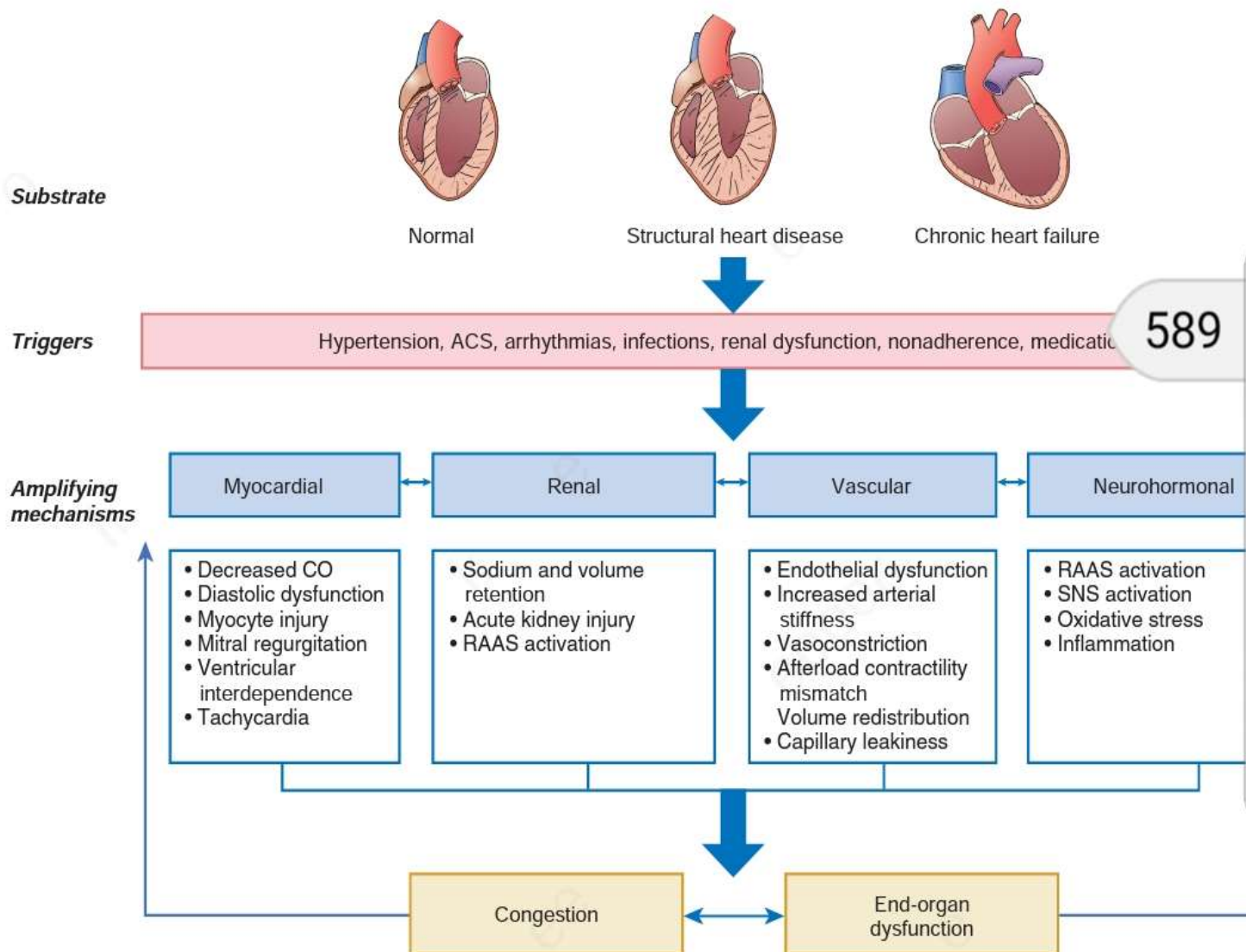


FIGURE 24.1 A schematic representation of the pathophysiology of acute heart failure. ACS, Acute coronary syndrome; CO, cardiac output; RAAS, renin-angiotensin-aldosterone system; SNS, sympathetic nervous system.

TABLE 17-4

**FACTORS THAT MAY PRECIPITATE ACUTE
DECOMPENSATION IN PATIENTS WITH CHRONIC
HEART FAILURE**

Dietary indiscretion
Myocardial ischemia/infarction
Arrhythmias (tachycardia or bradycardia)
Discontinuation of HF therapy
Infection
Anemia
Initiation of medications that worsen HF
 Calcium antagonists (verapamil, diltiazem)
 Beta blockers
 Nonsteroidal anti-inflammatory drugs
 Antiarrhythmic agents (all class I agents,
 sotalol [class III])
 Anti-TNF antibodies
Alcohol consumption
Pregnancy
Worsening hypertension
Acute valvular insufficiency

Abbreviations: HF, heart failure; TNF, tumor necrosis factor.

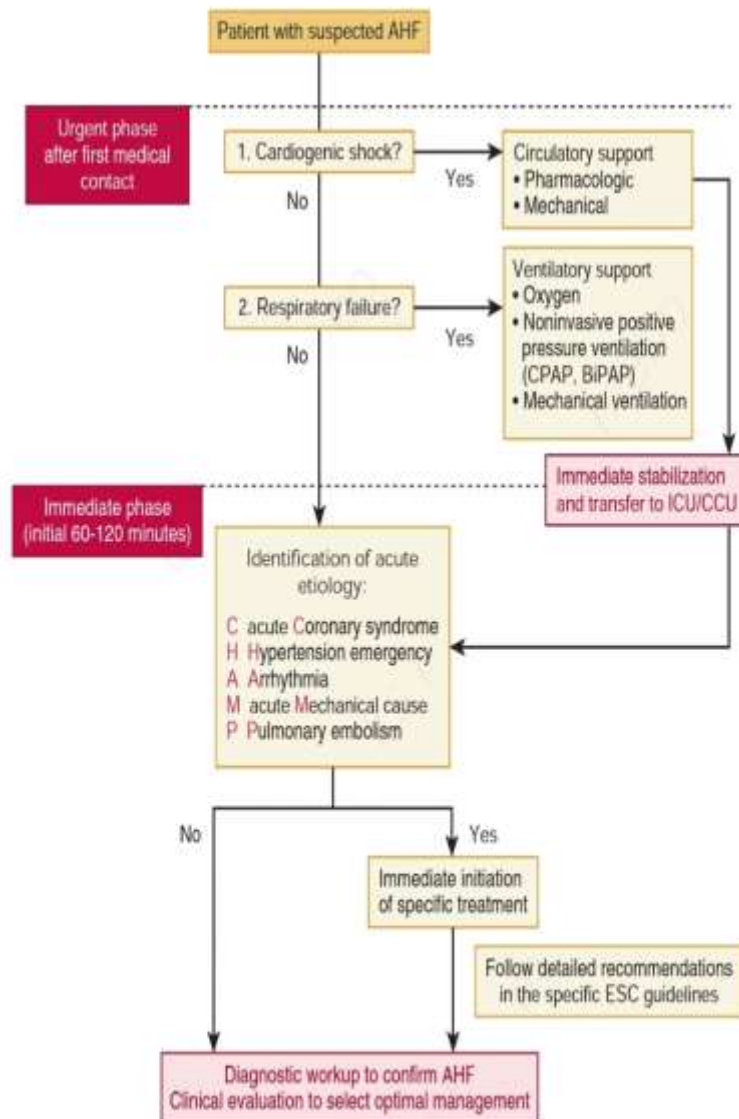


FIGURE 24.4 Algorithm for initial stabilization and management of patients with acute heart failure (AHF). (From Ponikowski P et al. 2016 ESC guidelines for the diagnosis and treatment of acute and chronic heart failure. The Task Force for the Diagnosis and Treatment of Acute and Chronic Heart Failure of the European Society of Cardiology (ESC). Developed with the special contribution of the Heart Failure Association (HFA) of the ESC. Eur Heart J 2016;37:2129-200.)

SYMPTOM

- DYSPNEA 90%
- Fatigue
- Palpitation
- Chest pain

TABLE 17-2**NEW YORK HEART ASSOCIATION CLASSIFICATION**

FUNCTIONAL CAPACITY	OBJECTIVE ASSESSMENT
Class I	Patients with cardiac disease but without resulting limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitations, dyspnea, or anginal pain.
Class II	Patients with cardiac disease resulting in slight limitation of physical activity. They are comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea, or anginal pain.
Class III	Patients with cardiac disease resulting in marked limitation of physical activity. They are comfortable at rest. Less than ordinary activity causes fatigue, palpitation, dyspnea, or anginal pain.
Class IV	Patients with cardiac disease resulting in inability to carry on any physical activity without discomfort. Symptoms of heart failure or the anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort is increased.

Source: Adapted from New York Heart Association, Inc., *Diseases of the Heart and Blood Vessels: Nomenclature and Criteria for Diagnosis*, 6th ed. Boston, Little Brown, 1964, p. 114.

P/E

- JVP
- PULSE PRESSURE
- PERIPHERAL EDEMA
- BIOMARKER
- BUN,Cr, ANP and BNP
- ECG
- CXR
- D DIMER

RISK EVALUATION ADHERE

- BUN
- BP
- Cr

Emergency treatment

- If saO_2 less 90%: O_2 therapy
- Diuretic therapy:
- Vasodilator:
- Morphine
- Inotrope
- Avoided use beta blocker
- amiodaron

ALGORITHM FOR TREATMENT OF CHF

