Congestive Heart Failure and Cognition

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Dr. Diane Healey is a geriatrician with a certificate of added qualification, CMD, and a board-certified internist. She has her undergraduate degree from Purdue University and her medical degree from Indiana University. She completed her internal medicine residency at St. Vincent Hospital and her geriatric fellowship in Nottingham, England at the Queen’s Medical Centre. She is co-medical director of the St. Vincent Hospital Center for Healthy Aging with direct patient care, nursing home care, program development, and education. She is a clinical assistant professor at the IU School of Medicine, on the full time teaching faculty at St. Vincent Hospital, and a frequent speaker for educational programs on various aging issues. Her husband, Dr. Patrick Healey, shares her same interest and career in geriatric medicine. They have three wonderful children.
This speaker has no conflict of interest to disclose
Congestive Heart Failure (CHF) and cognitive impairment (CI)

Epidemiology
Problem
Pathophysiology
Symptoms
Diagnosis
Treatment
5.7 million Americans with CHF
8 million is the projected number by 2030
80% of cases are in >65yo

• Preserved ejection fraction (pEF)
• Reduced ejection fraction (rEF)
Heart failure is common in older adults
Hospitalization for heart failure is the most common reason for hospitalization in older adults
There are cognitive changes in these patients and it is usually undocumented
Heart failure readmission rates increase in patients with unrecognized cognitive deficits
23% thirty day readmission rate from CHF in 2009-2012 per Medicare
Pathophysiology
Why cognitive impairment?

Cerebral hypoperfusion
CHF is an inflammatory state
Hypertension
Atrial fibrillation
Medications
Depression
Anemia
Nutrition
Sleep disordered breathing (sleep apnea)
Subclinical cerebral infarction especially pEF
Cognitive domains

Attention*
Processing speed
Executive function*
Visuospatial
Language
Memory*

*Changes in these areas associated with CHF
These need to be functioning to provide ones own care
CHF and cognition in hospitalized older adults

Studies vary as to the prevalence of decreased cognitive abilities in hospitalized older adults from 25% to 68%
Hospitalized patients over the age of 70, found to have cognitive changes on the Mini-Cog™ 67.7% of the time and readmission rate 26.8%. (N=121)¹

Cognitive impairment in those individuals without CHF (N=120) did not increase readmit rate
Cognitive impairment not noted 90% of the time prior to the testing.

Symptoms
Consequences of CHF and CI

Decreased ability to understand instructions and education
Ability to maintain self-care may decrease
Decision making/judgment may decrease
Ability to recognize and respond to CHF symptoms may be decreased
Increased hospital readmissions
Increased mortality
No consensus on tool to use

Goal is to recognize that there is a cognitive concern

Goal is not to diagnose everyone with cognitive changes as dementia, unless they truly have it
Mini-Cog ™

Short test used to screen for cognitive impairment
  3-item recall test and a clock drawing test
  Score up to 3 points for the 3 item recall
  Score up to 2 points for numbers on the clock correctly placed and for hands to say 11:10

  Total score 4 or 5-proceed with usual discharge recommendations
Abnormal Mini-Cog™

In hospitalized patient, possible it is due to delirium

May fluctuate depending on etiology

Does not mean it is dementia

If there is concern for more than subtle changes may need further work-up for cognition through primary care provider or memory center
Score $\leq 3$: at risk for readmission. **Educate caregivers on patient disease and treatments; patient on their own may miss important points along the way**

Simplify medication regimens if possible

May need increased home surveillance such as home care, home monitoring, medication dispensing system, etc
Treatment considerations

Improving cognitive impairment

CAVEAT: no data specific to CHF and cognition

Exercise training/physical activity

Weight loss if obese and pEF- decrease inflammatory markers
Potential treatments

Review medications for appropriateness in older adults and concern for adverse cognitive effects
- Benzodiazepines, sleep medications, muscle relaxants, narcotics, anticholinergics
- Beers criteria
- Anticholinergic burden

Treat depression

Work up and treat sleep apnea if indicated
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Cognitive changes are common in older adults hospitalized for CHF

Cognitive changes are missed in most instances

Screening for cognitive changes may help provide a change in treatment plan for vulnerable older adults

There appears to be no data on outpatient CHF and cognitive changes. Maybe the screening should start even earlier than hospitalization!
What Matters
Mobility
Medication

MEDICAL
FUNCTIONAL
SOCIAL
PSYCHOLOGICAL
MENTATION


