BSH Heart Failure Nurse and Healthcare Professional Study Day 2017

Presentation title: What is the impact of comorbidities

Speaker: Lisa Anderson

Conflicts of interest: *No conflicts of interest to declare*

BRITISH SOCIETY FOR HEART FAILURE

7th British Society for Heart Failure
Heart Failure Nurse and
Healthcare Professional Study Day

What is the Impact of Comorbidities?

Dr Lisa Anderson

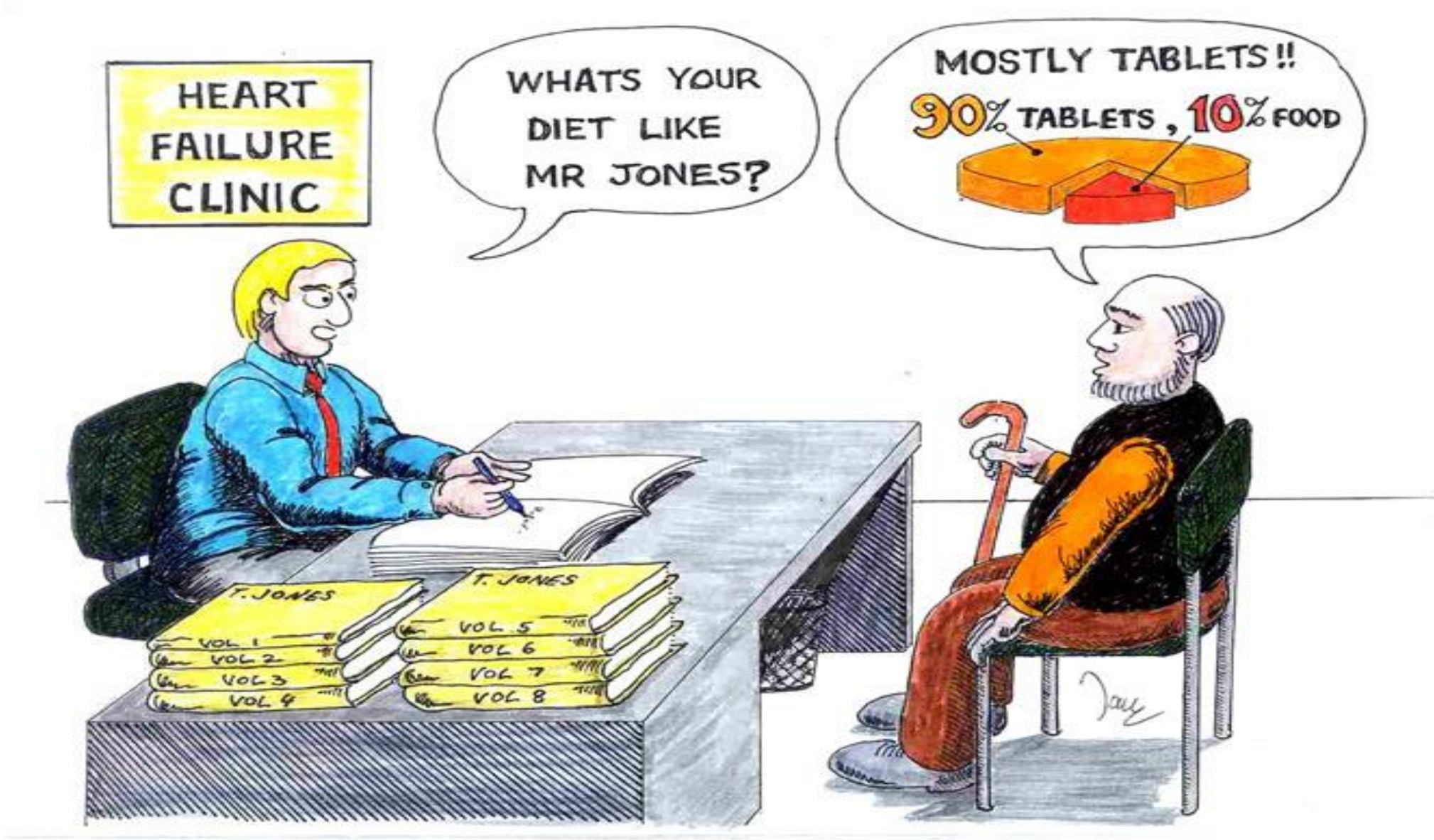
Heart Failure Consultant

St George's Hospital, London

Declarations of Interest

- 2016: 10K Research Nurse support for RELAX-EU study, Novartis
- 2014: Advisory board, Novartis

- No conflicts of interest to declare


HEART FAILURE CLINIC
WHATS YOUR DIET LIKE MR JONES?
MOSTLY TABLETS!!
90% TABLETS, 10% FOOD
T. JONES
VOL 1
VOL 2
VOL 3
VOL 4
T. JONES
VOL 5
VOL 6
VOL 7
VOL 8
© TAU BOGA www.tauindex.com

FRAILTY….

is the new VT

Better management of comorbid factors is

……the New Frontier

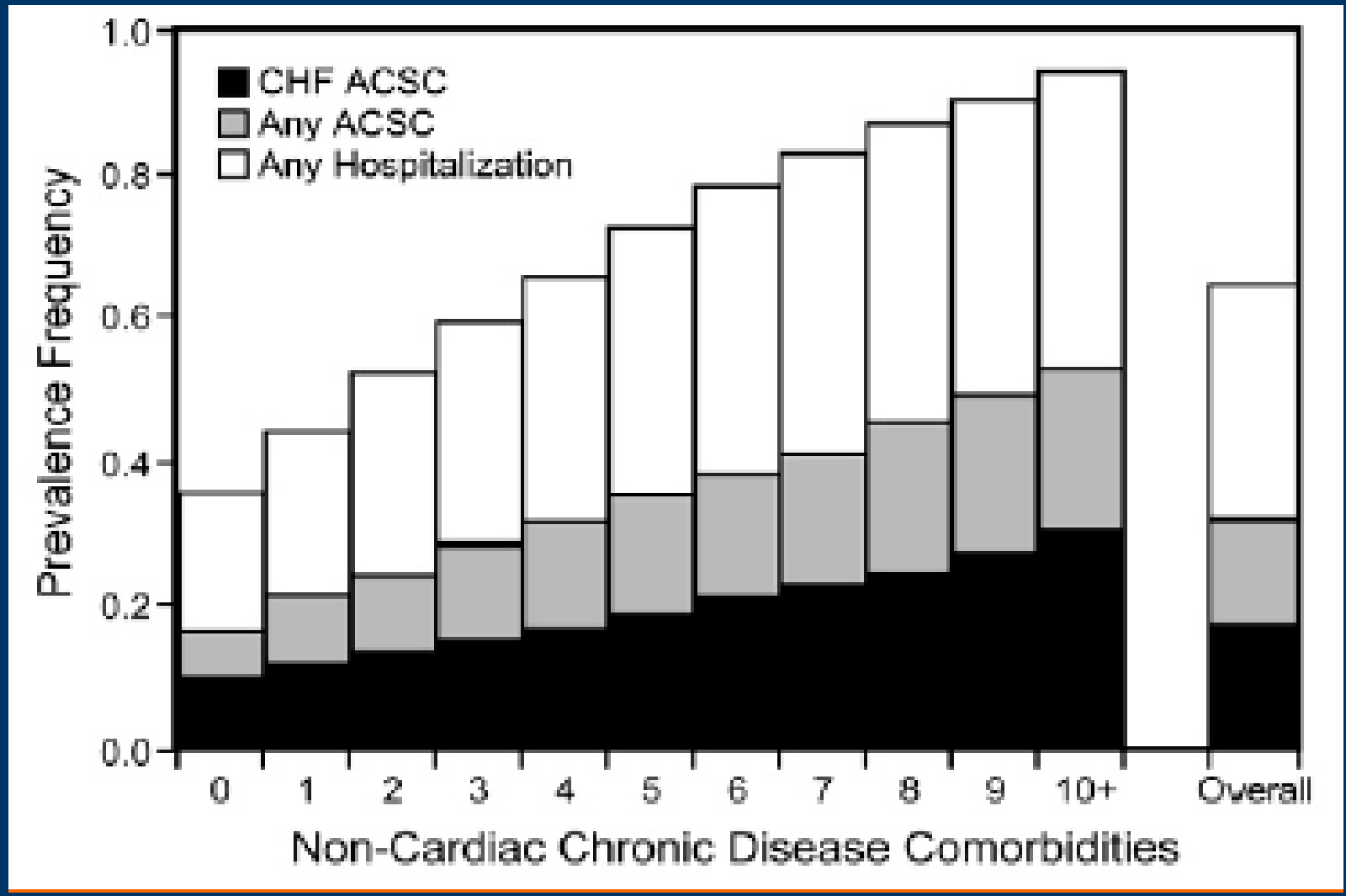
Introduction

- 1998, Brown and Cleland: 25,000 pts with hosp HF diagnosis – CMs overlooked but precipitate/complicate admissions

- 2003, Braunstein – 122,000 medicare HF pts – readmission risk related to no of comorbidities

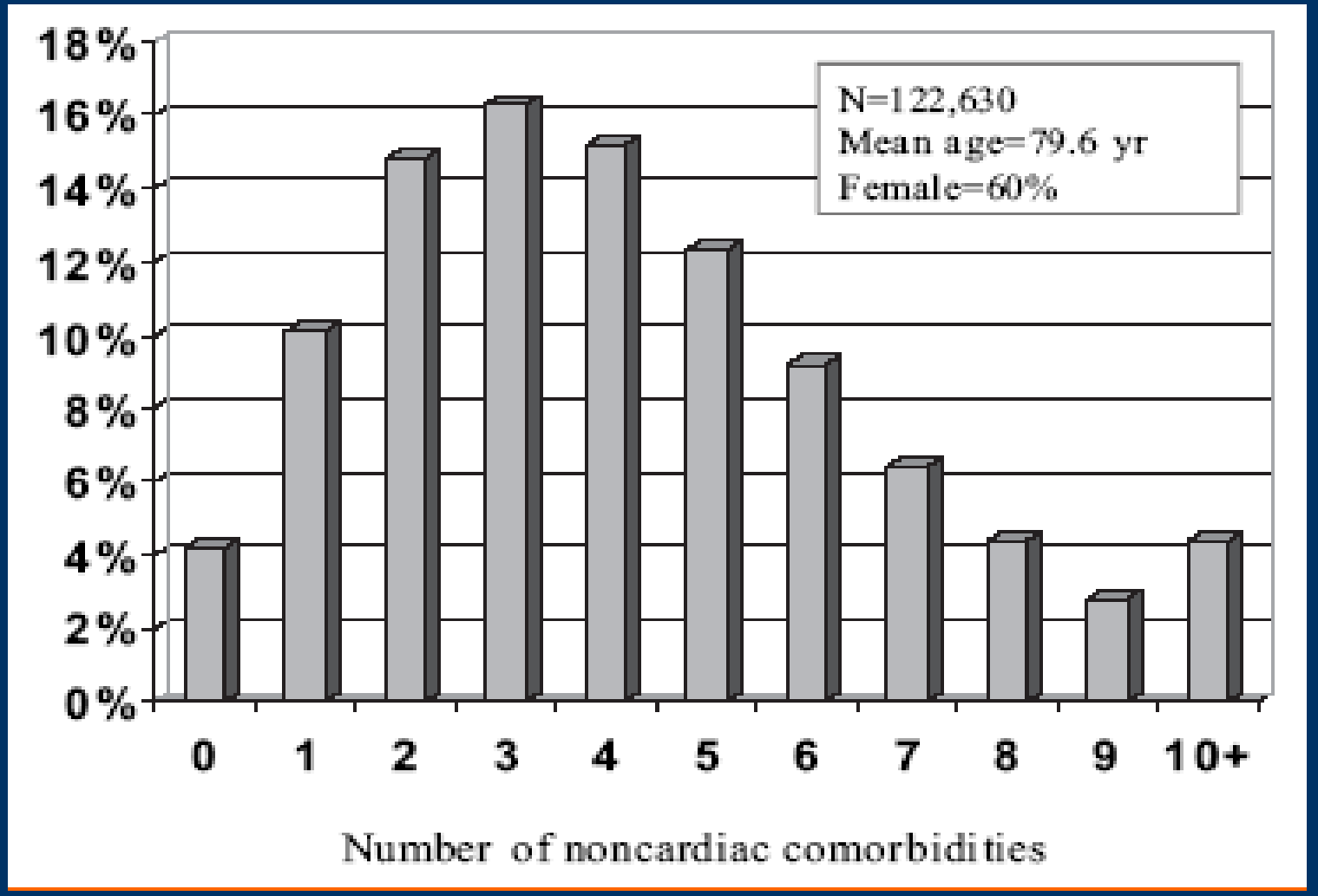
Impact of CM burden on Annual Probability of Hospitalisation

0 CM: >35% admitted/y
>9 CM: >90% admitted



Braunstein JACC 2003, ACSC = ambulatory care sensitive condition

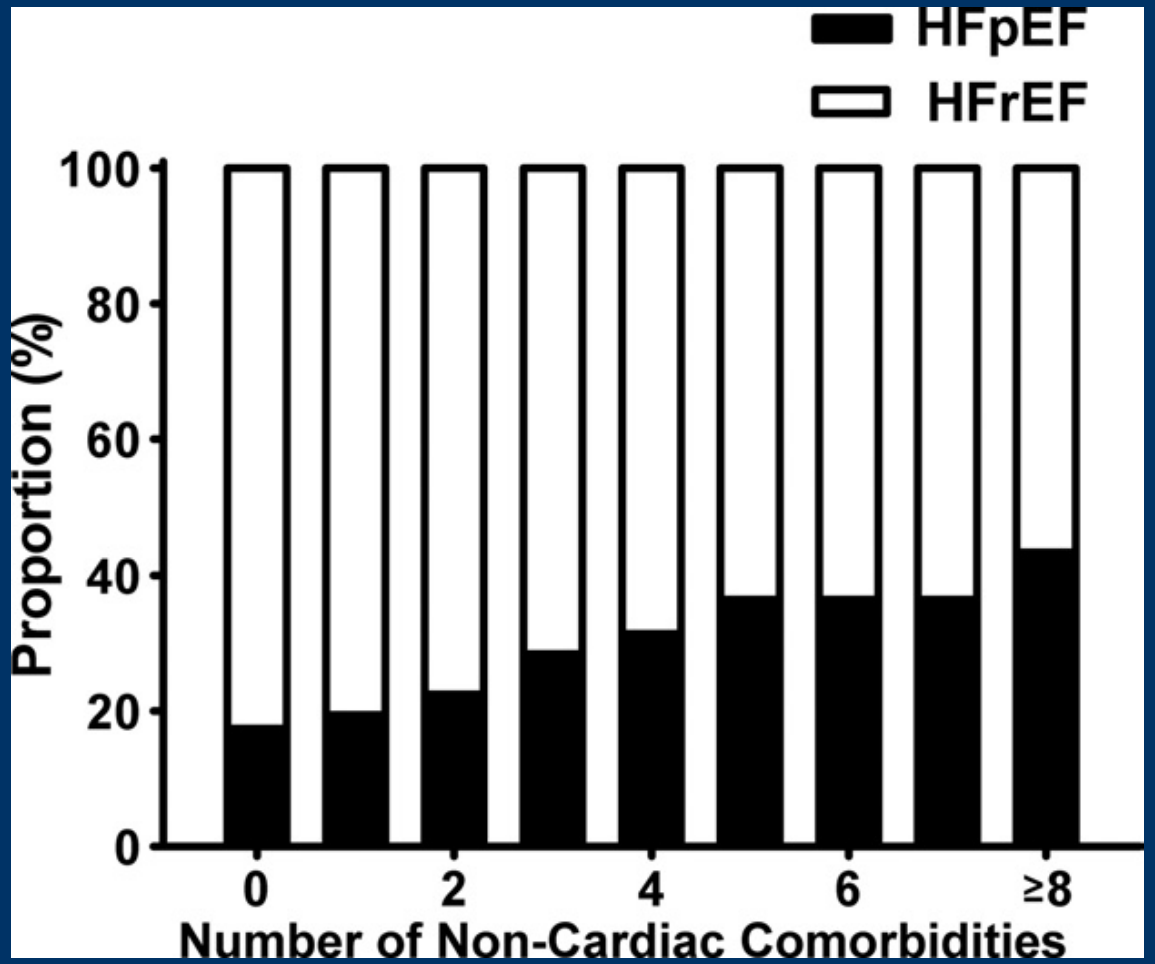
Medicare HF Beneficiaries (>65y)



Braunstein JACC 2003

86% >2 comorbidities, 25% >6 comorbidities

HFpEF vs. HFrEF
(Stratified by no. of Comorbidities)



Ather JACC 2003

Table 5. Association of Noncardiac Comorbidity With Death Among Medicare Beneficiaries With CHF

Condition	Risk Ratio (95% CI) (n = 122,630)	
	Unadjusted	Adjusted*
Lower respiratory disease, failure or insufficiency	2.56 (2.48–2.63)	2.34 (2.27–2.41)
Acute and unspecified renal failure	2.06 (1.96–2.16)	1.46 (1.38–1.54)
Chronic renal failure	1.92 (1.84–1.99)	1.65 (1.58–1.73)
Alzheimer's disease/dementia	1.64 (1.58–1.70)	1.24 (1.20–1.29)
Cerebrovascular disease, late effects	1.41 (1.32–1.51)	1.23 (1.15–1.31)
COPD/bronchiectasis	1.31 (1.27–1.34)	1.12 (1.09–1.16)
Depression/affective disorders	1.12 (1.07–1.18)	1.07 (1.02–1.13)
Peripheral or visceral atherosclerosis	1.03 (0.99–1.07)	0.95 (0.92–0.99)
Hypertension—with complications or secondary	0.97 (0.93–1.02)	0.94 (0.90–0.98)
Diabetes mellitus	0.94 (0.91–0.97)	1.11 (1.07–1.14)

Braunstein JACC 2003

Similar pattern with admissions

National Heart Failure Audit Data

Table 15: Medical history

Medical History	Total (%)
Ischaemic heart disease (IHD)	46
Acute myocardial infarction (AMI)	29
Valve disease	24
Arrhythmia	41
Hypertension	54
Chronic renal impairment	25
Diabetes	32
Asthma	9
Coronary obstructive pulmonary disease (COPD)	18
IHD and hypertension	26

Comorbid Factors

- Medical
- Psychological
  - Cognitive fn
  - Major psychiatric illness
  - Addiction
- Mobility/falls
- Environment
- Social
  - Isolation
  - Financial and educational

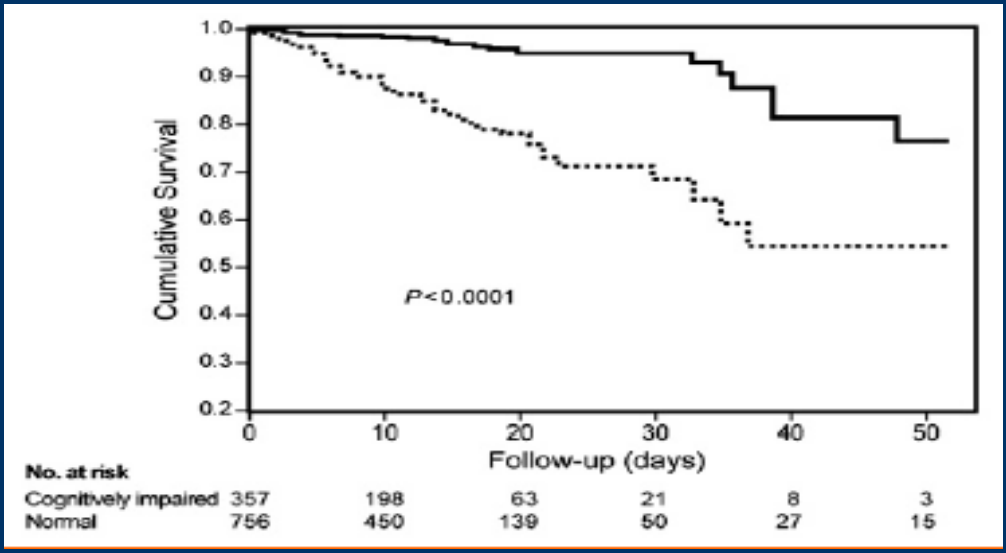
CC Coding for National Tariff

	HFU CODING SHEET
Drs	T1 or T2 Diabetes Stroke (CVA) Acute Myocardial Infarct (=STEMI/NSTEMI) Infection (LRTI/UTI/cellulitis/oral candidiasis/endocarditis/viral or unspecified intestinal infection) Hypotension - due to drugs/orthostatic/idiopathic
All	Disorientation/dementia/mild cognitive disorder Organic anxiety disorder/organic mood disorder
OT/Physio	Immobility/difficulty in walking/ataxic or paralytic gait
Dietician	Anorexia/abnormal weight loss/ feeding difficulties/ insufficient intake due to neglect/other signs and symptoms concerning food/fluid intake/dysphagia
Nursing	Urine incontinence/ faecal incontinence /retention of urine Leg ulcer/any decubitus pressure area or ulcer/superficial injury lower leg

Specific comorbidities: Depression

- Common – 24-42% estimated
- Affects cognitive function
- Affects adherence
- Contributes to isolation
- Routine screening is advised
- CBT with education improves D+A and HF QOL
- Effectiveness of antidepressants not proven

Cognitive Function



Affects

- Adherence
- Carer QOL
- Survival
- Management (less likely to receive conventional therapies)
- Disease presentation

Diabetic Medication

- Metformin safe (except in AKI/severe CKD)
- Thiazolidinediones (glitazones) → Na and water retention and increase risk WFH
- DPP-4 inhibitors: FDA warning
  - SAVOR: 3.5% saxagliptin patients versus 2.8% placebo HF hosp
  - EXAMINE: 3.9% alopgliptin patients cf 3.3% placebo HF hosp
  - But no increased risk for saxa- in large obs study

Gliflozins

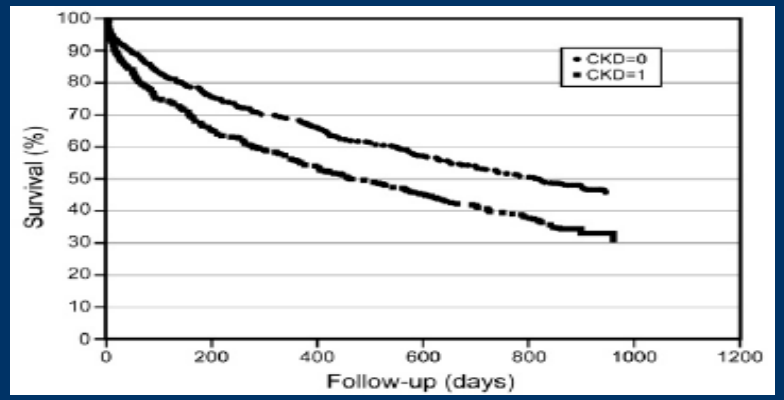
- Inhibit Na glucose co-transporter-2 (SGLT-2) → glucose excreted in urine.
- EMPA-REG: (empagliflozin) reduced MACE (via mortality HR 0.62) and HF hosp (HR 0.65)
- First DM med since insulin (1922) to demonstrate benefit for CV outcomes
- Dapagliflozin, Canagliflozin, Ertugliflozin: studies in HF patients ongoing

Gout

- Common in HF
- Can be precipitated by diuretics
- Uricaemia associated with poorer Px
- Urate lowering Rx – aim Uric acid <400micromol/l
- Acute episodes
  - Not NSAIDs
  - Colchicine can be used at lower dose
  - Or 20mg prednisolone for 5-7 days

CKD/AKI

- CKD worsens prognosis

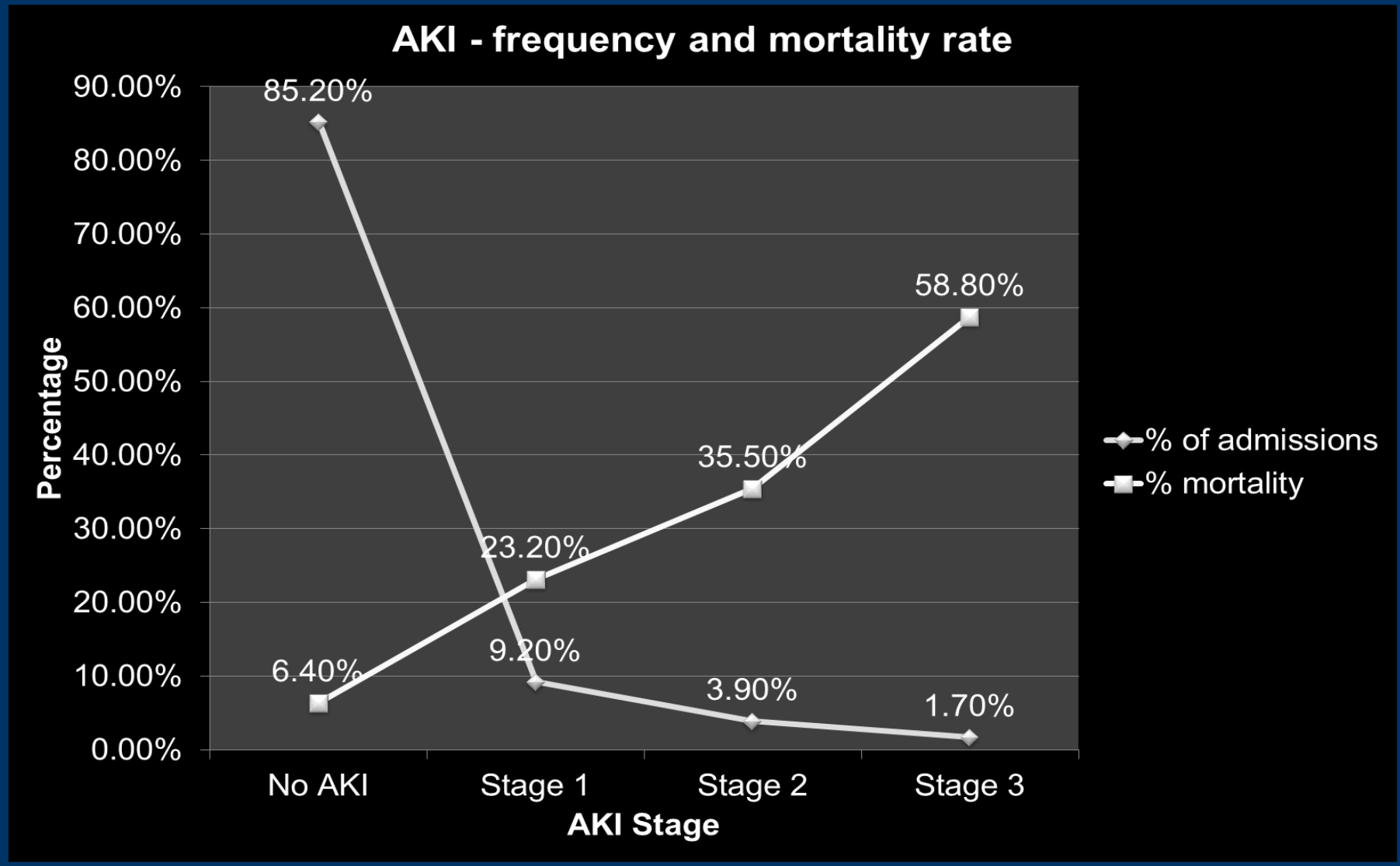


- GFR <30 excluded from HF trials
- Worsening renal failure WRF = 20% ↓ GFR
- Recurrent WRF → progression of CKD
- WRF relatively common during initiation/uptitration HF meds but provided change is small, should not be stopped

AKI

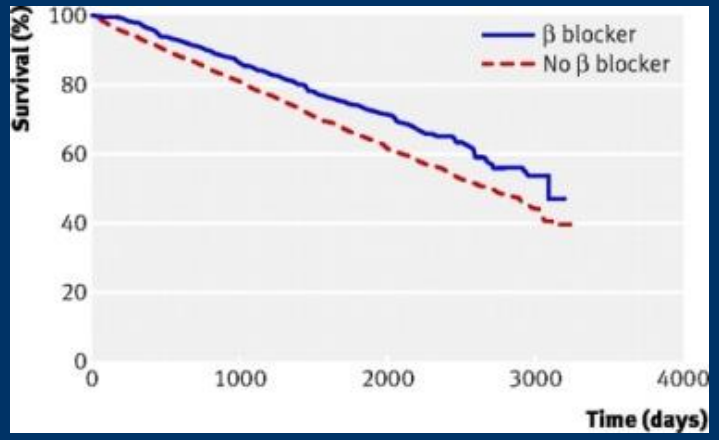
- 1. AKI stage 1 = rise >1.5x creat, <48h
- 2. AKI stage 2 = rise >2x creat, <48h
- 3. AKI stage 3 = rise >3x creat/>1.5 to >354µmol/L
- 80% occur with acute illness in
  - Infection
  - Hypovolaemia
  - hypotension
  - medication effects
- 10% outflow obstruction

SGH Data: AHF, AKI and Mortality



COPD

- Assess spirometry when HF stable to avoid overdiagnosis
- Worsens prognosis
- BB not contraindicated – ?beneficial 20% RR mortality, ↓adm



Short BMJ 2001, n=6K

- In asthma initiate with Resp advice
- Consider need for beta-agonist inhalers
- Refer to pulmonary rehab

HF with Multiple Comorbidities

- Largely not evidence based
- Often limits implementation and tolerability of HF Rx
- Self care inversely related to no. of comorbidities
- Diuretic therapy in a frail multi-morbid patient more likely to lead to
  - progression of renal dysfunction
  - electrolyte imbalance
  - urinary incontinence
  - delirium
  - falls
- Vasodilators may lead to hypotension due to arterial sclerosis and autonomic dysfunction

Strategies

- Involve specialists – OT, physio, dieticians, SW
- GP review – rationalise medication list
- Expert help – Comprehensive Geriatric Assessment
- Work closely with other specialist colleagues
- Treat the heart failure as well as possible
  - Improves mood and depression, sleep and appetite
  - Improves mobility ---- reduces isolation
  - Improves cognitive function
  - Stabilises renal function ?reduce COPD exacerbations

Summary: Increasing recognition of impact…

……but more work needed

1. interfere with the diagnostic process of HF (e.g. COPD as a potentially confounding cause of dyspnoea).[390, 391]
2. aggravate HF symptoms and further impair quality of life.[391, 392]
3. contribute to the burden of hospitalizations and mortality,[393] as the main cause of readmissions at 1 and 3 months.[394]
4. may affect the use of treatments for HF (e.g. renin–angiotensin system inhibitors contra-indicated in some patients with severe renal dysfunction or beta-blockers relatively contra-indicated in asthma).[395, 396]
5. evidence base for HF treatment is more limited as co-morbidities were mostly an exclusion criterion in trials; efficacy and safety of interventions is therefore often lacking in the presence of co-morbidities.
6. drugs used to treat co-morbidities may cause worsening HF (e.g. NSAIDs given for arthritis, some anti-cancer drugs).[397]
7. interaction between drugs used to treat HF and those used to treat co-morbidities, resulting in lower efficacy, poorer safety, and the occurrence of side effects (e.g. beta-blockers for HFrEF and beta-agonists for COPD and asthma).[391, 395, 396]

2016 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

EUROPEAN SOCIETY OF CARDIOLOGY

- Thank you