

Healthy Ageing, Frailty and Sarcopenia

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Outline of talk

- Healthy Ageing or Optimal Ageing?
- Is frailty a useful syndrome?
- A life-course approach to optimal ageing
- Sarcopenia as a major public health issue
- Primary care role in promoting optimal ageing
- Primary care role in frailty

Healthy or Optimal Ageing?

- Genetic factors
 - we can't choose our parents
- Epigenetic factors
 - outside our control
 - socioeconomic circumstances of early life
 - security of family
 - chronic stress in childhood
 - within our control
 - exercise
 - diet
 - smoking, alcohol and other drugs

Life-course approach to Healthy Ageing

- Minimise unwanted pregnancies
- Universal antenatal and early childhood care
- Secure housing and adequate income
- Equitable early childhood and primary education
- Universal preventive health care
- Effective chronic disease management

Frailty syndrome

- State of increased vulnerability associated with ageing
- Decline in reserve and function in multiple systems
- Reduced capacity to cope with stressors

- But
- It may not be useful in geriatric medicine
- It may be useful in general practice and specialties

Frailty – operational definition

- Fried et al, J. GerontA BiolSciMed. 2001;56(3):M146-156
- Low grip strength
- Low energy
- Slowed walking speed
- Low level of physical activity
- Unintentional weight loss

- Frail – 3 out of 5
- Prefrail – 1-2 out of 5

What is left out of the Fried definition

- Cognition
- Poorly controlled disease
- Poorly managed pain
- Mood/chronic anxiety
- Communication – vision; hearing
- Polypharmacy
- Alcohol
- Continence
- Autonomic dysfunction – postural hypotension
- Salutogenetic factors
 - social supports – carer; social engagement
 - psychological strength

Comprehensive assessment of older patient

- What level of function is the person at now
- What level was the person at 6-9 months ago
- What is the reason for any change or decline

Comprehensive assessment of older person

- Physical health
 - vision; hearing
 - cardiac; respiratory; diabetes; neurological;
 - bladder; bowel function
 - nutrition; weight loss/gain
 - pain; fatigue
- Medications (incl. OTCs); cigarettes; alcohol
- Cognition; memory; speech; behaviour; activities
- Mood; sleep; interests
- Mobility; balance; falls; exercise patterns
- Function; ADLs
- Social situation/supports; accommodation; POA; EG

Possible uses of frailty phenotype

- Screening in general practice
 - refer for comprehensive geriatric assessment
- Help hospitals to recognise who will do badly
 - Delirium or post-operative complications
 - who should not go to ICU
- Pre-surgery anaesthesia assessment
 - preoperative exercises; medication adjustment; nutrition
 - delay operation

Sarcopenia

- Loss of muscle mass and strength
- Accompanies ageing – starts in 4th or 5th decade
- Increases markedly in chronic disease, immobility
- Associated with obesity
- Major cause of “frailty” and loss of independence
- Confluence of ageing, chronic disease, and obesity is one of the major public health challenges of 21st century

How to identify sarcopenia

- Can be measured but not clinically realistic
- Waddling gait
- Difficulty getting out of a chair - 5 chair rises
- Simple bedside tests of muscle strength e.g. knee extension while lying; grip strength

Risk factors for sarcopenia

- Age
 - from fourth decade lose muscle strength at 1-2% per year
 - rate of loss rises with age
 - easily reversible
- Chronic disease
 - inflammatory cytokines – IL-6; TNF alpha
 - tend to exercise less
- Obesity
 - adipocytokines
 - lack of physical activity
 - vicious cycle
- Immobility
 - bed rest can cause loss of 2-3% per day

Consequences of sarcopenia

- reduced physical activity
- reduced capacity for ADLs (daily activities)
- reduced quality of life
- falls and falls injuries
- increased joint pains and need for surgery
- dependent oedema and risk of ulceration
- prolonged hospital stay
- increased risk of nursing home placement

Exercise in older age and chronic disease

- Even mainly aerobic exercise (walking or dance) increases muscle strength by 5-10% in 2-3 months
- Resistance exercise increases muscle strength by greater amounts
 - 13-20% in 8 weeks
- Exercise programs can be devised for any chronic disease
- exercise has many other benefits for older people
 - depression; cognition; socialisation
 - diabetes, hypertension, osteoporosis
 - function for ADLs
 - capacity to manage in situations of stress

Prevention of falls injuries

- Prevention of falling
 - balance exercises
- Prevention of injury
 - mobility/gait
 - aerobic exercise; strength exercise
 - increase bone strength
 - bone density
 - calcium; vitamin D; bisphosphonates; denosumab (Prolia)
 - bone architecture
 - aerobic and resistance exercise

Nutrition and sarcopenia

- Need about 20 Gm of protein at each meal to prevent muscle loss and to benefit from exercise
- Most people eat little or no protein for breakfast
 - protein supplement is easiest way
- Most older people eat protein at one meal only
- Nursing home diets may have protein at lunch only

Iatrogenic frailty – the value of deprescribing

- Opiates
- Long acting night sedatives
- Statins
- PPIs
- NSAIDs
- Antihypertensives
- Anticholinergics
- Psychotropics – antipsychotics, pregabalin

Summary of my views on sarcopenia

- The coalescence of older age, obesity and chronic disease represents a major public health issue
- Sarcopenic obesity will be a major challenge for the health system – hospitals; residential aged care
- We should be promoting exercise and fitness in middle and older age
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- Exercise is key strategy in all chronic diseases in older age
- Exercise, sensible eating and reducing polypharmacy would minimise both sarcopenia and frailty

What can Primary Care do for frail patients

- Comprehensive assessment and management plan
- Deprescribe
- Appropriate home support – ACAT assessment
- Exercise program
- Nutritional advice – sensible eating; adequate protein
- NOACs in AF (permanent or paroxysmal)
- Vaccinations

How to help promote age-friendly Hunter

- Hunter Ageing Alliance
 - www.hunterageingalliance.com
 - costs nothing to join
 - Strategies:
 - Information portals
 - Healthcare
 - Housing
 - Environment
 - Elder abuse
 - Social isolation
 - Support for community living
 - End-of-life issues and care
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