COMMONWEALTH OF AUSTRALIA

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Comprehensive Geriatric Assessment

A/Prof Kwang Lim
Comprehensive geriatric assessment (CGA)

- Revision of prior learning
  - Geriatric syndromes versus medical syndromes
  - Giants of Geriatric Medicine
  - Frailty
- Clinical scenarios
- Definition
- Rationale
- Patient selection
- Assessment tools
- Focus on history taking
  - How to talk to a person with cognitive impairment
  - Collateral history
Definition

• ‘Geriatrics’ as a term was invented by Ignatz L Nascher, a Vienna born immigrant in the US in 1909.
• Hybrid of “Geros”- old man and “iatros”- a healer
• Nasher used the analogy of medicine of childhood as a separate branch of medicine
• He also focussed on drug prescribing and symptoms and mode of death in older people with dementia
• Definition: The branch of medicine dealing with the health, welfare and research of older people.
History

- Medieval times, sick people were cared for in monasteries. Some religious orders built hospital wings to care for elderly and infirmed.
- Poor Laws passed in 1597 and 1601 to keep “poor” off the street
- Workhouses/poor houses started in 1630s for ill, single parents and orphans
- Poor law ended in 1929. Local govt ran infirmaries which developed from poor houses
- Other hospitals-voluntary, became teaching hospitals. Higher status, not keen to admit elderly patients as they were of less interest for teaching and would block beds.
Origins of Geriatrics

• Marjory Warren- Isleworth Infirmary. Took over adjacent wards to form the West Middlesex County hospital 1935.
• Given 714 chronically ill residents.
• Reviewed hundreds of old inmates and discharged many patients through rehabilitation and appropriate equipment.
• Reduced chronic beds to 240. Unwanted beds were given to Respiratory to treat TB.
Warren’s classification of the chronic aged sick

- Chronic up-patients (that is, out of bed).
- Chronic continent bedridden patients.
- Chronic incontinent patients.
- Senile, quietly confused, but not noisy or annoying others.
- Senile dments—requiring segregation from other patients
Origins of Geriatrics in Australia

• Newcastle pioneered by Dr Richard Gibson and Grace Parberry. Focused initially on patients with multiple sclerosis.
• Later included older patients with disabilities. Also rehab in the home.
• Published in Lancet 1965.
Lessons from history

• Goals: Return patients home
• Advocate for older people
• Return to premorbid function
Geriatric Syndromes
“Giants of Geriatric Medicine”

• Instability
• Immobility
• Incontinence
• Intellectual decline (delirium & dementia)

• Iatrogenesis
• Functional decline
• Pressure ulcers
• Dizziness
• Frailty
Frailty-definitions

- Fried believes frailty is an observable clinical syndrome that can be characterised and measured. It results from the dysregulation of physiological systems and may be triggered by factors which we can influence but, once established, is irreversible and represents a pre-death phase of life.

- Rockwood believes that frailty is simply an accumulation of health adverse deficits and becomes defined once a threshold number of deficits is reached, psychological deficits contributing rather than resulting from physical frailty.
Frailty - Fried’s Criteria

- Weight loss Unintentional (> 10 pounds/4.5 kg in prior year)
- Weakness (Grip strength: lowest 20%)
- Poor endurance, Exhaustion (self report), Slowness (walking time)
- Low activity (males< 383Kcals/week, females<270Kcals/week)
- Frail ≥ 3 criteria. Intermediate: 1 or 2 criteria
- Mortality unadjusted HR 6.47 (4.63-9.03)
- Adjusted 2.24 (1.51-3.33)

Box 1: The CSHA Clinical Frailty Scale

1 Very fit — robust, active, energetic, well motivated and fit; these people commonly exercise regularly and are in the most fit group for their age

2 Well — without active disease, but less fit than people in category 1

3 Well, with treated comorbid disease — disease symptoms are well controlled compared with those in category 4

4 Apparently vulnerable — although not frankly dependent, these people commonly complain of being “slowed up” or have disease symptoms

5 Mildly frail — with limited dependence on others for instrumental activities of daily living

6 Moderately frail — help is needed with both instrumental and non-instrumental activities of daily living

7 Severely frail — completely dependent on others for the activities of daily living, or terminally ill

Note: CSHA = Canadian Study of Health and Aging.

Rockwood, K. et al. CMAJ 2005;173:489-495
Frailty – the ultimate geriatric syndrome

Shared risk factors

Geriatric Syndromes
- Falls
- Incontinence
- Delirium
- Pressure ulcers
- Functional decline

Frailty

Poor Outcomes
- Disability
- Dependence
- Nursing Home
- Death

Comprehensive Geriatric Assessment (CGA)

CGA is a multidimensional, interdisciplinary process to determine the medical, psychological and functional capabilities of a frail elderly person in order to develop an integrated plan for treatment and follow up.
Comprehensive geriatric assessment—what is the evidence

- Meta-analysis of 22 randomised controlled trials on benefits of CGA for patients admitted to hospital. Median 12 m follow-up
  - More likely to be alive and in their own homes (OR 1.16, 95% CI 1.05-1.28. NNT 33)
  - Less likely to be in residential care (OR 0.78, 0.69-0.88)
  - Less likely to die or experience deterioration (0.76, 0.64 to 0.9)
  - More likely to experience improved cognition (0.08, 0.01 to 0.15)

Ellis G et al, BMJ 2011; 343
Who should get a CGA-how do we define a vulnerable patients

• Wide variability in life expectancy
  – Comorbid conditions, functional and cognitive impairment reduce life expectancy.
  – When split into quartiles for longevity, 75 year old in the lowest quartile has a remaining life expectancy of 4.9 years, while in the highest quartile, RLE is 14.2 years.

Comprehensive Geriatric Assessment (CGA)

• Purpose
• Highest priorities:
• Prevention of decline in performance of activities of daily living (ADLs)
• Drive the diagnostic process and clinical decision making
• Screen for preventable diseases
• Screen for functional impairments that may result in physical disability and are amenable to intervention

Palmer RM, Med Clin North Am, 1999
Comprehensive geriatric assessment

• Assesses various domains that aim to allow for interventions that improve outcomes for older people:
  – Functional status/impairments
  – Comorbid medical conditions
  – Cognition
  – Nutrition
  – Psychological state
  – Medication review
  – Social supports
Objectively measured physical function

• Systematic review examining associations between objective measures of physical function and mortality in community-dwellers.

• Walking speed, chair raising, standing balance (not standardised, mixed results) and grip strength associated with mortality.

• Grip strength studies found in younger populations (5 studies average age of 60)

Cooper R et al. BMJ 2010;341:bmj.c4467
Functional and cognitive measures in older hospitalised patients

• 2 Prospective cohort studies, 207 consecutive patients aged 70 years and older, 308 patients for validation.

• Functional axis was developed with 3 independent risk factors, impairment in IADLs, MMSE < 20, shortened Geriatric Depression Scale score of 7 or higher.

• 3 risk groups-high (2-3), intermediate (1), low (no risk factors).

IADLs (Instrumental activities of daily living) and ADLs

- ADL measures - eating, dressing, continence, bathing, transferring, toileting
- IADLs - transportation, managing money, taking medications, shopping, preparing meals, doing laundry, doing housework, using the phone.
# IADLs

## Table 1.—Variables Considered for Functional Axis (N=207)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Prevalence, %</th>
<th>Mortality When Factor</th>
<th>Adjusted RR† (95% CI), Final Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Present, n/N (%)</td>
<td>Absent, n/N (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5/10 (50)</td>
<td>76/197 (39)</td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any ADL impairment</td>
<td>39</td>
<td>41/81 (51)</td>
<td>40/126 (32)</td>
</tr>
<tr>
<td>Any IADL impairment</td>
<td>65</td>
<td>64/134 (48)</td>
<td>17/73 (23)</td>
</tr>
<tr>
<td>Mobility impairment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 impairment</td>
<td>29</td>
<td>23/60 (38)</td>
<td>20/72 (28)</td>
</tr>
<tr>
<td>2 impairments</td>
<td>36</td>
<td>38/75 (51)</td>
<td>20/72 (28)</td>
</tr>
<tr>
<td>Cognitive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline delirium</td>
<td>5</td>
<td>5/10 (50)</td>
<td>76/197 (39)</td>
</tr>
<tr>
<td>MMSE &lt;20</td>
<td>32</td>
<td>37/65 (57)</td>
<td>43/141 (31)</td>
</tr>
<tr>
<td>mBDRS ≥4</td>
<td>15</td>
<td>22/29 (76)</td>
<td>54/168 (32)</td>
</tr>
<tr>
<td>Dementia</td>
<td>17</td>
<td>25/34 (74)</td>
<td>53/170 (31)</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vision impairment</td>
<td>40</td>
<td>38/82 (46)</td>
<td>41/123 (33)</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>49</td>
<td>45/101 (45)</td>
<td>36/106 (34)</td>
</tr>
<tr>
<td>Shortened GDS ≥7</td>
<td>18</td>
<td>21/38 (55)</td>
<td>60/169 (35)</td>
</tr>
</tbody>
</table>

*RR indicates relative risk; CI, confidence interval; ADL, activities of daily living; IADL, instrumental activities of daily living; MMSE, Mini-Mental State Examination; mBDRS, modified Blessed Dementia Rating scale; and GDS, Geriatric Depression Scale. Ellipses indicate data not applicable.

†Relative risks were calculated from bivariate Cox proportional hazards models, with the predictor variable as the independent variable and time to death as the dependent variable. For all of these variables, P <.10.

1 Variable included for final multivariate Cox proportional hazards model.
Cumulative survival rates for functional risk groups, created by our risk stratification system in the validation cohort-2 yr mortality.
History taking

• Establish diagnosis
• Premorbid state vital
• History from relative/informant
• Aware of disabilities: vision and hearing
• Functional state (diminished functional reserve)
Examples of case presentations

• 90 year old patient presents with falls

• ER admission-acopia, debility for aged care assessment for nursing home
Case presentation

• Premorbid-Independent
• History of syncope
• ECG done
Syncope

• PPM was inserted
• At 1 year follow-up living independently
The Geriatric Process

• Assessment
  – Health (Diagnosis, prognosis)
  – Function (Physical, mental)
  – Resources (culture, education, social, economic)
Social and Functional assessment

- Important in setting goals
- How they were managing prior to admission
- Services
- Physical function
The Geriatric Process

• Discuss with patient and relatives: **Objectives of care**
  • What does the patient want?
  • What is feasible?
  • **Management Plan**
Multidisciplinary team

- Physiotherapy
- Occupational therapy
- Social work
- Speech Pathologist
- Dietician
Physical examination

• 83 year old male from home with a fractured NOF
• Cause of fall
• Declining mobility over 6 months
Physical examination: Case presentation 2

• Right hand pill rolling tremor

• Cogwheel rigidity

• Mobility: Short shuffling steps, poor arm swing
Physical examination: Case 2

• Parkinson’s disease

• Commencement of L-Dopa

• Mobility improved with rehabilitation. Discharged home after 3 weeks.
Acute vs Chronic disease

- ER vs Medicine
- 80 year old man presents with chest pain
- Acute vs Chronic issues
Clinical Scenario 1

• 86 yo lady was admitted to hospital with UTI
• UTI treated with antibiotics
• Other issues during admission were
  – Acute confusional state
  – Impaired mobility and falls
  – Urinary incontinence
• In hospital 3 weeks
Clinical Scenario 2

- Another 86 yo lady was admitted on the same day, also with a UTI
- She was treated with the same antibiotic and able to be discharged home 48 hours later
Comprehensive Geriatric Assessment (CGA)

- Why was the clinical course so different for these 2 ladies of same age and diagnosis?
- Was their response to the acute illness predictable?
Dorothy

- Issues
  - Diagnosis
  - Competence
  - Consent to treatment
  - Driving
  - Self care-IADLs
Comprehensive Geriatric Assessment (CGA)

Tips for communicating with a person with dementia

• Use a tone of voice that conveys respect and dignity
• Use clear and flexible language
• Keep your explanations short
• Position yourself at the person’s eye level & maintain eye contact
• Ensure you have the person’s attention before you speak
• Always begin by identifying yourself and explain what you are going to do
• Use visual cues whenever possible

Source: Regional dementia management strategy
Comprehensive Geriatric Assessment (CGA)

Tips for communicating with a person with dementia

• Be realistic in expectations
• Observe and attempt to interpret the person’s non-verbal communication
• Paraphrase and use a calm reassuring tone of voice
• Speak slowly and clearly
• Use strategies to reduce the effect of hearing impairment
• Encourage talk about things they are familiar with
• Use touch if appropriate

Source: Regional dementia management strategy
Comprehensive Geriatric Assessment (CGA)

Ten top tips for caring for a person with dementia

1. Stop
2. Plan and explain
3. Smile
4. Go slow
5. Give them space
6. Stand aside
7. Distract them
8. Keep it quiet
9. Don’t argue
10. Brainstorm and debrief

Source: Regional dementia management strategy