Management of Cancer in the Older Patients

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Conflicts of interest

• Receipt of grants/research supports
  – TEVA (Cephalon), HalioDX (Qiagen/Ipsogen), Amgen

• Receipt of honoraria or consultation fees
  – AstraZeneca, BMS, Celgene, Clinigen, Hospira, Janssen, Mylan, OBI Pharma, Pfizer, Puma, Roche, Samsung
Learning objectives

• Understand the challenges of cancer management in the older patients

• Understand the concept of frailty

• Understand why it is crucial to implement geriatric assessment in clinical pathways
We live in an era of unprecedented, rapid and inexorable global ageing.
China has the largest elderly population (92 million)... but this is only 7% of the Chinese population!!!
Cancer and ageing epidemiology in US

Smith J Clin Oncol 2011
• Most common shortcut in statistics
  
  “1 in 8 women will develop BC in their lifetime”
  instead of
  “If everyone lived beyond the age of 70, 1 in 8 of those women would get or have had BC”

• Since BC risk increases w/ age, lifetime risk changes depending on age

  – Age 20-29  1 in 2,000
  – Age 30-39  1 in 229
  – Age 40-49  1 in 68
  – Age 50-59  1 in 37
  – Age 60-69  1 in 26
  – Ever      1 in 8
All adult oncologists are geriatric oncologists…

They just do not know it yet!
1. Therapeutic nihilism
   – Elderly patients do not receive any treatment
2. The intermediate position?
   – Elderly patients may benefit from treatments
3. Blind therapeutic enthusiasm
   – Elderly patients receive futile/non beneficial treatments

→ Place and role of geriatrician and oncologist
Competing risks for mortality

Cumulative probability of death / time of diagnosis

Cumulative probability of death / attained age

Log/log plot of probability of comorbid death vs corresponding probability for cancer-specific death

Deaths attributed to the primary cancer (solid dots) and those attributed to comorbidity (open circles)
Under and over treatment

Dutch & Belgian postmenopausal pts w/ EBC ER+ in the TEAM trial (2001-2006) 
exemestane vs sequential tamoxifen → exemestane 5 yr

3,159 pts (70% <70 yr); median FU 10 yr; cumulative incidence of BC mortality
Competing risks for mortality

≥70 yo & no comorbidity (33%) → higher BC mortality

22.2%
(95% CI 17.5–26.9)
versus
15.6%
(95% CI 13.6–17.7)

HR 1.49
(95% CI 1.12–1.97, p = .005)
<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorption</td>
<td>Absorption of proteins, vitamins and drugs</td>
</tr>
<tr>
<td></td>
<td>Protein synthesis, (de-) activation of drugs and carcinogens</td>
</tr>
<tr>
<td>Metabolism</td>
<td>Vd hydrosolubles drugs</td>
</tr>
<tr>
<td></td>
<td>Vd liposolubles drugs</td>
</tr>
<tr>
<td>Distribution</td>
<td>Renal elimination of drugs excreted by kidney</td>
</tr>
<tr>
<td>Excretion</td>
<td>Biliary elimination</td>
</tr>
</tbody>
</table>

Benefit/risk balance of chemotherapy is narrower than other treatments, especially in older patients

- **Myelosuppression**: greater in older patients
  - Lower threshold (<20%) for primary prophylaxis of febrile neutropenia w/ G-CSF

- **Cardiomyopathy**: more common in older patients
  - Certainly if underlying cardiac disease

- **Mucositis, delayed nausea and vomiting**

- **Peripheral or central neurotoxicity**
  - Debilitating and interfering w/ functionality and independence
  - Concomitant problems that affect mobility and function (e.g. arthritis)

- **Renal function**: declines with age! ~ 1 mL/min/year
  - Creatinine_{serum} = insufficient! Cockcroft-Gault CL_{creatinine} = better but not as accurate as in younger patients → MDRD/CDK-EPI = best in elderly?
But also other issues difficult to capture!

1. **Past medical history**
   Survivors! With long-term toxicity of previous cancer treatments
   - Cognitive impairment, cardiotoxicity, depression and anxiety, neurotoxicity, ototoxicity, imbalance & lack of coordination, osteoporosis, metabolic syndrome, second malignancy, sexual and vaginal dysfunction

2. **Problems and complications due to comedication/polypharmacy**
   29% take > 7 drugs, NSAID/MTX, pain medications & cachexia (falls, fractures)

3. **Social and psychological aspects**
   Fear for pain and dependance, frailty and end of life aspects
Chemotherapy → specific doses!!

- CPA & renal function

- Capecitabine
  - 750-1000 mg/m² x 2/d 2 wk/3

Treatment of colorectal cancer in older patients: International Society of Geriatric Oncology (SIOG) consensus recommendations 2013

• Benefits of oxaliplatin beyond fluoropyrimidine in pts > 70 years is uncertain
• Increased risk for AE’s with combination chemo (25% SAE w/ 15% neuropathy)
  – Decision based on clinician’s clinical judgment
  – Recurrence risk
• Fluoropyrimidine monotherapy is appropriate when oxaliplatin is felt to add excessive risk of toxicity for a patient
Doxorubicine, CHF and age

- 630 patients (3 phase III) with 32 CHF
  26% >550 mg/m²
  >50%: reduction of LVEF <30% w/ chemo

- HR_{age}
  2.25 (1.04–4.86) vs 3.28 (1.4–7.65)
  if >400 mg/m²

Cumulative proportion with event

- Hazard ratio (>65:≤65) = 2.25
- 95% CI of (>65: ≤65) = (1.04–4.86)
- Log rank p-value = 0.029
- Wilcoxon p-value = 0.78

*Patients at risk

<table>
<thead>
<tr>
<th>≤65*</th>
<th>468</th>
<th>431</th>
<th>345</th>
<th>296</th>
<th>103</th>
<th>59</th>
<th>20</th>
<th>6</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;65*</td>
<td>172</td>
<td>151</td>
<td>110</td>
<td>92</td>
<td>28</td>
<td>12</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Cumulative dose of doxorubicin (mg/m²)
Taxanes

• 2 cornerstones
  – Paclitaxel <80 mg/m² qw
  – Docetaxel q3w, but not standard @ 100 mg/m²!
    • Same pharmacokinetics, but increased risk of neutropenia ± febrile if 65+
      – q3w 75 mg/m² grade 3-4 ANC/FN: 63%/16% vs 30%/0%
      – qw 35 mg/m² > 50% grade ≥ 3 → RD: 26 mg/m²
      – q2w 50 mg/m² GERICO-04
  – Grade 3-4 neurosensory/motor toxicity 28%/14% (vs <18%/<8% if <65)

• Nab-paclitaxel
  – Efficacy comparable with solvent-based taxanes
  – No need for steroid premedication
Few older adults included in registration studies! Breast cancer as an example

<table>
<thead>
<tr>
<th>Agent Name</th>
<th>Approval</th>
<th>N</th>
<th>Age ≥ 65</th>
<th>N</th>
<th>Age ≥ 75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palbociclib</td>
<td>2/2015</td>
<td>37</td>
<td>44%</td>
<td>8</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>86</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Everolimus</td>
<td>7/2012</td>
<td>290</td>
<td>40%</td>
<td>109</td>
<td>15%</td>
</tr>
<tr>
<td>Pertuzumab</td>
<td>6/2012</td>
<td>60</td>
<td>15%</td>
<td>5</td>
<td>1%</td>
</tr>
<tr>
<td>Eribulin mesylate</td>
<td>11/2010</td>
<td>121</td>
<td>15%</td>
<td>17</td>
<td>2%</td>
</tr>
<tr>
<td>Lapatinib</td>
<td>1/2010</td>
<td>34</td>
<td>17%</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>282</td>
<td>44%</td>
<td>77</td>
<td>12%</td>
</tr>
<tr>
<td>Ixabepilone</td>
<td>10/2007</td>
<td>45</td>
<td>10%</td>
<td>3</td>
<td>&lt;1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32</td>
<td>13%</td>
<td>6</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

*Package Insert, “Geriatric Usage” section*

*Courtesy to Arti Hurria (adapted)*
**EORTC 75111-10114**  
(Co-PI Hans Wildiers & Etienne Brain)

80 pts HER2+ MBC  
≥ 70 Years  
(≥65/≥60y with co-
morbidity)

**Primary endpoint**  
PFS at 6 months of PH or PHM

**Secondary endpoints**  
OS, BCSS, toxicity, RR (RECIST v1.1), HRQoL, evolution of GA during treatment

**Pertuzumab**  
840 mg loading dose, further 420 mg q3w iv

**Trastuzumab**  
8 mg/kg loading dose, further 6 mg/kg q3w iv

**Chemotherapy**  
Metronomic chemotherapy: cyclophosphamide 50 mg/d po continuously

**On progression**  
Option to have T-DM1 (3.6 mg/kg iv q3w) till progression

**Stratification:** ER/PgR, previous HER2 treatment, G8

> PD  →  T-DM1
Pertuzumab and trastuzumab with or without metronomic chemotherapy for older patients with HER2-positive metastatic breast cancer (EORTC 75111-10114): an open-label, randomised, phase 2 trial from the Elderly Task Force/Breast Cancer Group

Hans Wildiers, Konstantinos Tsyfoniadis, Lissandra Dal Lago, Peter Vuylsteke, Giuseppe C. Guglielmo, Simon Waters, Barbara Brouwers, Sevaly Allititas, Nathan Touati, Fatima Cardoso, Etienne Brain

Elderly/frail HER2+ MBC population

**Metronomic chemo + TP**
- 7-month longer median PFS vs TP
- Acceptable safety profile
- T-DM1 at progression active
- Alternative to standard taxane + TP?
Questions from oncologists perspective

- Is the patient going to die from cancer or from other causes?
- Is the patient at risk of treatment- or cancer-related complications?
- How to deal with patients presenting impaired cognitive functions?
- Best tools to evaluate end-organ functions?
- What does frailty stand for?
- Can one assess satisfaction in older patients?
- What is a geriatric assessment and what does it bring?
- Can a geriatric assessment be short?
- How to get organized?
- Is there any best endpoint for clinical research in older patients?
### Women life expectancy

<table>
<thead>
<tr>
<th>Age</th>
<th>Top 25&lt;sup&gt;th&lt;/sup&gt;%</th>
<th>50&lt;sup&gt;th&lt;/sup&gt;%</th>
<th>Lowest 25&lt;sup&gt;th&lt;/sup&gt;%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fit</td>
<td>Intermediate</td>
<td>Sick</td>
</tr>
<tr>
<td>50</td>
<td>40</td>
<td>33</td>
<td>24.5</td>
</tr>
<tr>
<td>70</td>
<td>21.3</td>
<td>15.7</td>
<td>9.5</td>
</tr>
<tr>
<td>75</td>
<td>17</td>
<td>11.9</td>
<td>6.8</td>
</tr>
<tr>
<td>80</td>
<td>13</td>
<td>8.6</td>
<td>4.6</td>
</tr>
<tr>
<td>85</td>
<td>9.6</td>
<td>5.9</td>
<td>2.9</td>
</tr>
<tr>
<td>90</td>
<td>6.8</td>
<td>3.9</td>
<td>1.8</td>
</tr>
<tr>
<td>95</td>
<td>4.8</td>
<td>2.7</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Ageing makes us unique!

Women life expectancy

Walter JAMA 2001
Multimorbidities across age

Piccirillo Critical Rev Oncol Haematol 2008
## Comprehensive geriatric assessment

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Instrument</th>
<th>Administration</th>
<th>Prognosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependency, functional status</td>
<td>PS, Activity of Daily Living (ADL), Instrumental ADL</td>
<td>Self administered</td>
<td>+</td>
</tr>
<tr>
<td>Comorbidity</td>
<td>Charlson Comorbidity Index (CCI), Cumulative Illness rating Scale-Geriatric (CIRS-G)</td>
<td>Self- or interviewer-administered or chart-based</td>
<td>+</td>
</tr>
<tr>
<td>Economic / social support</td>
<td>Life conditions, relatives, care-givers</td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>Cognition</td>
<td>Folstein Mini-mental State Examination (MMSE)</td>
<td>Interviewer-administered</td>
<td>+</td>
</tr>
<tr>
<td>Depression</td>
<td>Geriatric Depression Scale (GDS)</td>
<td>Self administered</td>
<td>+</td>
</tr>
<tr>
<td>Polypharmacy</td>
<td>List</td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>Nutrition</td>
<td>Mini Nutritional Assessment (MNA), BMI</td>
<td>Interviewer-administered</td>
<td>+</td>
</tr>
<tr>
<td>Geriatric syndromes</td>
<td>Dementia, delirium, falls</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Mobility/falls</td>
<td>Timed-up-and-go-test, Tinetti</td>
<td>Performance-tests</td>
<td>?</td>
</tr>
</tbody>
</table>
Will the patient tolerate and benefit from treatment?

- Fit
  - Independence
  - No comorbidity
  - Standard treatment
    - Similar treatment
    - tolerance/benefit

- Vulnerable
  - 1 functional dependence
  - ± 1-2 comorbidities
  - Adjusted treatment
    - Decreased treatment tolerance

- Frail
  - Dependence
  - ≥ 3 comorbidities
  - Geriatric syndrome
  - LE < cancer
    - BSC
      - Poor treatment tolerance

- LE > cancer
  - if poor tolerance

Balducci Oncologist 2000
Fit patient

Frail patient
Frailty definition

- Syndrome of **advancing age** characterized by
  - Immune dysregulation
  - Chronic inflammation
  - Sarcopenia (≠ cachexia)
  - Increased cellular senescence
  - Loss of resilience

- State of **decreased physiological reserves**
  - Caused by cumulative decline across multiple organ systems
  - Resulting in a decreased resistance to stressors & destabilizing events

Can be described by geriatric assessment ± frailty screening tool
# G8 as a screening tool → LE estimate

<table>
<thead>
<tr>
<th>Items</th>
<th>Possible answers (score)</th>
</tr>
</thead>
</table>
| A Has food intake declined over the past 3 months due to loss of appetite, digestive problems, or chewing or swallowing difficulties? | 0: severe decrease in food intake  
1: moderate decrease in food intake  
2: no decrease in food intake  |
| B Weight loss during the last 3 months                               | 0: weight loss > 3 kg  
1: does not know  
2: weight loss between 1 and 3 kg  
3: no weight loss  |
| C Mobility                                                           | 0: bed or chair bound  
1: able to get out of bed or chair but does not go out  
2: goes out  |
| E Neuropsychological problems                                        | 0: severe dementia or Depression  
1: mild dementia or depression  
2: no neuropsychological problems  |
| F Body mass index (BMI, weight in kg, height in m²)                   | 0: BMI < 18.5  
1: BMI = 18.5 to BMI < 21  
2: BMI = 21 to BMI < 23  
3: BMI = 23 and > 23  |
| H Takes more than 3 prescription, non-prescription drugs per day      | 0: yes  
1: no  |
| P In comparison with other people of the same age, do they consider their health status? | 0: not so good  
1: as good  
2: better  |
| L Total Score                                                        | 0-17  |

### Diagram:

- **Polymedication**
- **Self-rated health**
- **Age strata**
- **Excellent Quality of Prognostic Index**
- **Very Good Quality of Prognostic Index**
- **Good Quality of Prognostic Index**
- **Moderate Quality of Prognostic Index**
- **Poor Quality of Prognostic Index**

- **< 2 years**
- **2 - 3 years**
- **> 3 years**

---

Soubeyran PLOS 2014  
http://www.eprognosis.org/
CRASH score

CRASH Score Calculator
This score stratifies patients in 4 risk categories of severe toxicity. Reference for derivation and validation results: Extermann et al. Cancer, Epub Nov 9, 2011

* Please click on each link to view/close help on assigning scores

**Chemotherapy Risk**
- Chemotherapy risk
  - 0

**Hematologic Risk Factors**
- Diastolic blood pressure
  - 0
- Hb
  - 0
- LDH
  - 0

**Non-Hematologic Risk Factors**
- ECOG PS
  - 0
- MMS
  - 0
- MNA
  - 0

Submit

https://www.moffitt.org/eforms/crashscoreform/
A true predictive model for chemo-related grade 3-5 toxicity

1. 58% grade ≥ 3 toxicity
2. Risk increased w/ increasing risk score
3. AUC/ROC 0.65 (95%CI 0.58-0.71) ~ development cohort 0.72 (95%CI 0.68-0.77) (P = .09)
4. No association between PS and chemo toxicity (P = .25)
### CARG-BC

- 473 pts evaluable/501
  - 283 development
  - 190 validation

#### Median age 70 (65-85)
#### Stage I/II/III 39%/41%/20%
#### TnBC/ER+/HER2+/ER+/HER2+ER- 24%/48%/10%/17%
#### Grade 3-5 AEs 46% (Heme 25%/Non-Heme 36%)

### CARG-BC Risk Score

<table>
<thead>
<tr>
<th>Risk factors for Gr. 3-5 Toxicity</th>
<th>OR (95% CI)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARG Score: Medium Risk High Risk</td>
<td>2.47 (1.35-4.51)</td>
<td>3</td>
</tr>
<tr>
<td>Anthracycline</td>
<td>1.37 (0.65-2.85)</td>
<td>1</td>
</tr>
<tr>
<td>Stage II/III</td>
<td>1.79 (1.00-3.23)</td>
<td>2</td>
</tr>
<tr>
<td>Duration of tx &gt; 3 months</td>
<td>2.98 (1.46-6.09)</td>
<td>4</td>
</tr>
<tr>
<td>Abnormal liver function</td>
<td>2.21 (0.90-5.47)</td>
<td>3</td>
</tr>
<tr>
<td>Limited in walking a mile</td>
<td>2.22 (1.21-4.05)</td>
<td>3</td>
</tr>
<tr>
<td>Lack of someone to provide advice</td>
<td>2.34 (0.99-5.58)</td>
<td>3</td>
</tr>
</tbody>
</table>
CARG-BC score \( \rightarrow \) prediction of grade 3-5 toxicity better than CARG or KPS

But also: dose reduction, delay, reduced RDI, hospitalization
CGA impact on treatment decision & interventions

- Systematic review (Medline & Embase)
  - 1,654 reports → 10 studies
    - 3 w/ CGA performed by geriatrician
    - 7 w/ GA performed by cancer specialist, healthcare worker or (research) nurse
- Change in oncologic treatment: 6 studies
  - **Modification of initial treatment plan: 39% patients**
    - 2/3 w/ less intensive treatment (irrespective of performer)
    - High role of functional & nutritional status
- Implementation of non-oncologic interventions defined according to CGA: 7 studies
  - All but one: **interventions suggested for > 70% patients**
    - Social 38%, medication 37%, nutritional 26%
    - Psychological, cognitive impairment, mobility and falls risk, previously unidentified comorbid conditions: all ~ 20%
Treatment failure-free survival
- Standard: 3.2 mths
- GA: 3.1 mths
(HR 0.91; 95% CI 0.76-1.1)

There is more to life than survival!

<table>
<thead>
<tr>
<th>Treatment</th>
<th>STD (%)</th>
<th>CGA (%)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>All grade toxicity</td>
<td>93.4</td>
<td>85.6</td>
<td>.015</td>
</tr>
<tr>
<td>Treatment failure related to toxicity</td>
<td>11.8</td>
<td>4.8</td>
<td>.007</td>
</tr>
</tbody>
</table>

Corre J Clin Oncol 2016
Adapted recommendations for patient’s referral for GA at Institut Curie

1. Streamlining geriatrician time
2. Involvement of oncologists
3. Impact
   - Decision 1 and 2
   - Geriatric interventions
   - Day hospital in geriatric oncology

Standard health cares
vigilance and geriatrician
sought according to needs

Adjusted health cares
± MDTB 2 and decision 2
Geriatric interventions

MDTB: multi disciplinary tumor board

* But not exclusively
Ideal recommendations for patient’s referral for GA at Institut Curie

1. Streamlining geriatrician time
2. Involvement of oncologists
3. Impact
   - Geriatric interventions
   - Day hospital in geriatric oncology

≥ 75 yo
1st visit
New cancer or relapse

> 14/17

≤ 14/17

MDTB ± geriatrician

Systemic treatment?

GA

MDTB + geriatrician

Standard health cares
vigilance and geriatrician
sought according to needs

Adjusted health cares
Geriatric interventions

MDTB: multi disciplinary tumor board
10 recommendations for systemic treatment in the older patients

1. Treatment individualization
2. Define the aim of treatment
3. Perform “some kind” of geriatric assessment
4. Beware of drug interactions (polypharmacy)
5. Maintain adequate hydration & check renal function
6. Use supportive or protective agents
7. Consider the possibility of less toxic therapy
8. Monitor compliance
9. Be aware of clinical elderly data for specific drugs
10. Potential PK-guidance
Differences do exist across countries

- **Incidence**
- **Life expectancy**
  - Definition of old
- **Over treatment versus under treatment**
  - Cultural factors
- **Screening tool**
  - BMI and G8

**But actually constantly!**

- **Poorly evidence-based** (refrain)
- **More targeted therapy** (key and lock)
- **Adjustment is needed** (leitmotiv)
- **De escalation** (research question)
Geriatric COre DatasEt (G-CODE)
(Delphi/RAND + Consensus Methods)

1. **Social environment**: Q1 “do you live alone?” + Q2 “do you have a person or caregiver able to provide care and support?”
2. **Autonomy**: Activities of Daily Living (ADL) (abnormal if <6/6) and 4- Instrumental ADL (IADL) (abnormal if <4/4)
3. **Mobility**: Timed Up and Go test (TUG) (abnormal if >20 sec)
4. **Nutrition**: unintentional weight loss (>10% in 6 months) and BMI (< 21)
5. **Cognitive status**: Mini-Cog (abnormal if <4/5)
6. **Mood**: Mini-Geriatric Depression Scale (Mini-GDS) (abnormal if ≥ 1/4)
7. **Comorbidities**: updated Charlson index score

National & International validation

DiALOG = GERICO + UCOG = intergroup of clinical research in GO labeled by INCa in 2014 & 2017
2 worlds confronting one another?

- **Young patient**
  - Social and family obligations (children)
  - Quantity of life +++

- **Elderly patient**
  - QoL+++ Independence
  - Staying at home

- **Oncology**
  - Therapies and innovation
  - Toxicity, response, survival
  - RECIST
  - NCI CTC v4.0
  - Survival (DFS, PFS, OS)
  - Translational research
  - Fast-moving world
  - "Molecular portrait" of tumour & GEP

- **Geriatrics**
  - Symptoms, diagnosis
  - Quality of survival, i.e. amount of life with good QoL
  - Cognition
  - Functional status
  - Nutrition, etc.
  - Requiring time
  - "Global portrait" of patient & GA

**versus**

**Genomic defects targeted therapy**

**GA defects targeted geriatric intervention**
FEC, AACR, FAC, ASCO, anti-PDL1, anti-PD1, CMF, SABCS, PD-1, PDL1, DXR, PK/PD, DXR, 5FU CDDP, Calvert AUC, ESMO, Chatelut AUC, CTC, TILs, population PK, EORTC, FOLFIRI, ctDNA, FOLFOX 7, CPA, DFS, CALGB, DDFS, OS, TTP, NCI, CYP P450, JCO, NCI, HER2, PI3K, mTOR, Phase 0, ECCO, ib and ab, Unicancer, EORTC, SWOG, CALGB, etc.

Charlson, CIRSG, CGA, AD, MCI, MNA, GDS, MMS, ADL, IADL, GFI, CMR2, JAGS, EUGMS, G8, CARG, Oncodage, VES-13, TRFs, JGO, NIA, SoFOG, Walter’s score, Lee’s score, CRASH, etc.
To be practice changing, let us be practice sharing!

FEC, FAC, SoFOG, ADL, IADL, CMF, SABCS, DXR, PK/PD, CEX, G8, EORTC, 5FU CDDP, MCI, Calvert and Chatelut AUC, CARG, GDS, population PK, AD, FOLFIRI, MMS, FOLFOX, CPA, CRASH, SWOG, DFS, OS, TTP, NCI, GERICO, TILs, CARG, anti-PDL1, anti-PD1, EORTC TFE, JCO, JNCI, Charlson, JGO, CIRSG, PD-1, PDL-1, ctDNA, EGS, EGA, MNA, GFI, Unicancer, Lee’s score, JAGS, etc.
Optimising treatment in older cancer patients is precision medicine too!